

DELIVERABLE DT1.2.4 FINAL TRANSNATIONAL ACTION PLAN FOR TRANSPORT FACILITATION IN THE ADRIATIC-IONIAN REGION

Subtitle

Version 1
MM YYYY





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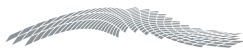
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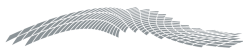
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Glossary of abbreviations

| | |
|-----------|--|
| ACROSSEE | SEE/D/0093/3.3/X_ACROSSEE project, Transnational Cooperation Programme South East Europe |
| AIS | Automatic Identification System |
| ALB/ AL | Albania |
| BCP | Border Crossing Point |
| BG | Bulgaria |
| BIH/ BA | Bosnia and Herzegovina |
| BPA | Bar Port Authority |
| CCTV | Closed-Circuit Television |
| CEF | Connecting Europe Facility |
| CEI | Central European Initiative |
| CEN | European Committee for Standardization |
| CNC | Core Network Corridor |
| CONNECTA | Technical Assistance to Connectivity in the Western Balkans |
| CRM | Connectivity Reform Measures |
| CPMM | Corridor Performance Measurement and Monitoring |
| DG MOVE | Directorate-General for Mobility and Transport |
| DPA | Durrës Port Authority |
| EC | European Commission |
| EL/ GR | Greece |
| ERTMS | European Rail Traffic Management System |
| ETCS | European Train Control System |
| EU | European Union |
| FTCBH | Foreign Trade Chamber of Bosnia and Herzegovina |
| GSM-R | Global System for Mobile Communications - Rail |
| IPA | Instrument for Pre-accession Assistance |
| IT/ ICT | Information and Communication Technologies |
| ITL | Institute for Transport and Logistics (ADRIPASS partner) |
| ITS | Intelligent Transport Systems |
| IWW | Inland Waterways |
| KOS/ XK * | Kosovo* (hereinafter referred to as Kosovo) |

* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence



| | |
|--|--|
| LK | Port of Koper |
| LP | (ADRIPASS) Lead Partner - CEI |
| MCA | Multi-Criteria Analysis |
| MED | Mediterranean (corridor) |
| MK/ NMK | North Macedonia |
| MNE/ ME | Montenegro |
| MoTC/ MoI/ MoCTI/ MoTI/ MoIT/ MoTMA/ MoEI | Ministry related to Transport and Infrastructure |
| NTCIP | National Transport Communication for ITS Protocol |
| NCTS | New Computerised Transit System (Customs related) |
| OEM | Orient East Mediterranean (corridor) |
| OLIG | Igoumenitsa Port Organisation |
| PP | (ADRIPASS) Project Partner |
| PPA | Ploče Port Authority |
| RIS | River Information Services |
| RRT | Road-Rail Terminal |
| RUTH | Regional Unit of Thesprotia |
| SEE | South East Europe |
| SEETO | South East Europe Transport Observatory |
| SRB/ SR | Serbia |
| TA | Technical Assistance |
| TAF - TAP | Telematics Applications for Freight/Passenger services |
| TCS | Transport Community Secretariat |
| TEN-T | Trans-European Network - Transport |
| TR | Turkey |
| TSI | Technical Specifications for Interoperability |
| UIC | Union Internationale des Chemins de Fer |
| VMS | Variable Message Sign |
| VTMIS | Vessels Traffic Management and Information System |
| WB6 | Western Balkans 6 Regional Participants |
| WB (G) | World Bank (Group) |
| WP | (ADRIPASS) Work Package |
| WPL | (ADRIPASS) Work Package Leader |



Glossary of ID category codes of the areas of intervention

| | |
|-----|---|
| IT | Information & Communication Technologies |
| OA | Operation and Administration |
| TEL | Telematic applications for traffic management |
| U | Utilities |
| E | Equipment |
| LM | Last Mile and hinterland connections |
| I | Infrastructure |
| CF | Clean Fuels |
| AIT | Advanced IT |
| PCS | Implementation of PCS |
| SW | Single Window |
| ST | Stakeholders integration |
| OSS | One Stop Shop |
| CAM | CCTV System |
| TM | Tracing means |
| LS | Lack of staff |
| SC | Staff competence |
| IN | Internet Connection |
| RA | Rail Last Mile Connection |
| RO | Road Last Mile Connection |
| O | Other |



1. Introduction

The ADRIPASS project deals with the commonly recognised lack of efficient maritime - hinterland connections, which are mainly caused by the existence of various bottlenecks at borders. In order to identify and analyse the - physical and non-physical - bottlenecks along the Trans-European Transport Networks (TEN-T) corridor sections in the ADRION Region, specific attention was dedicated to those corridors (Orient/ East-Med and Mediterranean) that have been indicatively extended to the Western Balkans region, where the issue of border crossings is quite relevant.

This is subject of Work Package T1 (WPT1 “Integrated Multimodal Transport”) and, in order to achieve its objective, two main actions were performed:

- The preparation and organization of data collection surveys for seaports, logistic facilities/ inland terminals/ freight villages, IWW ports, road and rail Border Crossing Points (hereinafter mentioned as BCPs).
- The development of the necessary tools (database, multicriteria analysis), used for the aggregated analysis of the collected data, in order to evaluate the performance of the transport corridors and ultimately to propose measures and ICT tools for improving multimodal transport.

The accomplishment of the above activities resulted in the elaboration of the *Final report on the results of data collection at BCPs at corridor level in the ADRION Region*, representing the basis for the definition of the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region*. This was the result of the completion of the following working steps:

- Definition of a transnational joint methodology for the data collection at BCPs at corridor level (DT1.2.1);
- Data Collection: based on the joint data collection methodology and its tools, a first phase of data collection was launched. The data collection was focused on physical and non-physical obstacles at BCPs and on transport flows, from ports to hinterlands. It was implemented through various means (e.g. direct surveys, desktop research and partners' input);
- Interim Report on Data Collection: the project partners submitted the collected data to the WPT1 “Integrated Multimodal Transport” Leader (AUTH) and after the analysis of the consolidated data, an interim report was produced (DT1.2.2), reviewing the progress of data collection and identifying lack of data, problems and alleviation measures;
- Development of a draft pre-final report (DT1.2.3) to facilitate the initiation of activity T1.2.4 by ITL;
- Development of the Final Report (DT1.2.3);



- Definition of the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region (DT1.2.4)*.

1.1. Rationale

As per the project's Application Form (AF):

- *“The transnational action plan for transport facilitation in the Adriatic-Ionian region will be the basis for the prioritisation of transport simplification measures to be taken in the ADRION area, with a particular focus paid to the recently extended TEN-T corridors to the WBs (Mediterranean and Orient/East-Med)”*.
- *“BCPs reports at corridor level will be the basis for the definition, by ITL, of the Transnational action plan (DT1.2.4). The action plan will establish priority measures to be taken at corridor level on the above-mentioned sections, and will complement the results already achieved in past experiences, such as ACROSSEE project (co-funded by SEE Programme), SEETO Flagship Axes Initiative and Report on Border Crossing Facilitation, Regional Balkans Infrastructure Study (REBIS) update and the Western Balkans Intermodal Study. Special attention will be focused on low-cost and highly efficient ICT solutions, between the ports and the hinterland. The interim report (D.T.1.2.2) will serve as a basis for the pilot actions to be implemented in WPT2, whose results will contribute to the final draft of the transnational action plan for transport facilitation in the Adriatic-Ionian”*.

Based on the above, a draft version of the present report has been submitted mid-July 2019 to the ADRIPASS project partners, for their consultation, before finalisation of the deliverable.

The cease of the operation of the South East Europe Transport Observatory - SEETO, one of the ADRIPASS project partners, and the unavailability of the Transport Community Treaty Secretariat -TCS to replace SEETO and undertake its responsibilities including data collection for the purposes of DT1.2.3, compromised the collection of relevant data and information particularly for Albania, Kosovo¹, North Macedonia and Serbia. In order to overcome the difficulties generated by the withdrawal of SEETO from the ADRIPASS project, the partners opted for the involvement of the Chamber of Commerce and Industry of Serbia - CCIS as a new partner, which became effective over the course of 2019, when DT1.2.3 had been already completed and the elaboration of DT1.2.4 finalised, both as pre-final versions format. Thanks to the involvement of CCIS and in order to fill a relevant data gap in a crucial geographical area of the ADRION region (i.e. more than half of the Western Balkans, where many of the border crossings stations are located and procedures are hampering international transport), the ADRIPASS partners opted to integrate the

¹ This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo* declaration of independence



analysis included in DT1.2.3. An additional data collection process was accordingly performed by CCIS late autumn 2019, deemed at integrating the outcome of DT1.2.4. On this basis, a new version of the present *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region* has been elaborated for the submission to the ADRIPASS project partners by the end of January 2020. As a result of this procedure, DT1.2.4 was ultimately finalised.

1.2. Structure of this report

Further to this introductory section, this report includes the following chapters:

- Chapter 2: Summarising the results of previous deliverables (DT1.2.3) relating to physical and non-physical barriers and possible solutions to increase the efficiency of maritime-hinterland connections and reduce the bottlenecks at borders;
- Chapter 3: Identifying and summarising the outcome of relevant studies and plans complementary to the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region* in terms of analysis of barriers and measures related to the TEN-T corridors in the ADRION Region;
- Chapter 4: Identifying the transport facilitation measures to solve the physical and non-physical barriers affecting intermodal transport in the ADRION Region, also concerning telematic applications and ICT solutions;
- Chapter 5: Outlining the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region* according to the inputs provided in the *DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region* (hereinafter DT1.2.3);
- Chapter 6: Adjusting the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region* to incorporate the outcome of the additional data collection activity by the new ADRIPASS partner, CCIS;
- Chapter 7: Defining a set of activities for the effective and coordinated implementation of the Action Plan.

In addition to the above Chapters constituting the main body of this report, two annexes are included in this deliverable:

- Annex A: providing summary tables of the analysis and findings from DT1.2.3;
- Annex B: including the outcome of the data collection activity undertaken by CCIS late autumn 2019, to integrate the results of DT1.2.3.

In comparison to the structure and content of the version of this report submitted mid-July 2019 to the ADRIPASS project partners, Chapters 2 to 5 remained unchanged, whereas an additional section (Chapter 6) has been added to integrate the outcome of the data collection activity performed by CCIS and reflect it in an updated version of the



Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region. Chapter 7 in this report was also already included in the previous version of deliverable DT1.2.4, whose content remained unchanged too.



2. Barriers and measures affecting intermodal transport along the TEN-T corridors in the ADRION Region from the *Final report on the results of data collection at BCPs at corridor level in the ADRION Region*

2.1. Scope of the *Final report on the results of data collection at BCPs at corridor level in the ADRION Region*

This chapter summarises and further elaborates on the content, considerations and conclusions from the *DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region (hereinafter DT1.2.3)*. In line with what anticipated in Chapter 1 above, this deliverable represents indeed the source of information to be used for the definition of the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region (DT1.2.4)*.

2.1.1. Focussing on BCPs and logistics nodes along the TEN-T Core Network Corridors in the ADRION Region

In line with the scope of the ADRIPASS project to improve multimodal freight transport in the study area (Adriatic - Ionian region, including Western Balkans), the activities under WPT1 “Integrated Multimodal Transport”, including the analysis and results presented in *DT1.2.3*, focussed on transport nodes for freight transport, including maritime/IWW ports, and logistics platforms, as well as rail and road BCPs along the multimodal TEN-T Core Network Corridors in the area covered by the project, i.e.:

- Orient East-Med: crossing Greece, the North Macedonia, Kosovo, Montenegro and Serbia;
- Mediterranean: crossing Italy, Slovenia, Croatia, Bosnia and Herzegovina, Montenegro and Serbia, Albania and Greece;
- Baltic - Adriatic: crossing Italy and Slovenia;
- Scandinavian - Mediterranean: crossing Italy;
- Rhine - Danube inland waterway network: crossing Serbia, Bosnia and Herzegovina and Croatia.

Therefore, the hinterland connections (road-rail-IWW) and nodal points (inland road-rail and other multimodal terminals) selected for inclusion in the ADRIPASS surveys are located along these Corridors. The following tables summarise the nodes considered in the ADRIPASS projects. Nodes are associated with the relevant Core Network Corridors as indicated in *DT1.2.3*. The likely extension of the Core Network Corridors following the revision of the CEF Regulation (EU) 1316/2013, were also considered in *DT1.2.3*.



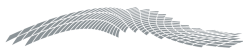
Table 1 **ADRION Maritime Ports**

| Maritime Port | Country | TEN-T Corridor |
|---------------|------------|----------------|
| Durrës | Albania | MED |
| Igoumenitsa | Greece | OEM |
| Patras | Greece | OEM |
| Piraeus | Greece | OEM |
| Rijeka | Croatia | MED |
| Thessaloniki | Greece | OEM |
| Trieste | Italy | BAC, MED |
| Venezia | Italy | BAC, MED |
| Ploče | Croatia | MED |
| Bar | Montenegro | MED, OEM |
| Ravenna | Italy | BAC, MED |
| Vlore | Albania | MED |
| Koper | Slovenia | BAC, MED |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region

Table 2 **ADRION Road BCPs**

| Road BCP | Country | TEN-T Corridor |
|----------------------|---------------------------|----------------|
| Bogorodica | North Macedonia | OEM |
| Blace | North Macedonia | OEM |
| Dobrakovo | Montenegro | OEM |
| Evzonoï | Greece | OEM |
| Promachonas | Greece | OEM |
| Gostun | Serbia | OEM |
| Horgos | Hungary | OEM |
| Hani i Hotit | Albania | OEM |
| Merdare | Serbia/Kosovo | OEM |
| Presevo | Serbia | OEM |
| Tabanovce | North Macedonia | OEM |
| Lipovac/ Bajakovo | Croatia | OEM |
| Obrežje | Slovenia | MED |
| Batrovci | Serbia | MED |
| Bosanski Samac | Bosnia and Herzegovina | MED |
| Bregana | Croatia | MED |
| Debeli Brijeg | Montenegro | MED |
| Gorican | Croatia | MED |
| Kakavia | Greece | MED |
| Karasovici | Croatia | MED |
| Klek | Croatia | MED |
| Metkovic | Croatia | MED |



| Road BCP | Country | TEN-T Corridor |
|-------------|------------------------|----------------|
| Neum I NW | Bosnia and Herzegovina | MED |
| Neum II SE | Bosnia and Herzegovina | MED |
| Zupanja | Croatia | MED |
| Zatoni Doli | Croatia | MED |
| Bijaca | Bosnia and Herzegovina | MED |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region

Table 3 ADRION Rail BCPs

| Rail BCP | Country | TEN-T Corridor |
|------------------------|------------------------|----------------|
| Idomeni | Greece | OEM |
| Ristovac/ Presevo | Serbia | OEM |
| Sid | Serbia | OEM |
| Tovarnik | Croatia | OEM |
| Vrbnica | Serbia | OEM |
| Bajza | Albania | MED |
| Tuzi (Railway Station) | Montenegro | MED |
| Bosanski Samac | Bosnia and Herzegovina | MED |
| Capljina | Bosnia and Herzegovina | MED |
| Metkovic | Croatia | MED |
| Dobova | Slovenia | MED |
| Subotica | Serbia | OEM |
| Bijelo Polje | Montenegro | OEM |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region

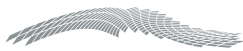
Table 4 ADRION IWW Ports

| IWW Port | Country | TEN-T Corridor |
|--|------------------------|----------------|
| Slavonski Brod | Croatia | MED, RDAN |
| Vukovar | Croatia | RDAN |
| Brčko | Bosnia and Herzegovina | RDAN |
| Northern Italy Waterway System consisting of the river PO and its connecting canals (Section Milano-Cremona-Mantova-Venezia-Ravenna-Trieste along the Mediterranean Core Network Corridor) | Italy | MED |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region

Table 5 ADRION Logistic Facilities

| Logistic facility | Country | TEN-T Corridor |
|-------------------|---------|----------------|
| Padova | Italy | BAC, MED |



| Logistic facility | Country | TEN-T Corridor |
|-----------------------|------------------------|-----------------|
| Trieste | Italy | BAC, MED |
| Bologna | Italy | BAC, MED, SCMED |
| Maribor Tezno | Slovenia | BAC, MED |
| Ljubljana - Moste | Slovenia | BAC, MED |
| Vrapče, Zagreb | Croatia | MED |
| Agit d.o.o. | Croatia | MED |
| Adria Terminal Sežana | Slovenia | BAC, MED |
| JP Luka Brčko | Bosnia and Herzegovina | RDAN |
| Pristina | Kosovo | OEM |
| Smederevo | Serbia | OEM |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region

In line with the aim of the ADRIPASS project to focus on the corridor extensions to Western Balkans, most of the nodes, and particularly the BCPs assessed as part of the project and the DT1.2.3, are located along alignments of the Orient-East Mediterranean and the Mediterranean corridors (existing and future routings of these corridors upon revision of the Connecting Europe Facility Regulation (EU) 1316/2013). The alignment of the Rhine Danube corridor is also worth to mention for Inland Waterway transport in the Adriatic Ionian Region and WB6 area. As of the other two Core Network Corridors, whilst the alignment of the Baltic-Adriatic Corridor is overlapping with the Mediterranean Corridor in the North Adriatic area of the Adriatic Ionian Region, both the Baltic-Adriatic (sections not overlapping with the Mediterranean Corridor) and Scandinavian-Mediterranean corridors in the ADRION Region are limited to Italy, specified that they are the only Core Network Corridor axes providing accessibility to the logistics nodes in Ancona and Bari.

In line with the overall approach for the identification and analysis of the problems and measures affecting intermodal transport in the Adriatic Ionian area, DT1.2.3 capitalises the information collected through the questionnaire-based surveys addressed to different types of nodes identified. Due to a change in the partnership and the substitution of a former partner with a new one, both DT1.2.3 and DT1.2.4 pre-final reports missed some data, which became the new partner's responsibility. In order to integrate these gaps in the data collection process due both to lack of responses to the submitted questionnaires and partial responses, the report was enriched with information collected from the alternative sources, including available studies and then revised in the final version as per the collected data by CCIS. The different types of nodes are described (qualitative analysis) on the basis of these inputs, providing insights regarding their organizational and operational structures. Provided that the focus of the analysis is represented by the BCPs and logistics nodes, a description of each Corridor's sections in the ADRION Region, with indication of their alignments, road and rail BCPs and other nodal points of interest,



including urban nodes, was included in DT1.2.3. In line with the scope of the ADRIPASS project to focus on intermodal transport, some measures for its promotion were also previously identified with a focus on ICT tools and solutions. Also, in order to develop the assessment of the nodes in the framework of a corridor analysis and thus evaluate their performance, Multi Criteria Analyses (MCA) were developed, covering the different types of nodes (maritime ports, inland waterways ports, road and rail BCPs). Logistics facilities were evaluated independently, using the data collected through the respective questionnaire-based survey.

It is worth to notice that due to difficulties in the collection of information from the stakeholders - mainly related to the substitution of a partner - and/or the lack of publicly available information or the interruption of the operations at some BCPs, for some nodes in the ADRION Region it was not possible to report on relevant data and information in DT1.2.3: Rail BCPs - Koprivnica, Savski Marof (Croatia), Promachonas (Greece), Hani i Elezit (Kosovo), Blace and Gevgelija (North Macedonia), Rudnica (Serbia); Maritime ports - Ancona and Bari (Italy); IWW ports - Belgrade and Novi Sad (Serbia); Logistics facilities - Bari (Italy).

2.1.2. Focussing on IT facilitation measures

Another relevant remark about the scope of the WPT1 “Integrated Multimodal Transport” including the outcome of the ADRIPASS project presented in DT1.2.3 relates to the type of problems and measures considered for analysis. In this respect, it is noticed that facilitation measures for the promotion of intermodal transport in the ADRION Region are primarily focused on telematic applications and ICT solutions aimed at solving operational and administrative, i.e. non-physical barriers at BCPs and logistics nodes, thus reducing waiting times or procedural times associated with border crossing operations, as well as administrative processes at ports and logistics terminals, and/or improve safety and security of logistics transport operations. Notwithstanding the relevance of such elements for the ADRIPASS project, the report also considers issues and solutions related to physical barriers at nodes, purchase of utilities, equipment and facilities. Investments affecting road, rail and IWW links along the TEN-T Corridors are also mentioned.

2.2. Barriers and measures identified in the *Final report on the results of data collection at BCPs at corridor level in the ADRION Region*

DT1.2.3 provides wealth of qualitative information about the barriers and measures to solve problems relating to intermodal transport in the ADRION Region. Yet this information is unevenly presented in the report; the lack of responded questionnaires or their partial completion required the integration of the information collected from primary sources with consultation of secondary sources where available. As a result, the information available in the report for over 68 BCPs and logistics nodes is not homogeneous in terms



of type of barriers and solutions per node as well as details concerning the description and definition of the problems and measures. Several problems are described as such in the report, whilst others are implicitly commented as part of the measures proposed for their solution. As part of the analysis elaborated for the definition of the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region* a detailed review of DT1.2.3 has been performed aimed at creating a database of barriers and measures to be used for the definition of the action plan. Overall 280 barriers, 169 proposed measures and 178 ICT applied measures have been identified as part of this review, which are reported in Annex A to this deliverable.

Due to the number of reported issues and variety of topics identified by means of review of DT1.2.3, the reported problems and solutions have been classified into the macro-categories of problems/solutions set out in the table overleaf.



Table 6 Macro-categories of barriers/problems and solutions/measures

| ID Category Code | Problem Definition | Measure Definition | Type of Problem / Measure |
|------------------|--|---|---------------------------|
| IT | Deficiency of existing ICT technologies/solutions for the digitalisation of processes and system interoperability | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | Non-physical / soft |
| OA | Inadequate staff number and competences, lengthy and paper-based procedures, long waiting times of intermodal and border crossing procedures | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | Non-physical / soft |
| TEL | Lack or deficiency of the existing telematic applications for traffic management | Deployment or upgrade of telematic applications for traffic management to the EU standards | Non-physical / soft |
| U | Lack or poor conditions of the basic utilities (internet, telephone, drinkable water, toilettes, lit, etc...) | Provision of basic utilities (internet, telephone, drinkable water, toilettes, lit, etc...) | Non-physical / soft |
| E | Lack of adequate equipment affecting the efficiency and effectiveness of processes at BCPs and transport nodes. This includes machinery, such as cranes weighbridges, x-ray scanners, etc... | Purchase and installation of equipment for the improvement of efficiency and effectiveness of processes at BCPs and transport nodes | Non-physical / soft |
| LM | Deficiency in the last-mile and hinterland transport interconnecting system (both inside and outside the node area) | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | Physical / hard |
| I | Need of major infrastructure works and/or minor investments to remove physical and technical barriers, affecting operations and capacity of the infrastructure | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | Physical / hard |
| CF | Lack of alternative clean fuels supply facilities | Realisation of alternative clean fuels supply facilities | Physical / hard |

Source: own elaboration

The set of the above categories is in line with the macro-categories of physical and non-physical barriers and solutions identified in the most relevant studies and plans developed over the past decades for the integration and improvement of intermodal transport in the ADRION Region, including the TEN-T Policy as set by Regulation (EU) 1315/2013.

The following tables provide a statistical overview of the analysis of the barriers and measures identified on the basis of the review of DT.1.2.3. As also noticed in this report, barriers and solutions are to the scope of the analysis developed as part of the WPT1 “Integrated Multimodal Transport” corresponding to each other. In these terms, the same classification is adopted for their analysis in this chapter as well as in the following chapters.



Table 7 Identified Problems / Barriers

| ID Code | Definition | Maritime Ports | Road BCPs | Rail BCPs | IWW Ports | Logistic Facility | Total |
|---------|--|----------------|-----------|-----------|-----------|-------------------|-------|
| IT | Deficiency of existing ICT technologies/solutions for the digitalisation of processes and system interoperability | 4 | 14 | 13 | - | 1 | 32 |
| OA | Inadequate staff number and competences, lengthy and paper-based procedures, long waiting times of intermodal and border crossing procedures | 8 | 48 | 28 | 5 | 3 | 92 |
| TEL | Lack or deficiency of the existing telematic applications for traffic management | 1 | - | 1 | - | - | 2 |
| U | Lack or poor conditions of the basic utilities, such as water, lit, telephone and internet | - | 18 | 16 | - | - | 34 |
| E | Lack of adequate equipment affecting the efficiency and effectiveness of processes at BCPs and transport nodes. This includes machinery, such as cranes weighbridges, x-ray scanners, etc... | - | 37 | 7 | 1 | 3 | 48 |
| LM | Deficiency in the last-mile and hinterland transport interconnecting system (both inside and outside the node area) | 20 | - | - | - | 7 | 27 |
| I | Need of major infrastructure works and/or minor investments to remove physical and technical barriers, affecting operations and capacity of the infrastructure | 12 | 21 | 10 | 2 | - | 45 |
| CF | Lack of alternative clean fuels supply facilities | - | - | - | - | - | - |
| | Total | 45 | 138 | 75 | 8 | 14 | 280 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 8 Proposed Measures / Solutions

| ID Code | Definition | Maritime Ports | Road BCPs | Rail BCPs | IWW Ports | Logistic Facility | Total |
|---------|---|----------------|-----------|-----------|-----------|-------------------|-------|
| MIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | 50 | 14 | 2 | - | 5 | 71 |
| MOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | 2 | 2 | 3 | - | - | 7 |
| MTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | 1 | - | 2 | - | - | 3 |
| MU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | 1 | - | 1 |
| ME | Purchase and installation of equipment for the improvement of efficiency and effectiveness of processes at BCPs and transport nodes | 5 | 2 | - | 2 | 2 | 11 |
| MLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | 18 | - | - | - | 5 | 23 |
| MI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | 30 | 9 | 2 | 7 | 3 | 51 |
| MCF | Realisation of alternative clean fuels supply facilities | 2 | - | - | - | - | 2 |
| | Total | 108 | 27 | 9 | 10 | 15 | 169 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region

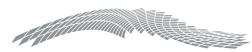
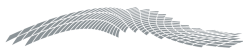


Table 9 Adopted Measures / Solutions

| ID Code | Definition | Maritime Ports | Road BCPs | Rail BCPs | IWW Ports | Logistic Facility | Total |
|---------|---|----------------|-----------|-----------|-----------|-------------------|-------|
| AMIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | 49 | 20 | 1 | - | 17 | 87 |
| AMOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | 8 | 1 | - | 3 | 12 |
| AMTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | - | - | - | - | - |
| AMU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | 9 | 7 | - | - | 16 |
| AME | Purchase and installation of equipment for the improvement of efficiency and effectiveness of processes at BCPs and transport nodes | 1 | 49 | 11 | - | 2 | 63 |
| AMLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | - |
| AMI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | - | - | - | - | - | - |
| AMCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - |
| | Total | 50 | 86 | 20 | 0 | 22 | 178 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region

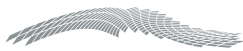


As shown in Table 7, on a total amount of 280, the highest number of barriers was observed regarding road BCPs, i.e. 138, which is almost the double of the barriers identified for rails BCPs and around three times greater than those of maritime ports. Only 14 and 8 barriers were reported in relation to logistic facility nodes and IWW ports respectively. Regarding the problem categories, the most reported one concerns operational and administrative issues (such as lack or inadequate staff number, lengthy paper-based procedures, etc.), with 92 problems observed, following by the lack of the necessary equipment affecting efficiency and effectiveness of processes, the inadequate conditions of the node infrastructure, which determine physical and capacity barriers, and the lack of the very basic utilities (e.g. internet, drinkable water, etc...). The group regarding operational and administrative issues result to be the most frequently reported among all the analysed transport node types, except for maritime ports and logistic facilities. For these, the greatest amount of mentioned problems is attributed to the road and rail last mile connections to/from the node.

According to Table 8, the number of measures that are proposed for maritime ports (108) is much higher than other transport nodes (e.g. about four times the reported measures for road BCPs) and represents 64% of the total number of the proposed measures identified. About half of the maritime port measures concerns the IT group, which indeed is the most reported category of measures overall (71 measures on a total of 169). Such group of measures concerns the upgrade of the current node's ICT infrastructure with the aim to foster transport digitalisation, interoperability of communication and data sharing systems. High relevance is also given to measures related to the possible works for the construction/modernisation of the node infrastructure as well as the improvement/expansion of the road and rail last mile connections (both inside and outside the node's areas) at maritime ports, for which 30 and 18 measures result to be mentioned respectively.

The majority of the reported measures currently adopted by the investigated transport nodes (Table 9) concern road BCPs, followed by maritime ports, logistic facilities, and rail BCPs. No adopted measures were reported in relation to IWW ports. Given the scope of the DT1.2.3, the highest number of measures that were identified as currently adopted by the investigated transport modes regards ICT tools and applications. However, for what concerns road BCPs, the greatest number of adopted measures refers to the purchase and installation of equipment for the improvement of the process efficiency and effectiveness.

The three tables include statistical data on the barriers and measures identified at the nodes. DT1.2.3 also includes the description of issues affecting the rail, road and IWW links. However, in line with the focus of the ADRIPASS initiative on telematic applications and ICT solutions at nodes, the problems and measures along the corridors' sections are not reported in a systematic way for all sections and modes. Their analysis is accordingly not summarised in the above tables, provided that the identified problems are in any case presented in Annex A to this report.



3. Review of studies and plans complementary with the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region*

3.1. Identification of relevant studies and plans

Whilst the WPT1 “Integrated Multimodal Transport” primarily builds on a bottom up approach, with a significant effort in the collection of data from primary sources, the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region* is targeted at complementing the results achieved from existing relevant studies and plans, developed to the scope of promoting intermodal transport in the Adriatic Ionian Region. This is required to maximise the effectiveness of the ADRIPASS project in the framework of the EU policies for the Union’s Enlargement and Cooperation with Neighbouring Countries, Territorial Integration and Cohesion, development of the Single European Transport Area. To this purpose, the macro-categories of issues adopted in the previous chapter and throughout this report for the classification of the barriers and measures affecting intermodal transport in the ADRION Region have been defined on the basis of the review of the most relevant studies and plans for the development and promotion of intermodal transport in the Adriatic Ionian Region. These include:

- Regional Infrastructure Balkans Study Update - REBIS;
- Accessibility Improved at border crossing for the integration of South East Europe - ACROSSEE;
- SEETO Multimodal Flagship Axes initiative;
- Western Balkan Intermodal Study;
- Work Plans by the European Coordinators.

Among the previous listed sources, the Work Plans by the European Coordinators are mentioned which have been elaborated in 2015 and are periodically updated every two years, on the basis of Regulation (EU) 1315/2013 concerning the implementation of the TEN-T network and Core Network Corridors. These documents, together with Regulation (EU) 1315/2013 (defining the core network) and Regulation (EU) 1316/2013 and subsequent revisions (defining the alignment of the core network corridors) are deemed to represent key references for the ADRIPASS project and for the definition of the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region*. The TEN-T network and the extension of the Core Network Corridors to the Western Balkans Area are deemed to represent the primary condition for the promotion of intermodal transport in the ADRION Region.

In line with the valorisation of the bottom up approach adopted for the WPT1 “Integrated Multimodal Transport” but aimed at ensuring complementarity between the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region* and other relevant documents under the strategic stand-point, the summary of the above listed documents



focuses on the measures identified in these sources. Accordingly, the analysis and identification of the barriers in the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region* is generally based on DT.1.2.3, whereas the definition of the measures generally refers to the strategic documents assessed in this Chapter. In this respect, it is also worth noticing that the DT1.2.3 is in any case referring to the above listed documents for the analysis of the problems affecting intermodal transport in the ADRION Region, also providing additional and more updated information, particularly regarding the adoption of telematic applications and ICT measures for the solution of operational and administrative barriers. Moreover, in the mentioned documents as well as in DT1.2.3 and in the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region*, a general correspondence between barriers/problems and solutions/measures is logically identified.

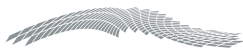
Finally, it is worth recalling the content of Chapters 5 and 6 of the DT1.2.3 as relevant sources for the elaboration of the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region*. These chapters provide relevant information on the examination, evaluation and implementation of ICT tools and applications at the seaports of the transport corridors in the Western Balkan area, also making reference to relevant studies and literature.

3.2. Regional Infrastructure Balkans Study Update - REBIS

In the effort of further developing the South East Europe Transport Observatory (SEETO) Comprehensive Network, integrating it in the European Union's (EU) Trans European Transport (TEN-T) Network and strengthening the underlying transport planning systems, the Regional Balkans Infrastructure Study (REBIS) finalised in 2003 has been updated and finalised in 2015 on the basis of the consideration that since the completion of REBIS in 2003, there had been no review or update of the study's projections and recommendations that would in turn enable an informed assessment and updating of the regional priorities for investment in the SEETO Comprehensive Network.

The study covered geographically Bosnia and Herzegovina, Albania, Kosovo, Macedonia, Montenegro Serbia and Croatia and related to rail, road and inland waterways infrastructure as well as maritime, inland waterways, airport and rail-road terminal transport nodes and its main objective was to develop a Priority Action Plan for enhancing the efficiency of the SEETO Comprehensive Network. The Action Plan identifies priority physical investments as well as non-physical improvements including regulatory, institutional and managerial changes required to reduce impediments to the efficient performance of the Network.

The high priorities that were included in the Priority Action Plan covered both non-physical as well as physical interventions. Given the large rehabilitation and maintenance needs

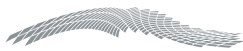


for the rail and road Comprehensive Network, and the importance of addressing them to preserve the value of expensive infrastructure assets, the proposed physical interventions included asset preservation for both road and rail and upgrading and new construction measures for road transport. This solution was based on a preliminary-level economic efficiency analysis not supporting any further infrastructure investment in the railways beyond rehabilitation and maintenance. Expansions in ports and airports with capacity constraints were considered medium priority.

Given the relatively low cost of these interventions and their substantial benefits, all non-physical impediments are considered a top priority. According to the study report addressing non-physical impediments is indeed critical for enhancing connectivity in Southeast Europe and for better integrating SEETO Regional Participants into the EU. Not only does the alleviation of non-physical obstacles require significantly lower financial resources than the construction of costly infrastructure, it yields high economic returns. Moreover, the economic development benefits expected from investments in costly transport infrastructure will not be fully realized if non-physical impediments, including regulatory and procedural constraints at borders and along the corridors, are not removed. Improving the quality of the road or railway network to reduce travel time within a Regional Participant only to spend the saved time at the border is highly inefficient and would greatly reduce, if not negate, the benefits of the improved infrastructure.

The non-physical measures identified by the Regional Infrastructure Balkans Study Update are as follows:

- Strengthening the Central European Free Trade Agreement - CEFTA Committee on Trade Facilitation; with SEETO participation;
- Collecting and monitoring comparable data on process times at Border Crossing Points;
- Implementing the New Computerised Transit Systems - NCTS Transit Convention;
- Improving Customs IT systems;
- Implementing efficient risk management, post control audit & simplified procedures;
- Supporting Single Window procedures;
- Establishing AEO status procedures and providing capacity building;
- Enabling better use of inter-modal transport;
- Strengthening the administrative capacity in Road Transport & Safety Agencies;
- Facilitating admission to road haulage market & profession;
- Implementing legislation regarding dangerous goods;
- Strengthening the administrative capacity in Rail Safety & Regulatory Agencies;



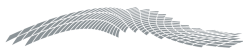
- Separating operations from infrastructure management;
- Opening up the rail market to competition;
- Strengthening administrative and technical capacity of Maritime Administrations;
- Developing Sava and Danube waterways and related IT systems;
- Strengthening the administrative capacity of Civil Aviation Authorities.

3.3. Accessibility Improved at Border Crossing for the Integration of South East Europe - ACROSSEE

The ACROSSEE (Accessibility Improved at border crossing for the integration of South East Europe) was an EU co-funded project, implemented between 2012 and 2014 as a follow-up to SEETAC project (South East Europe Transport Axis Cooperation) that highlighted the need to facilitate border crossings and urged for the improvement of Transport in the SEE region, as integral part of the Trans-European Transport Networks (TEN-T).

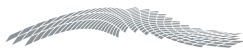
In this aspect, in the framework of the South East Europe EU Transnational Cooperation Programme, ACROSSEE project aimed to enhance cooperation for transport development and facilitation of movement of passengers and goods, the assessment of the existing and future bottlenecks, the analysis of border crossings and the definition of short-term improvements to boost international transport in the region. The ACROSSEE project measures - policies of relevance to the scope of the ADRIPASS initiative, defined on the basis of international best practices and guidelines, as well as the evolving legal and institutional framework - are the following:

- Maintenance, modernization and upgrade of BCPs' facilities and equipment according to each BCP's characteristics, particularities and needs: Special emphasis should be put on the installation of adequate communication network at BCPs (telephones, computers, internet access, etc.), but also on the provision basic facilities (e.g. buildings, public utility networks, lighting, rain canopies, banking services, hygiene facilities) and equipment (weighbridges, cargo handling, tracing means, CCTV).
- Spatial reorganization and special lanes in favour of international/ transit transport (TIR, green lanes) should be provided, depending on the BCP profile and traffic needs. Convenience should be provided for joint use of appropriate border infrastructure and facilities by the different border agencies as well as for joint use of equipment for simultaneous controls and at separate areas, in order to ensure smooth traffic conditions.
- Manning, education and training of staff measures to ensure sufficiency of the working staff in terms of number and level of education and training into new technologies, systems and practices. Efficiency can also be improved by establishing operational guidelines or handbooks describing working procedures,



workflow objectives for risk analysis, including the regular flow and exchange of information and gathering relevant information and contributing to review/evaluation.

- Joint border operations involving adjacent (neighbouring pair) BCPs including harmonization of the operating hours. The establishment of common BCPs in the territory of one of the countries, depending on the BCP status (infrastructure, facilities, equipment) should be encouraged. Construction and operation of Joint BCPs, the joint use of infrastructure on juxtaposed/ collocated BCPs performing as one-stop control point should be promoted also, depending on the level of mutual cooperation and trust and the provided legal conditions.
- Procedures and required documentation should be simplified. In this direction, the establishment of special organizational units in charge of simplified procedures could be established at each BCP as well as the introduction of one stop shops where all operations can be issued and processed at once electronically. In the same direction of simplifying border procedures, the improvement of the risk analysis and management systems should be pursued. This goes in hand with Information and Technology (IT) and Electronic Data Interchange (EDI) improvements and it comprises inter alia, development of a comprehensive inter-agency risk analysis IT system, pre-arrival processing, efficient early warning system with other border agencies (e.g. through contact points), creation of common risk profiles and development of national evaluation database as a risk assessment tool involving customs and all other border agencies at national level, shared risk systems between neighbouring countries, etc.
- Especially regarding Railway BCPs:
 - The change of locomotive at BCPs is not the reason of delays as claimed very often, but actually that in most of the cases a locomotive is not available in place - on time. The procurement of locomotives for the creation of a “Locomotive Bank” (World Bank, 2011) in the region and the procurement of multi-power electric locomotives would ensure reduction of border crossing times and solve interoperability issues. Introducing the single safety certificate and the single authorization of rolling stock would ease cross-border rail operations across Europe.
 - The establishment of efficient One Stop Shops (OSS) for provision of integrated services (information, fees, technical and procedural parameters and conditions, border services) is considered of paramount importance, especially for trips that have to pass through multiple countries. This service also simplifies the controls at rail BCPs, reducing thus the time needed and at the same time increases the attractiveness of Railways. Furthermore, there should be adequate coordination in planning of track closures among infrastructure managers.



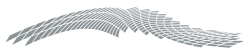
- Check of passengers and railway staff should be carried out either on the platform, in the first station of arrival, or the last one before departure in the territory of a Schengen State, or on board (on the train), during transit.
- International cooperation between border agencies should be enhanced in the region and bilateral agreements should be applied and extended to cover as many border related issues as possible. Deployment or exchange of liaison officers among neighbouring countries should be promoted, as well as the active cooperation and participation at regional platforms/ inter-agency groups, international networks, meetings of relevant international organizations, fora and international operations and exchange programmes.

3.4. SEETO Multimodal Flagship Axes initiative

Border crossing procedures have been identified as a significant barrier to trade and mobility in the region on various SEETO organised events, notably the SEETO Annual Ministerial Meetings and other conferences, as well as in the SEETO Multi-annual plans for development of the SEETO Comprehensive Network. In view of the specific objective of the Memorandum of Understanding for development of the South East Europe Core Regional Transport Network (SEETO Comprehensive Network) for facilitation of the border crossings and customs co-operation, a specific Project Task was initiated under the scope of the SEETO Strategic Work Programme 2012-2014 for advising on harmonisation of transport related border crossing procedures.

On the basis of the Ministerial Conclusions released at the eight Annual Meeting of Ministers held in Zagreb, in December 2012, a new approach to identify improvements to the infrastructure and services on long distance and cross-border corridors was recommended, which was named the Flagship initiative. The objective of this initiative was the identification of physical and non-physical barriers for selected multimodal axes (corridors/routes) from the SEETO Comprehensive Network, and the development and analysis of plausible remedial measures for reducing travel times and transport costs. Overall 33 actions were identified to increase the attractiveness of the identified axes and reduce travel times and transport costs, of which 11 horizontal actions on the regional level and 22 specific actions specific to the selected multimodal axes:

- Corridor X (including connectivity to the Port of Thessaloniki and Belgrade);
- Corridor Vc (including connectivity to the Port of Ploče and Sava river);
- Corridor VIII + Route 7 (including connectivity to the Port of Durrës, Corridor X and Black Sea);
- Route 4 (including connectivity to the Port of Bar, Corridor X, Danube and Corridor IV);
- Danube river.



The corridor related initiatives were assumed to pave the ground for monitoring Corridor performance and possible Corridor management by means of improvement of border crossings facilities and operations, develop information systems. The horizontal actions were aimed at supporting modal integration, interoperability and coordinated development and management of infrastructure. These included:

- Establish a Transport Facilitation Working Group;
- Establish a corridor management on selected flagship corridor that have a Sub-group on a pilot basis by using the model of the corridor management for the European Corridors;
- Conclude negotiations on rail border-crossing agreements;
- Ensure that the electronic transmission system of the road sector (e.g. SEED or New Computerised Transit Systems - NCTS) or rail-specific systems (e.g. RAILDATA, RNE systems, etc.) shall be applied to the railway sector;
- Establish joint road border crossings with the principle of one stopping based on Sukobin-Murican BCP;
- Enhancing the efficiency of rail operations and the logistics between maritime and rail transport within SEETO Flagship ports: Bar, Durrës and Ploče.

3.5. Western Balkan Intermodal Study

In the framework of further developing an efficient TEN-T Comprehensive Network to the Western Balkans and strengthening integration and complementarity among the modes of transportation and transport logistic chains in the SEE, the Regional Cooperation Council (RCC) Secretariat decided to tender a project for the assistance in the implementation of the project SEE 2020 - Jobs and Prosperity in European Perspective, in the area of transport under the Sustainable Growth pillar of the Strategy.

The Western Balkan Intermodal Study defined a roadmap on intermodal transport representing a regulatory, organizational, institutional, technical and technological framework for improving the existing situation of intermodal transport on the multimodal network in the SEETO region. The study involved the identification and analysis of the existing level of development of intermodal transport in the observed region, the determination of the existing factors which favourably or adversely affect the functioning of intermodal transport and the measures to eliminate the adverse factors and improve intermodal transport on local (SEETO regional participants) or regional level.

A number of measures have been identified for the promotion of intermodal transport in the SEETO area. These are reported in the following table.



Table 10 Measures identified in the Western Balkan Intermodal Study

| Measures |
|--|
| Legislative, regulatory and administrative measures |
| Planning documents |
| Preparation of studies of Intermodal Transport in SEETO regional participants |
| Preparation of strategies for development of Intermodal transport in SEETO regional participants |
| Preparation of national programs for development of intermodal transport in SEETO regional participants |
| Measures of transport policy |
| <i>General measures of transport policy</i> |
| Establishing the status of intermodal transport as an activity of special economic importance |
| An obligation to prepare the logistics of intermodal transport for internal transport, urban and distributive transport of goods in towns |
| An obligation of building ramps and equipment for the handling of containers and swap bodies in all commercial and production companies (intermodal aspect) |
| <i>Legislations and secondary legislations</i> |
| Specify the conditions of competence for accreditation (licenses, concessions, permits) in carrying out the activity of all transport services in intermodal transport |
| Develop regulation for transport logistics in the urban areas |
| Mandatory use of the consignment note |
| Mandatory use of the e-consignment notes (e-bill of lading, e-CIM consignment note) |
| Scope and specification of the working area of ITS between users and government services |
| Mandatory use of the e-customs documents |
| The obligation of submitting the data to create statistical reports and databases and procedures of information flow |
| Obligation of realization of procedures and processes for monitoring the transport of goods |
| Subsidies of fuel and the amount of transported goods (TKM or TEU) in intermodal transport |
| Adaptation of programs for the education of future personnel for intermodal transport |
| <i>Liberalization of the railway sector</i> |
| <i>Technical standards</i> |
| Standards for transport lines on intermodal transport corridors, terminals and terminal equipment |
| Harmonizing of transport vehicle dimensions, reloading equipment and transport units |
| <i>System of responsibility</i> |
| In the intermodal transport introduced a uniform system of responsibility-UNCITRAL (later implementation) |
| <i>Safety and Security</i> |
| Monitoring the progress in European standards and existing legislation and their implementation |
| <i>Elements of evaluation of transport system</i> |
| The use of EU benchmarks, indicators and labels for the evaluation of efficiency, flowability, ecological justification to raise the quality in intermodal transport |
| <i>Incentives for the development of intermodal transport</i> |
| Act for declaration to intermodal equipment and means of transport as equipment that favours environmental protection (customs and tax exemptions) |
| Distribution of transport permits in international road transport based on the volume of use of intermodal technologies |
| Facilitating the purchase of equipment for intermodal transport (guarantees, favourable credits, customs and tax exemptions) |
| Reduction of the tax rate on income generated in intermodal transport |



| Measures |
|---|
| Subsidize the carrier by realized transport volume of (TKM or TEU) transported in intermodal transport |
| Inclusion of the intermodal projects in the priority projects for the use of pre-accession EU funds |
| Organizational measures for improving intermodal transport |
| <u>The organization of bodies responsible for transport</u> |
| Effective organization of the Ministry of transport |
| Establishment or engagement of non-profit, non-governmental research organizations with the purpose to strengthen intermodal transport |
| Strong institutional system for public transport management (ports, terminals, infrastructure, public transport companies) |
| Harmonized system for ports management (port authorities) in the line with the legal practice in the European Union |
| Inclusion of users and potential investors to a large extent in management system of supervision |
| <u>Organization of planning and performing of transport (logistics aspect)</u> |
| Internal transport-Transshipment places must be ready for accepting of TEU units |
| Internal transport- Education of the personnel for the handling and transport of TEU units |
| Establishment of City logistics (CL) |
| Spatial planning and building logistics and distribution centres (CL) |
| Adaptation of handling (reloading) facilities and entities (users of transport services) for handling TEU units (CL) |
| Planning a light transport of goods (CL) |
| Strict measures of granting authorization for operators, freight forwarders-organizers of transport in intermodal transport |
| Strict measures for issuing permits for the transport in international transport (for carriers) |
| Administrative office for data input and control of transport of goods |
| Solutions for border crossing: data exchange the neighbouring regional participants |
| <u>Scientific and professional support and promotion</u> |
| Establishing business and technical cooperation with scientific and professional institutions |
| Prescribing the requirements of establishment, the type and number of required associations that will play the role of promoters |
| Providing the necessary information on intermodal transport in catchment areas |
| Introduction of clear rules in the work of associations of carriers and freight forwarders in terms of the number, competence and volume of transport service provision |
| Measures of technical and technological improvement of intermodal transport |
| <u>Means of transport</u> |
| Gradual development of the fleet (means of transport for Ro-Ro, Ro-La, PIGGY BACK technologies) according to transport demand* |
| <u>Reloading equipment</u> |
| Equipping reloading places (terminals, shipping centres, industrial terminals and shopping centres) for handling of TEU units according to transport demand* |
| <u>The use of modern IT equipment (hardware and software)</u> |
| <u>Monitoring system, IT equipment and support</u> |
| Immediately start creating the project of information system, database and statistics of intermodal transport in SEETO regional participants |
| The use of single transport documents and intermodal telematics systems |

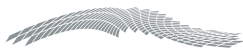


| Measures |
|--|
| The measures for improvement of infrastructure for intermodal transport |
| Investment projects of transport infrastructure (railways and IWW), separately in SEETO regional participants (see Chapter 7.2.11.1. Investment Projects of Transport Infrastructure (Railways and IWW))* |
| Investments in intermodal terminals, modular development of intermodal terminals according to transport demand, separately in SEETO regional participants (see Chapter 7.2.11.2. Investments in intermodal terminals)* |
| Human resources |
| Adaptation of the parts of plan and program of schools and faculties for education of personnel to the needs of intermodal transport systems |
| Introducing a system of incentives and preferential treatment for developing interest in the education of personnel for intermodal transport |
| Defining the vocations and professions in the sector of intermodal transport and prescribe mutual recognition of vocations, professions, diplomas, etc. |

Source: *Western Balkan Intermodal Study*; Note: *Long Term Measures

Among the above listed solutions, certain were identified as measures of very high priority. Very high priority measures are those that can be implemented quickly, i.e. in a short period and that represent initial steps (a prerequisite for other measures) in the process of development of intermodal transport in SEETO region. They are:

- Making planning documents (intermodal studies, strategies, national programs-apply to those participants whose do not possess these documents);
- Establishing the status of intermodal transport as an activity of special economic importance;
- Immediately start creating the project of information system, database and statistics of intermodal transport;
- The obligation of submitting the data to create statistical reports and databases and procedures of information flow;
- Liberalization of the railway sector;
- Inclusion of the intermodal projects in the priority projects for the use of pre-accession EU funds;
- Internal transport-Transshipment places must be ready for accepting of TEU units;
- Adaptation of handling (reloading) facilities and entities (users of transport services) for handling of TEU units (City Logistics aspect);
- Solutions for border crossing (significant progress can be expected in this area, as part of the soft connectivity agenda and the CEFTA Additional protocol):
 - Improving the cooperation between the national Customs Authorities;
 - Submission of preliminary information, finalisation of the complete electronic data exchange;



- Harmonisation of the control procedures and organisation of joint control with the neighbouring countries;
- The use of modern IT equipment (hardware and software).

In addition to all proposed measures, the study also emphasised the need to deserve special attention to measures of infrastructure development in the rail sector as the main holder of the intermodal transport in SEETO Region and the modernization or construction of new intermodal terminals.

Proposed projects in the rail sector related mainly to the modernization and reconstruction of the rail sections that are on the level of Indicative Extension of TEN-T to the Western Balkans (Core Network).

3.6. Work Plans by the European Coordinators

3.6.1. TEN-T Policy

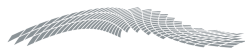
The entry into force of Regulation (EU) 1315/2013 and Regulation (EU) 1316/2013 set an important milestone in the development of the Trans European Network for Transport, TEN-T. The first Regulation sets the objectives and targets of the TEN-T Network and defines more generally the TEN-T infrastructure and the policy for its development. It identified the core network as a subset of the comprehensive TEN-T Network and prescribes the standards of the TEN-T infrastructure for all transport modes, as well as Motorways of the Sea and multimodal transport. The following table summarises the requirements set in the regulation 1315/2013 for all transport mode. The core network is assumed to be compliant to these standards by 2030, whereas the comprehensive network should be at standard by 2050.

Table 11 Infrastructure requirements set in the regulation 1315/2013

| Mode | Type (P: Passenger/ F: Freight) | General Objective | Corridor Objective | KPI | Unit | Reference Regulation 1315/2013 |
|--------------|---------------------------------|-----------------------|--|---|---------|---|
| Rail network | P/F | Cohesion | Technical compliance | Electrification | % of km | §12 except for isolated networks |
| | P/F | Cohesion | Technical compliance | Track gauge 1435mm | % of km | §13 as priority for RR infrastructure development |
| | P/F | Efficiency / Cohesion | Compliance - Optimal integration and improved interconnection - innovation | ERTMS implementation | % of km | §12 except for isolated networks |
| | F | Cohesion | Technical compliance | Line speed ≥ 100km/h in accordance with art. 39 | % of km | §39 requirement for core network |



| Mode | Type (P: Passenger/ F: Freight) | General Objective | Corridor Objective | KPI | Unit | Reference Regulation 1315/2013 |
|-------------------------|------------------------------------|---------------------------|------------------------------------|---|--|--|
| | | | | para. 2. Item a) (ii) of the Regulation 1315/2013 | | |
| | F | Cohesion | Technical compliance | Axle load (>=22.5t) | % of km | |
| | F | Cohesion | Technical compliance | Train length (740m) | % of km | |
| Inland waterway network | F | Cohesion | Technical compliance | CEMT requirements for class IV IWW | % of km | §15 (CEMT Resolution Nr. 92/2) |
| | F | Cohesion | Technical compliance | Permissible Draught (min 2.5m) | % of km | §15 with exemptions for duly justified cases |
| | F | Cohesion | Technical compliance | Permissible Height under bridges (min. 5.25m) | % of km | |
| | F | Efficiency | Optimal integration and innovation | RIS implementation | % of km on which the minimum requirements set out by the RIS directive are met | §16 |
| Road network | P/F | Cohesion | Technical compliance | Express road/motorway | % of km | §18 |
| | P/F | Sustainability - Cohesion | Clean transport compliance | Availability of clean fuels | % | §39 infrastructure for alternative fuels defined in § 3(w) |
| Airport | P/F | Efficiency - Cohesion | Multimodal connections compliance | Connection to rail | % of no. of airports | §30 interconnection airports and railways |
| | P/F | Efficiency | Competitiveness | Availability of at least one terminal open to all operators in a non-discriminatory way and application of transparent, relevant and fair charges | % of no. of airports | Article 25 (1) |
| | P/F | Sustainability | Clean transport compliance | Availability of clean fuels | % of no. of airports | §26 reducing environmental impact of aviation; European Advanced |



| Mode | Type (P: Passenger/ F: Freight) | General Objective | Corridor Objective | KPI | Unit | Reference Regulation 1315/2013 |
|---------------------------|------------------------------------|---------------------------|---------------------------------------|--|--------------------------|--|
| | | | | | | Biofuels Flightpath of 2011 |
| Seaport | F | Efficiency - Cohesion | Multimodal connections compliance | Connection to rail | % of no. of seaports | §30 interconnection ports and railways |
| | F | Efficiency - Cohesion | Multimodal connections compliance | Connection to IWW CEMT IV | % of no. of seaports | §22 except for physical constraints |
| | F | Sustainability - Cohesion | Clean transport compliance | Availability of clean fuels | % of no. of seaports | §23 promotion of alternative fuels defined in § 3(w) |
| | F | Efficiency | Competitiveness | Availability of at least one freight terminal open to all operators in a non-discriminatory way and application of transparent charges | % of no. of seaports | Article 22 (1b) |
| | P/F | Sustainability - Cohesion | Clean transport compliance | Facilities for ship generated waste | % of no. of seaports | §22 compliance with EC Directive 2000/59 |
| Inland ports | | Efficiency - Cohesion | Multimodal connections compliance | Class IV waterway connection | % of inland ports | §15 |
| | F | Efficiency - Cohesion | Multimodal connections compliance | Connection to rail | % of no. of inland ports | |
| | F | Sustainability - Cohesion | Clean transport Compliance | Availability of clean fuels | % of no. of inland ports | §16 promotion of sustainable IWW transport |
| | F | Efficiency | Competitiveness | Availability of at least one freight terminal open to all operators in a non-discriminatory way and application of transparent charges | % of no. of inland ports | Article 15 (2) |
| Rail Road Terminals (RRT) | F | Efficiency - Cohesion | Multimodal connections compliance | Capability for Intermodal (unitised) transshipment | % of no. of RRTs | §13 enhancing interoperability and connecting to IWW; § 28 |
| | F | Efficiency | Improvement of multimodal connections | 740m train terminal accessibility | % of no. of RRTs | |



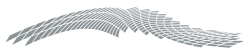
| Mode | Type (P: Passenger/ F: Freight) | General Objective | Corridor Objective | KPI | Unit | Reference Regulation 1315/2013 |
|------|------------------------------------|-------------------|---------------------------------------|--|------------------|--------------------------------|
| | F | Efficiency | Improvement of multimodal connections | Electrified train terminal accessibility | % of no. of RRTs | |
| | F | Efficiency | Compliance | Availability of at least one freight terminal open to all operators in a non-discriminatory way and application of transparent charges | % of no. of RRTs | |

Source: 2015-2017 Core Network Corridor Studies - Common KPI Structure

Further to the requirements and standards of the TEN-T Network, the TEN-T Regulation also sets the basis for the definition of the Core Network Corridors whose alignment is defined by the CEF Regulation (EU) 1316/2013. Among the identified 9 Core Network Corridors, 5 are crossing the ADRION Region, namely the Orient East-Med, Mediterranean, Baltic - Adriatic, Scandinavian - Mediterranean and the Rhine - Danube. According to Art. 42 of the Regulation (EU) 1315/2013, core network corridors are an instrument to facilitate the coordinated implementation of the core network. In order to lead to resource-efficient multimodal transport, thereby contributing to cohesion through improved territorial cooperation, core network corridors shall be focused on, (a) modal integration (particularly port last mile and hinterland connections), (b) interoperability (particularly ERTMS), and (c) a coordinated development of infrastructure, in particular in cross-border sections and bottlenecks. To this purpose Corridor Fora involving all the concerned infrastructure managers and transport policy stakeholders have been organised and European Coordinators designated for each of the 9 Core Network Corridors. European Coordinators are also responsible for the elaboration of Corridor Work Plans aimed at supporting and monitoring the development of the 9 Core Network Corridors towards the targets set in the Regulation (EU) 1315/2013.

In addition to the standards required by the TEN-T Regulation for the infrastructure as outlined at the table above, other elements are worth mentioning, which are also foreseen in the Regulation (EU) 1315/2013. These relate to the integration of the urban nodes into the TEN-T network and corridors (Art. 30), as well as other horizontal components of the TEN-T policy such as telematic applications supporting interoperability and transport digitalisation, new technologies and innovation, including alternative clean fuels, sustainable transport of freights, safe and secure infrastructure, resilience to climate change, environmental protection and accessibility for all users (Articles from 31 to 37).

Since the entry into force of the Regulations (EU) 1315/2013 and 1316/2013, three versions of the Work Plans by the European Coordinators have been elaborated, in addition to monitoring the implementation of the TEN-T policy with reference to the 9 Core



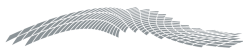
Network Corridors, also set additional recommendations specific to the corridors. Whilst to the scope of the definition of the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region* the above summarised requirements are of primary importance for the development of the Core Network in the Adriatic-Ionian Regions, including the Western Balkans area, the recommendations by the European Coordinators are also worth to be considered, defining a sort of priorities for the development of the TEN-T policy further to and beyond the attainment of a compliant network.

In the following sections of this Chapter a summary of the most relevant recommendations from the Work Plans of the European Coordinators of the five Core Network Corridors crossing the ADRION Region is provided as background information for the definition of the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region*.

3.6.2. 3rd Work Plan of the European Coordinator of the Orient/East-Med Corridor

The Work Plan of the European Coordinator of the Orient/East-Med Corridor identifies the following concrete recommendations to be implemented by mode by 2030:

- *Improvements of the railway network to complete the corridor missing links, reach the standards set in the Regulation (EU) 1315/2013, solve capacity issues, and deploy ERTMS, including at cross-border sections;*
- *Inland waterways improvements oriented to an improved navigability of the corridor sections in conjunction with the environmental aspects and the digitalisation of the infrastructure (e.g. evolution of RIS) as well as the construction of modern ships adapted to the existing infrastructure;*
- *Maritime ports improvements aimed at allowing availability of alternative clean fuels at ports and their (efficient) rail connection to the OEM Corridor in order to increase intermodal efficiency. The implementation of the National Single Window in accordance with Directive 2010/65/EU. Works to increase port capacity and implement VTMS and port community communication state-of-the-art infrastructure. Implementation of Motorways of the Sea standards to improve maritime transport, where this solution represents the main transport connection between the continent and the islands;*
- *Roads projects improvements to reach the standards set in the regulation (EU) 1315/2013, increase safety and solve capacity issues, including at cross-border sections and at urban nodes corridor bypasses. ITS deployment to improve safety, capacity and energy reduction in road transport e.g. by transferring CROCODILE and C-ROADS to other corridor countries than Austria, Cyprus, Czech Republic, enabling smooth data transfer between Member States. Alternative fuel deployment is a strongly growing topic, fostering the emission reduction on the roads. CEF 2016 is supporting various works and studies for LNG, CNG filling stations and EV fast-charging station networks along the Corridor. More attention*

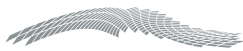


could be paid to the deployment of EV fast-charging station networks along the Corridor outside the urban nodes. Also, the issue of hydrogen stations deployment on corridor should be tackled in the future.

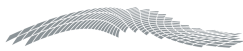
3.6.3. 3rd Work Plan of the European Coordinator of the Mediterranean Corridor

Based on the analysis of the Corridor and on the wide consultation with stakeholders in the Corridor Forum, the following considerations are given by the European Coordinator, which represent the areas where efforts to develop the corridor shall be primarily concentrated:

- *Continuity of the Corridor alignment. The continuity of the corridor alignment should be guaranteed in terms of long-distance or cross-border flows. In this respect, it is very important to encourage projects with the highest added value aiming at solving bottlenecks constraints as well as improving or maintaining the quality of infrastructure in terms of safety, security, efficiency and sustainability. Advanced technological and operational concepts allowing interoperability, tracking & tracing of goods, better intermodal integration are among the accompanying measures to be implemented in order to improve the function of ports as essential links for the longer distance exchanges with other continents, as well as intra-EU trade. Corridor continuity can be implemented only if the works along the Corridor will be coordinated and harmonized, especially at cross-border sections and in the urban nodes. In particular, the fulfilment of an agreed time table for cross border projects should be ensured in order to avoid serious delays in the expected benefits arising from the investments made;*
- *Priority to railways, inland navigation, and crossing-borders improved practices. Given the socio-economic characteristics of the territories involved, the Corridor is especially relevant for the international trade of goods, given the strong economic relationship between the Countries of its Western part and the development - in perspective - of the ones with the Countries on the Eastern part. Due to the crossing of environmentally sensitive areas, such as the Pyrenees and the Alps, the objectives of “low-carbon and clean transport, and environmental protection” can be met only by developing efficient rail or maritime freight transport supply (in terms of both services and infrastructure), well interconnected by efficient “last mile” links with relevant freight transport nodes (sea and IWW ports, intermodal rail-road terminals). The latter shall provide sufficient capacity and efficient operations, in order to avoid that the removal of bottlenecks at network level will create new ones on nodes. Removal of existing localised bottlenecks on the infrastructure, as well as the alignment of it to suitable technical standards for freight (e.g. 740 m allowed length for trains, maximum gradients for new lines 12,5 mm/m, 22,5t axle load, loading gauge UIC C) appears also key Corridor development measures;*



- *Coordination of the transport development plans. In order to ensure a harmonized development of the Mediterranean Corridor, information about transport development plans of the Member States affected by the Corridor shall be shared in order to enhance coordination and harmonisation. Member States eligible for co-funding from the cohesion funds should use these financing instruments towards the logic of the transport core and comprehensive networks development aiming at an efficient inter-modality approach;*
- *Maintain a multimodal transport network. The maintenance and promotion of multimodal transport infrastructures for people and goods shall be seen as a primary objective for evolving the demand for mobility in highly populated and intense economic developed areas of the Corridor. A much better integration of the various modes remains a challenge for many ports, industries and airports along the corridor. In particular the combination of high numbers of short distance passenger rail services and freight services remains a major challenge mainly in the urban nodes, hampering the development of freight transport in these sections of the Corridor;*
- *Projects evaluation. The evaluation of projects should focus more on their viability and should also incorporate cost-benefit assessments and economic impacts. The project maturity is relevant as well and should be evaluated in terms of:*
 - *Project Identification (objectives, investment type);*
 - *Technical readiness (Spatial Planning and technical documentation);*
 - *Institutional readiness (institutional framework and capacity);*
 - *Financial/Economic maturity (coverage of costs);*
 - *Social/Environmental maturity (EIA, social/environmental impacts);*
- *Operational and administrative bottlenecks. Special attention should be paid to the operational and administrative barriers that can have a negative impact on the profitability of the investment and on the efficiency of the Corridor on the whole. In particular, a specific study of these bottlenecks on the borders and along the corridor should be carried out and focus especially on the following items:*
 - *Harmonising national procedures regarding authorisation and certification of rolling stock;*
 - *Traffic management;*
 - *Management of terminals;*
 - *Access to the market and services;*
- *Links to third countries. The corridor shall provide economically efficient and clean transport options to the flows of passengers and goods between those*

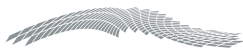


territories as well as the other Countries that will take benefit from the Corridor's development for their international flows (e.g. Balkan countries, Ukraine etc. on the Eastern side). Especially in relation to Western Balkans regions, but also considering Northern African and Eastern European countries, the Corridor should include the links with third countries. The important growth potential of these territories, where the transport connections remain still very weak, requires a particular attention in terms of development of transport infrastructure as well as of regulatory reforms and convergence;

- *Communication and promotion. It is important to continue the multilateral, cross-border cooperation between Member States. Synergies will be sought with the Rail Freight Corridor 6 (RFC6), notably in addressing the administrative and operational barriers on the historic lines, especially on sections where new cross-border projects are being developed and the historic lines need to serve still as main line in the medium term. The cooperation with the RFC6 should be strengthened on a regular basis. Finally, as foreseen by the TEN-T Regulation, the following working groups will be proposed on a) urban nodes useful to have a local or regional point of view, and b) ports and rail-road terminals. Due to the maritime dimension of the corridor the working group for ports should be institutionalised and organized on regular basis and focused on last miles investments, port infrastructure as well as non-infrastructure nature issues (i.e. administrative and custom procedures, IT, innovative services with a maritime component, clean fuels, etc.);*
- *Importance of the cross-border cooperation. Appropriate cross-border cooperation is important to address the corresponding challenges, taking into account the particularities of each cross-border section. Meetings related to specific cross-border issues should be organized on regular basis. This process would help to achieve a smoother implementation of the Corridor. Importance of investing not only in new infrastructure and upgrades but also in maintenance of the networks to keep them efficient and reliable. The investments foreseen for the Corridor shall also be oriented at the ordinary and extraordinary maintenance of the networks, in order to guarantee efficient and reliable functioning of the Corridor axes. Accordingly, maintenance strategies and associated financial costs shall be considered when defining the future financial needs for Corridor implementation.*

Specific recommendations for improvements in the Mediterranean Corridor by mode are also included in the Work Plan of the Mediterranean Corridor, which relate to:

- *Railway network improvements shall focus on the completion of missing key sections and reach the standards set in the Regulation (EU) 1315/2013 including at several cross-border rail connections. Implementation of ERTMS is also essential to achieve an interoperable and competitive railway network. Implementation of*



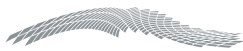
interoperability actions, such as the 740m train length standard, harmonisation of operation and authorisation rules are considered as quick-win initiatives that can have a significant direct impact on productiveness. Solutions for the interoperability of the track gauge system shall also be coordinated and found;

- *Maritime ports shall be fully connected to the rail and road Corridor links;*
- *Inland waterways improvements shall focus on ensuring full reliability of inland waterway transport along the IWW sections, both in terms of 365 day navigability and absence of physical constraints. Furthermore, the considerations presented for ports full connectivity can be extended to inland ports;*
- *Road network improvements shall aim at reaching the standards set in the Regulation (EU) 1315/2013, including at cross-border sections;*
- *Urban nodes. It became quite apparent in the Corridor Study that the main urban areas along the Corridor constitute sometimes serious bottlenecks for rail hampering not only local and regional traffic but also restricting severely international traffic. Attention must not only be given to passenger services but equal treatment should be given to freight services using the same infrastructure. While the general problem is similar in all urban nodes, the specific situations of the various urban nodes differ and need to be studied individually. Particular attention needs to be paid to urban nodes which form the crossing points with other core network Corridors, in order to allow a seamless flow of high-speed passengers and freight flows. This concerns first of all the major nodes like Madrid, Lyon and Milan, but also Verona, Venice and Budapest.*

3.6.4. 3rd Work Plan of the European Coordinator of the Rhine-Danube Corridor

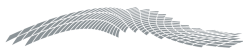
The main recommendations included in the Work Plan of the Rhine-Danube Corridor of relevance to the purposes of the definition of the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* are as follows:

- *Concerning the improvement of the inland waterways the Work Plan emphasises how this mode can play a significant role in reducing the overall environmental impact of the other modes. The Danube River and its tributaries represent an important source of unspoiled transport capacity. The development of inland waterways needs to be done in accordance with the EU transport policy objectives and the European environmental legislation. The Joint Statement on Inland Navigation and Environmental Sustainability provides guidance on how to consider all needs during the planning and the realisation phase. The FAIRWay Danube Action is mentioned which will create a Danube-wide platform for exchange and discussion, enabling the alignment of inland waterway transport and environmental priorities. The Fairway Rehabilitation and Maintenance Master Plan, as developed within the EU Danube Region Strategy and as endorsed by most*



Transport Ministers, is also mentioned which serves as recognized political framework. FAIRway Danube monitors the implementation of the Master Plan and prepares for its full deployment; it monitors the progress in fairway rehabilitation and maintenance and tries out new ways to increase the availability of the waterway and to provide better fairway related information. Thus, it prepares for the full deployment of the Fairway Rehabilitation and Maintenance Master Plan. Integrated river engineering projects and maintenance dredging initiatives are mentioned which shall be carried out in a more regular and extensive way in the Corridor countries in order to meet the above mentioned objectives. The challenge for the Corridor Coordinator, more that the need to address technical implementation issues is to ensure that all countries develop a proactive strategy that, at the due time, prompts the necessary political support for innovation projects in the next financial period after 2020;

- As of railway related improvements, despite important interventions and large budgets, the Work Plan highlights how bottlenecks are still present, particularly represented by lack of capacity in terms of axle loads availability or by missing electrification, for which plans are not yet being filed;
- Concerning maritime ports, infrastructure modernization, efficiency improvement and greening of port development and operations are mentioned which shall be taken into account in future planning and policy documents on both national and especially supranational (EU) levels. Special emphasis should be placed on the development of infrastructure and superstructure facilities for loading/unloading and handling of containers in ports. Apart from the positive development in the domain of construction of LNG supply facilities for vessels in ports, efforts directed towards the development and increased use of electricity powered or hybrid (diesel - electric, LNG - electric, diesel - LNG, etc.) handling equipment in ports (forklifts, tractors, handling trucks, wheel loaders, mobile cranes, reach stackers, etc.) shall deserve stronger support;
- As of road transport improvements, ITS is deemed to provide more safety, capacity and energy reduction in road transport. Already now, related projects such as CROCODILE and C-ROADS are being deployed in Austria, Czechia and other Member States, but should be intensified in other parts of the Corridor, enabling smooth data transfer between Member States. Alternative clean fuel deployment is a strongly growing topic, fostering the emission reduction on the roads. CEF is supporting various works and studies for LNG, CNG refuelling points and EV recharging station networks along the Corridor. More attention could be paid to the deployment of EV fast-charging station networks along the Corridor outside the urban nodes.



3.6.5. 3rd Work Plan of the European Coordinator of the Baltic-Adriatic Corridor

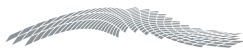
According to the 3rd Work Plan of the Baltic-Adriatic Corridor, the following six issues are identified of highest priority and need to be primarily addressed for the development of the Baltic-Adriatic Corridor:

- *The cross-border links both for rail and road, including digital cross-border links for the exchange of traffic data and provision of information services for both modes;*
- *The timely implementation of the major projects of the Corridor missing links;*
- *The compliance of the corridor infrastructure with the quality and standards set in Regulation (EU) 1315/2013, with a particular focus on the completion of the modernisation of the railway infrastructure in Cohesion Member States;*
- *The 'last mile' connection of the ports building the start and end point of the corridor;*
- *The interconnection in all urban nodes along the corridor between TEN-T and local transport infrastructure;*
- *The interoperability of the transport network, in particular through the full deployment of ERTMS along the corridor.*

3.6.6. 3rd Work Plan of the European Coordinator of the Scan-Med Corridor

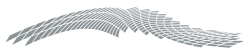
The development of the Corridor is commented with reference to the following topics identified as key focus area of attention/intervention of the TEN-T policy in the wider framework of the policies for mobility and transport:

- *Climate challenge. The COP 21 in Paris saw commitments to act defined through intended nationally determined contributions (INDCs). On 6 March 2015, the EU submitted its INDC to the UNFCCC formally putting forward a binding, economy-wide target of at least 40% domestic greenhouse gas emissions reductions below 1990 levels by 2030. The state-by-state and sector-by-sector breakdown needs to be established. This process has begun but is not yet completed. COP 23, held in November 2017 in Bonn, witnessed a growing number of state level national commitments through nationally determined contributions (NDCs). Seventy five percent of NDCs submitted by then mentioned transport but only ten percent of these included specific mitigation targets, dates and roadmaps. There is much still to be done in setting, let alone in realising, necessary greenhouse mitigation targets. In 2015 the transport sector contributed 25.8% of total EU28 greenhouse gas emissions (21% if aviation and maritime are excluded). International aviation experienced the largest percentage increase in greenhouse gas emissions over 1990 levels (+105%), followed by international shipping (+22%) and road transport*



(+19%) despite a recession-induced decline between 2008 and 2013⁵⁹. These increases occurred notwithstanding the many technical improvements in vehicle standards, fuel specifications and aircraft and shipping design, confirming an underlying surge in demand for transport and logistical services. Emissions need to fall by around two thirds compared with 1990 levels in order to meet the long-term 60% reduction target as set out in the 2011 Transport White Paper. This will require transformative and not merely incremental change and necessarily will need to be a key consideration in future TEN-T and Core Network Corridor policy definition, evolution, measurement and management.

- *Decarbonisation.* The objective of transport decarbonisation to achieve zero net emissions in the coming decades, through modal shift, deployment of alternative fuels, the move away from internal combustion fossil-fuel-burning engines, zero emission last mile delivery systems, better urban and spatial planning, low to zero emission zones in urban centres and similar initiatives, points to a quickly evolving policy landscape. The EU can make a significant contribution to this collective effort by mobilising, encouraging, incentivising, learning from and sharing with the Corridor communities, now an established and embedded feature of TEN-T policy. Technology has a role to play, so too does regulation but successfully inducing behavioural change will be a key ingredient and one where sharing and encouraging best practice will be vital.
- *Resilience.* For transport, greenhouse gas emissions are not the only climate related challenge. The impact of climate change on road, rail, ports, airports and inland waterways is another important dimension. The resilience of all infrastructures in the face of extreme weather events needs to be known and understood. Evidence abounds of intense heat waves, cold snaps, floods, droughts, landslides, soil erosion and wildfires. Their impact on transport networks and their implications for whole network effects is a form of risk evaluation that has yet to be done systemically or, if done by some, has yet to be shared by the Corridor community at the level of Core Network Corridors. This will need to be a focus for future work and studies.
- *Digitalisation.* A key element in delivering transformational change across the transport sector will be digitalisation in all its forms, smart infrastructure, smart vehicles, seamless mobility solutions, big data management, the internet of things, the autonomous, the robotic the artificially intelligent, the connected citizen, client, consumer, prosumer and producer of mobility services. We stand on the cusp of a new wave of change, a new industrial and services revolution. The Core Network Corridors can act as a readily available inter-regional and international cross-border test bed and platform for learning-by-doing beyond local and national boundaries. They are open to public and private actors and public-private consortia prepared to innovate and willing to move from the abstract to the concrete in developing interoperable and seamless multimodal



transport concepts and, options. It would be helpful if Corridor Forum members could assist in the identification of partners: governmental, regional, municipal, academic, commercial or others - who would be prepared to exploit this opportunity to experiment and to lead change. One aspect of interoperability and digitalisation is the European Rail Traffic Management System (ERTMS). This is an area where insufficient progress has been made to date but one that is vital to the future competitiveness of rail operations and in particular rail-freight. Cross-border interoperability through the deployment of ERTMS can deliver early and disproportionately positive results to rail corridor operations. In this regard, it is proposed to work closely with the implementing bodies foreseen in Commission Implementing Regulation (EU) 2017/6 and the Rail Freight Corridor to identify the “low hanging fruit” on cross-border sections where investment in ERTMS could deliver quick wins and consequently be the subject of continuous EU co-funding.

- *Rail breakthroughs.* The competitiveness of rail can be significantly improved over the period 2018 - 2023 through the execution of short-term, operational or administrative actions, requiring lower level of investments - through so called 'rail breakthroughs' targeted in particular at the CNC's and RFC's. The complementarity of Core Network Corridors and Rail Freight Corridors is therefore self-explanatory; their cooperation should be steered politically by the European Coordinators, hand in hand with the RFC Executive Boards. The European Coordinators will seek to facilitate the CNC/RFC cooperation and ensure national high-level political support to the RFCs, so that they are able to implement the rail breakthroughs. In order to enhance this approach, future EU investments could be conditionally linked to the operational implementation of these breakthroughs. Significant and measurable performance results of interoperability can be expected from the Rail Freight Corridors that have an integrated and regional governance structure gathering all stakeholders: the railway undertakings, the terminals, the infrastructure managers and the Ministries of Transport. They are therefore in a unique position to identify and implement the most urgent and efficient rail breakthroughs along their corridors, and should be encouraged to ensure that the entire corridor is able to allow interoperable operations. The European Union Agency for Railways has a key role to play to support this approach, for eliminating national rules which hinder interoperability and in the further development of technical specifications of interoperability (especially on operations, to support common operational procedures).
- *Ideas Laboratories.* At another level sustainable and innovative transport will be found through the multitude of individual initiatives taken by regions, cities, ports, airports, rail-road terminals and the transport service providers / direct infrastructure users. Such diversity is a great strength. That capacity can be multiplied through peer-to-peer exchanges. The Ideas Laboratories pioneered by



the Scan-Med Corridor have sought to do just this covering issues from greening of ports, airports, efficiency increase railroad terminals, improving urban node's connectivity, roads and ITS and cross border rail (freight) transport interoperability. It is a policy innovation that should be maintained.

- *Flanking measures. As well as its positive contribution to growth, employment and competitiveness transport also generates negative external effects such as accidents, congestion, air pollution, greenhouse gas emissions and noise. In many cases, these externalities are under-costed or un-costed. Corridor coherence is greatly to be desired in the definition and delivery of flanking measures, such as road tolls, the internalisation of external costs or cross-financing schemes between transport modes. As emphasised in previous Work Plans large scale infrastructure projects take time. Contemplating, let alone adopting accompanying measures to optimise modal shift to lower carbon modes, institutionally and politically can take even more time. These issues remain politically sensitive but should not be swept under the carpet. The Corridor community has no right and no wish to replace or displace legitimate decision-making authorities but it has a duty to reflect on the policy mix appropriate to achieving shared corridor objectives and to draw such considerations to the attention of its stakeholders and to regional and national administrations.*



4. Identification of transport facilitation measures for the promotion of intermodal transport in the ADRION Region

As already mentioned in Chapter 2, a set of macro-categories has been defined for the classification of the problems/barriers/bottlenecks affecting intermodal transport in the ADRION Region, and the corresponding solutions/measures. These categories have been identified in an attempt to combine the bottom up analysis from DT1.2.3 with the review of relevant studies complementary with the *Transnational action plan for transport facilitation in the Adriatic-Ionian region*. The adoption of these categories appears to be effective in the classification of the issues and measures related to the promotion of intermodal transport in the Adriatic Ionian Region as detailed in Annex A to this report.

In order to reflect the objective of the ADRIPASS project, supplementary sub-categories of measures have been identified (also in line with the review of the relevant studies and plans summarised in Chapter 3), to be added to the set of macro-categories defined in Chapter 2. These relate to the specificity and aim of the ADRIPASS initiative to improve intermodal transport in the ADRION Region with a focus on the adoption and deployment of telematic applications and ICT tools and solutions to solve operational and administrative barriers, and support the interconnection between the logistics nodes. Table 12 overleaf provides the full set of categories of barriers/problems and solutions/measures proposed to be used for the definition of the *Transnational action plan for transport facilitation in the Adriatic-Ionian region*.

On the basis of these categories, Tables from 13 to 17 list the transport facilitation measures identified for the promotion of intermodal transport in the ADRION Region by transport node.



Table 12 Categories of Problems / Barriers and Measures / Solutions towards the definition of the Transnational action plan for transport facilitation in the Adriatic-Ionian region

| ID Category Code | Problem Definition | | Measure Definition | Type of Problem / Measure | Involved transport Modes |
|------------------|--|---|---|---------------------------|---|
| IT | Deficiency of existing ICT technologies/solutions for the digitalisation of processes and system interoperability | | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | Non-physical / soft | Maritime Ports, Road BCPs, Rail BCPs, IWW Ports, Logisti Facilities |
| | AIT | Opportunity to increase the efficiency of the operations and the competitiveness of the port through the upgrade of the existing IT systems and/or the implementations of advanced IT solutions (Augmented Reality, Internet of Things, Cloud Computing, Big Data Analysis, etc...) | Upgrade of the current IT systems and/or implementation of advanced IT solutions (Augmented Reality, Internet of Things, Cloud Computing, Big Data Analysis, etc...) at maritime ports | Non-physical / soft | Maritime Ports |
| | PCS | Lack of interoperable IT systems and solutions at node level and/or need to further develop the existing PCS | Improvement of the interoperability of IT systems and solutions at node level including the development and improvement of PCS | Non-physical / soft | Maritime Ports |
| | SW | Lack of interoperability of PCS and ICT technologies and solutions at basin or national level | Improvement of the interoperability of PCS and ICT technologies and solutions at basin or national level | Non-physical / soft | Maritime Ports |
| | ST | Lack of integrated ICT technologies and solutions at BCPs or between BCPs and the central administration | Integration of ICT technologies and solutions at BCPs or between BCPs and the central administration | Non-physical / soft | Road BCPs, Rail BCPs |
| | TM | Lack of ICT technologies to trace and/or monitor freight train operations | Implementation of ICT solutions to trace and/or monitor freight train operations | Non-physical / soft | Rail BCPs |
| | CAM | Need to ensure a higher level of security at the node through the installation of IT systems and solutions (e.g. CCTVs) | Improvement of security level by instalment of IT systems and solutions (e.g. CCTV) | Non-physical / soft | Road BCPs |
| OA | Inadequate staff number and competences, lengthy and paper-based procedures, long waiting times of intermodal and border crossing procedures | | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | Non-physical / soft | Maritime Ports, Road BCPs, Rail BCPs, IWW Ports, Logisti Facilities |
| | LS | Temporary or permanent unavailability of personnel for the fulfilment of the expected level of service | Hiring of additional personnel / implementation of ICT solutions to reduce the staff's individual workload and tasks | Non-physical / soft | Road BCPs, Rail BCPs |
| | SC | Lack of staff competences and/or skills | Provision of training to improve staff competences and skills | Non-physical / soft | Road BCPs, Rail BCPs |



| ID Category Code | | Problem Definition | Measure Definition | Type of Problem / Measure | Involved transport Modes |
|------------------|-----|--|--|---------------------------|---|
| | OSS | Need to speed up the completion of all the required formalities | Realisation of a one-stop-shop solution to the road users at BCPs | Non-physical / soft | Road BCPs |
| TEL | | Lack or deficiency of the existing telematic applications for traffic management | Deployment or upgrade of telematic applications for traffic management to the EU standards | Non-physical / soft | Maritime Ports, Road BCPs, Rail BCPs, IWW Ports, Logisti Facilities |
| U | | Lack or poor conditions of the basic utilities, such as water, lit, telephone and internet | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | Non-physical / soft | Maritime Ports, Road BCPs, Rail BCPs, IWW Ports, Logisti Facilities |
| | IN | Lack of internet connection | Purchase and installation of basic infrastructure and facilities to allow the internet connection, preferably combined with the deployment of ICT solutions to provide integrated services at the single BCP or network level, or to support communication between BCPs and the central administration | Non-physical / soft | Road BCPs, Rail BCPs |
| E | | Lack of adequate equipment affecting the efficiency and effectiveness of processes at BCPs and transport nodes. This includes machinery, such as cranes weighbridges, x-ray scanners, etc... | Purchase and installation of equipment for the improvement of efficiency and effectiveness of processes at BCPs and transport nodes | Non-physical / soft | Maritime Ports, Road BCPs, Rail BCPs, IWW Ports, Logisti Facilities |
| LM | | Deficiency in the last-mile and hinterland transport interconnecting system (both inside and outside the node area) | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | Physical / hard | Maritime Ports, Road BCPs, Rail BCPs, IWW Ports, Logisti Facilities |
| | RA | The current provision of the rail last-mile connections within and outside the logistic node areas constrains the freight flows to/from the node | Infrastructure improvement or expansion of the rail last-mile connections within and outside the logistic node areas | Physical / hard | Maritime Ports, Logisti Facilities |
| | RO | The current provision of the road last-mile connections within and outside the logistic node areas constrains the freight flows to/from the node | Infrastructure improvement or expansion of the road last-mile connections within and outside the logistic node areas | Physical / hard | Maritime Ports, Logisti Facilities |
| I | | Need of major infrastructure works and/or minor investments to remove physical and technical barriers, affecting operations and capacity of the infrastructure | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | Physical / hard | Maritime Ports, Road BCPs, Rail BCPs, IWW Ports, Logisti Facilities |
| CF | | Lack of alternative clean fuels supply facilities | Realisation of alternative clean fuels supply facilities | Physical / hard | Maritime Ports, Road BCPs, Rail BCPs, IWW Ports, Logisti Facilities |

Source: own elaboration



Table 13 Transport Facilitation Measures for Maritime Ports

| ID Code | Identified Measure | Number of Addressed Problems | Involved Countries | Involved Nodes | Involved TEN-T Corridors | Distance to Frontier (based on the MCA of DT1.2.3) |
|---------|---|------------------------------|---|--|--------------------------|--|
| IT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | 51 | Albania, Croatia, Greece, Italy, Montenegro, Slovenia | Durrës, Rijeka, Ploče, Koper, Igoumenitsa, Patras, Piraeus, Thessaloniki, Trieste, Bar, Ravenna, Vlore | BAC, MED, OEM | n.a. |
| AIT | Upgrade of the current IT systems and/or implementation of advanced IT solutions (Augmented Reality, Internet of Things, Cloud Computing, Big Data Analysis, etc...) at maritime ports | 26 | Albania, Croatia, Greece, Italy, Montenegro, Slovenia | Igoumenitsa, Patras, Piraeus, Rijeka, Thessaloniki, Ploče, Bar, Ravenna, Vlore, Koper | BAC, MED, OEM | 51% |
| PCS | Improvement of the interoperability of IT systems and solutions at node level including the development and improvement of PCS | 10 | Albania, Croatia, Greece, Italy, Montenegro, Slovenia | Igoumenitsa, Rijeka, Trieste, Ploče, Bar, Ravenna | BAC, MED, OEM | 14% |
| SW | Improvement of the interoperability of PCS and ICT technologies and solutions at basin or national level | 8 | Greece, Italy, Montenegro | Igoumenitsa, Patras, Piraeus, Thessaloniki, Trieste, Bar, Ravenna | BAC, MED, OEM | 55% |
| OA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | 10 | Albania, Croatia, Greece, Italy | Durrës, Rijeka, Thessaloniki, Trieste, Ploče, Ravenna, Piraeus | BAC, MED, OEM | n.a. |
| TEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | 1 | Albania | Durrës | MED | n.a. |
| U | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | - | n.a. |
| E | Purchase and installation of equipment for the improvement of efficiency and effectiveness of processes at BCPs and transport nodes | 5 | Albania, Croatia, Italy, Slovenia | Rijeka, Venezia, Ploče, Vlore, Koper | BAC, MED | n.a. |



| ID Code | Identified Measure | Number of Addressed Problems | Involved Countries | Involved Nodes | Involved TEN-T Corridors | Distance to Frontier (based on the MCA of DT1.2.3) |
|---------|--|------------------------------|--|--|--------------------------|--|
| LM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | 26 | Croatia, Greece, Italy, Montenegro, Slovenia | Igoumenitsa, Patras, Piraeus, Rijeka, Thessaloniki, Trieste, Venezia, Ploče, Bar, Ravenna, Koper | BAC, MED, OEM | n.a. |
| RA | Infrastructure improvement or expansion of the rail last-mile connections within and outside the logistic node areas | 18 | Croatia, Greece, Italy, Montenegro, Slovenia | Igoumenitsa, Patras, Piraeus, Rijeka, Thessaloniki, Trieste, Venezia, Ploče, Bar, Ravenna, Koper | BAC, MED, OEM | n.a. |
| RO | Infrastructure improvement or expansion of the road last-mile connections within and outside the logistic node areas | 8 | Croatia, Greece, Italy, Montenegro, Slovenia | Piraeus, Rijeka, Thessaloniki, Ploče, Bar, Ravenna, Koper | BAC, MED, OEM | n.a. |
| I | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | 37 | Albania, Croatia, Greece, Italy, Slovenia | Durrës, Rijeka, Thessaloniki, Venezia, Ploče, Ravenna, Vlore, Koper, Igoumenitsa, Trieste | BAC, MED, OEM | 75% |
| CF | Realisation of alternative clean fuels supply facilities | 2 | Italy | Venezia, Ravenna | BAC, MED | n.a. |

Source: own elaboration based on DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 14 Transport Facilitation Measures for Road BCPs

| ID Code | Identified Measure | Number of Addressed Problems | Involved Countries | Involved Nodes | Involved TEN-T Corridors | Distance to Frontier (based on the MCA of DT1.2.3) |
|---------|---|------------------------------|---|--|--------------------------|--|
| IT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | 26 | Albania, Bosnia and Herzegovina, Croatia, Greece, Hungary, North Macedonia, Serbia | Bogorodica, Horgos, Merdare, Presevo, Tabanovce, Lipovac/ Bajakovo, Batrovci, Gorican, Kakavia, Zatoni Doli, Blace, Gostun, Hani i Hotit, Bosanski Samac, Bijaca | MED, OEM | n.a. |
| ST | Integration of ICT technologies and solutions at BCPs or between BCPs and the central administration | 10 | Croatia, Greece, Hungary, North Macedonia, Serbia | Bogorodica, Horgos, Merdare, Tabanovce, Lipovac/ Bajakovo, Batrovci, Kakavia, Gostun | MED, OEM | n.a. |
| OSS | Realisation of a one-stop-shop solution to the road users at BCPs | 10 | Albania, Bosnia and Herzegovina, Greece, Hungary, North Macedonia, Serbia | Bogorodica, Blace, Gostun, Horgos, Hani i Hotit, Tabanovce, Batrovci, Bosanski Samac, Kakavia, Bijaca | OEM | n.a. |
| CAM | Improvement of security level by instalment of IT systems and solutions (e.g. CCTV) | 5 | Croatia, Serbia | Presevo, Lipovac/ Bajakovo, Batrovci, Gorican | MED, OEM | n.a. |
| OA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | 47 | Bosnia and Herzegovina, Croatia, Greece, Hungary, Montenegro, North Macedonia, Serbia, Slovenia | Evzonoi, Promachonas, Gostun, Horgos, Merdare, Presevo, Tabanovce, Lipovac/ Bajakovo, Obrežje, Batrovci, Bosanski Samac, Bregana, Debeli Brijeg, Gorican, Kakavia, Karasovici, Metkovic, Neum I NW, Neum II SE, Zupanja, Zatoni Doli, Bijaca | MED, OEM | 73% |
| LS | Hiring of additional personnel / implementation of ICT solutions to reduce the staff's individual workload and tasks | 35 | Bosnia and Herzegovina, Croatia, Greece, Hungary, Montenegro, Serbia, Slovenia | Evzonoi, Promachonas, Gostun, Horgos, Presevo, Lipovac/ Bajakovo, Obrežje, Batrovci, Bosanski Samac, Bregana, Debeli Brijeg, Gorican, Kakavia, Karasovici, Metkovic, Neum I NW, Neum II SE, Zupanja, Zatoni Doli, Bijaca | MED, OEM | n.a. |
| SC | Provision of training to improve staff competences and skills | 2 | Greece, Hungary | Horgos, Kakavia | MED, OEM | n.a. |
| TEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | - | - | - | n.a. |



| ID Code | Identified Measure | Number of Addressed Problems | Involved Countries | Involved Nodes | Involved TEN-T Corridors | Distance to Frontier (based on the MCA of DT1.2.3) |
|---------|--|------------------------------|--|--|--------------------------|--|
| U | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | 18 | Albania, Bosnia and Herzegovina, Croatia, Greece, Hungary, Montenegro, Serbia | Evzonoj, Promachonas, Gostun, Horgos, Hani i Hotit, Lipovac/ Bajakovo, Batrovci, Bosanski Samac, Bregana, Debeli Brijeg, Kakavia, Neum I NW, Neum II SE, Zupanja | MED, OEM | n.a. |
| IN | Purchase and installation of basic infrastructure and facilities to allow the internet connection, preferably combined with the deployment of ICT solutions to provide integrated services at the single BCP or network level, or to support communication between BCPs and the central administration | 10 | Bosnia and Herzegovina, Croatia, Greece, Montenegro | Promachonas, Lipovac/ Bajakovo, Bosanski Samac, Bregana, Debeli Brijeg, Neum I NW, Neum II SE | MED, OEM | 53% |
| E | Purchase and installation of equipment for the improvement of efficiency and effectiveness of processes at BCPs and transport nodes | 37 | Albania, Bosnia and Herzegovina, Croatia, Greece, Hungary, Montenegro, North Macedonia, Serbia | Bogorodica, Blace, Evzonoj, Promachonas, Gostun, Horgos, Hani i Hotit, Merdare, Presevo, Tabanovce, Batrovci, Bosanski Samac, Bregana, Debeli Brijeg, Kakavia, Karasovici, Klek, Metkovic, Neum I NW, Neum II SE, Zupanja, Zatoni Doli, Bijaca | MED, OEM | 53% |
| LM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | n.a. |
| I | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | 27 | Bosnia and Herzegovina, Croatia, Greece, Montenegro, Serbia | Evzonoj, Gostun, Merdare, Lipovac/ Bajakovo, Batrovci, Bosanski Samac, Debeli Brijeg, Kakavia, Karasovici, Klek, Neum I NW, Neum II SE, Zupanja, Bijaca, Promachonas, Presevo | MED, OEM | n.a. |
| CF | Realisation of alternative clean fuels supply facilities | - | - | - | - | n.a. |

Source: own elaboration based on DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 15 Transport Facilitation Measures for Rail BCPs

| ID Code | Identified Measure | Number of Addressed Problems | Involved Countries | Involved Nodes | Involved TEN-T Corridors | Distance to Frontier (based on the MCA of DT1.2.3) |
|---------|---|------------------------------|--|---|--------------------------|--|
| IT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | 15 | Albania, Bosnia and Herzegovina, Croatia, Serbia | Ristovac/ Presevo, Sid, Vrbnica, Bajza, Bosanski Samac, Capljina, Koprivnica, Subotica, Metkovic | MED, OEM | n.a. |
| ST | Integration of ICT technologies and solutions at BCPs or between BCPs and the central administration | - | - | - | - | n.a. |
| TM | Implementation of ICT solutions to trace and/or monitor freight train operations | 8 | Albania, Bosnia and Herzegovina, Croatia, Serbia | Ristovac/ Presevo, Sid, Vrbnica, Bajza, Bosanski Samac, Capljina, Subotica, Metkovic | MED, OEM | 98% |
| OA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | 31 | Albania, Bosnia and Herzegovina, Croatia, Greece, Montenegro, Serbia | Idomeni, Ristovac/ Presevo, Sid, Tovarnik, Vrbnica, Bajza, Capljina, Koprivnica, Subotica, Bijelo Polje | MED, OEM | 85% |
| LS | Hiring of additional personnel / implementation of ICT solutions to reduce the staff's individual workload and tasks | 13 | Albania, Bosnia and Herzegovina, Croatia, Greece, Serbia | Idomeni, Ristovac/ Presevo, Sid, Tovarnik, Vrbnica, Bajza, Capljina, Koprivnica, Subotica | MED, OEM | n.a. |
| SC | Provision of training to improve staff competences and skills | 5 | Albania, Serbia | Ristovac/ Presevo, Sid, Vrbnica, Bajza | MED, OEM | n.a. |
| TEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | 2 | Albania, Serbia | Bajza, Vrbnica | MED, OEM | n.a. |
| U | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | 16 | Albania, Bosnia and Herzegovina, Greece, Montenegro, Serbia | Idomeni, Ristovac/ Presevo, Sid, Vrbnica, Bajza, Tuzi (Railway Station), Bosanski Samac, Capljina, Subotica | MED, OEM | n.a. |



| ID Code | Identified Measure | Number of Addressed Problems | Involved Countries | Involved Nodes | Involved TEN-T Corridors | Distance to Frontier (based on the MCA of DT1.2.3) |
|---------|--|------------------------------|---|---|--------------------------|--|
| IN | Purchase and installation of basic infrastructure and facilities to allow the internet connection, preferably combined with the deployment of ICT solutions to provide integrated services at the single BCP or network level, or to support communication between BCPs and the central administration | 11 | Albania, Bosnia and Herzegovina, Greece, Montenegro, Serbia | Idomeni, Ristovac/ Presevo, Sid, Vrbnica, Bajza, Tuzi (Railway Station), Bosanski Samac, Capljina, Subotica | MED, OEM | 77% |
| E | Purchase and installation of equipment for the improvement of efficiency and effectiveness of processes at BCPs and transport nodes | 7 | Bosnia and Herzegovina, Greece, Montenegro, Serbia | Idomeni, Ristovac/ Presevo, Capljina, Subotica, Bijelo Polje | MED, OEM | 74% |
| LM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | n.a. |
| I | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | 11 | Albania, Bosnia and Herzegovina, Croatia, Serbia, Slovenia | Ristovac/ Presevo, Sid, Tovarnik, Vrbnica, Capljina, Dobova, Subotica, Bajza | MED, OEM | n.a. |
| CF | Realisation of alternative clean fuels supply facilities | - | - | - | - | n.a. |

Source: own elaboration based on DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 16 Transport Facilitation Measures for IWW Ports

| ID Code | Identified Measure | Number of Addressed Problems | Involved Countries | Involved Nodes | Involved TEN-T Corridors |
|---------|---|------------------------------|---------------------------------|--------------------------------|--------------------------|
| IT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | - | - | - | - |
| OA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | 5 | Bosnia and Herzegovina | Brčko | RDAN |
| TEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | - | - | - |
| U | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | 1 | Croatia | Slavonski Brod | MED, RDAN |
| E | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | 2 | Bosnia and Herzegovina, Croatia | Brčko, Slavonski Brod | MED, RDAN |
| LM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - |
| I | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | 9 | Bosnia and Herzegovina, Croatia | Vukovar, Brčko, Slavonski Brod | MED, RDAN |
| CF | Realisation of alternative clean fuels supply facilities | - | - | - | - |

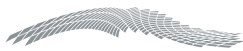
Source: own elaboration based on DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 17 Transport Facilitation Measures for Logistic Facilities

| ID Code | Identified Measure | Number of Addressed Problems | Involved Countries | Involved Nodes | Involved TEN-T Corridors |
|---------|---|------------------------------|---------------------------|--|--------------------------|
| IT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | 6 | Italy | Padova, Bologna | BAC, MED, SCMED |
| OA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | 3 | Croatia, Serbia, Slovenia | Agit d.o.o., Adria Terminal Sežana, Smederevo | BAC, MED, OEM |
| TEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | - | - | - |
| U | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | - |
| E | Purchase and installation of equipment for the improvement of efficiency and effectiveness of processes at BCPs and transport nodes | 5 | Croatia, Italy | Vrapče, Zagreb, Trieste, Bologna | BAC, MED, SCMED |
| LM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | 9 | Italy, Serbia, Slovenia | Bologna, Ljubljana - Moste, Smederevo, Trieste | BAC, MED, OEM, SCMED |
| RA | Infrastructure improvement or expansion of the rail last-mile connections within and outside the logistic node areas | 6 | Italy, Serbia, Slovenia | Bologna, Ljubljana - Moste, Smederevo, Trieste | BAC, MED, OEM |
| RO | Infrastructure improvement or expansion of the road last-mile connections within and outside the logistic node areas | 3 | Slovenia | Ljubljana - Moste | BAC, MED |
| I | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | 3 | Italy, Slovenia | Trieste, Maribor Tezno, Adria Terminal Sežana | BAC, MED |
| CF | Realisation of alternative clean fuels supply facilities | - | - | - | - |

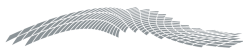
Source: own elaboration based on DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



For each transport facilitation measure, the tables provide the total number of problems identified on the basis of the review of DT1.2.3. In this regard it is worth noticing that further to the barriers described as such in this report (see Annex A below), additional problems have been considered. These are associated to the measures also described in this report to solve existing barriers, but not addressing any of the described problems, assuming that the issues these measures will address are implicitly also obstacles to the development of intermodal transport in the ADRION Region. As mentioned in Chapter 2, DT1.2.3 provides indeed a number of information both concerning the description of problems as well as proposed and implemented solutions. These are also presented by node and/or transport mode. However, the description of the barriers and solutions is uneven in terms of clear correspondence of the described issues either to problems and/or to measures by node and transport mode, because either might not be reported by the authorities within the data collection. As a result, there are measures that are proposed in the report which are related to issues affecting intermodal transport in the ADRION Region, not reported as barriers in the same deliverable, but obviously identified to solve an implicit problem that exists but has not been reported by the authorities. Accordingly, implicit problems have been summed up to the problems effectively reported in DT1.2.3. In order to avoid double counting of problems for each identified measure, a review of the barriers and solutions included in the report has been performed, aimed at identifying those reported problems for which a proposed solution was also described (thus avoiding associating the proposed measure to an implicit problem). This exercise has been done in order to make a better use of the information included in DT1.2.3 and thus provide a more precise representation of the relevance of the identified measures and their impact on the solution of problems affecting intermodal transport in the ADRION Region. Notwithstanding the uneven grade of information from the DT1.2.3 due to the reasons explained above, the quantity of problems identified under each measure represents a useful proxy in terms of magnitude and criticality of the identified barriers and corresponding solutions.

Further to the quantification of the problems solved by each proposed facilitation measure, the tables also provide an indication of the countries and nodes where the measures are expected to be implemented. This information is also useful as it represents a proxy of the geographical scope of the identified measures and again of the criticality of the identified barriers and solutions with reference to the countries and nodes.

With reference to the three elements above, i.e. quantity of problems, concerned countries and nodes, the information available from DT1.2.3 may however not be exhaustive, i.e. a same problem and solution could actually apply also to different nodes without this being explicitly mentioned in the report. This is due to the lack of full responsiveness to the submitted questionnaires and need to consider secondary sources, which could also be not entirely updated. For some nodes information was also not available, and overall the grade of consistency in the collection of relevant data and



information resulted to be low. Accordingly, the database matching the barriers and potential/adopted measures developed as part of the present deliverable on the basis of DT1.2.3 can be used for general prioritisation purposes.

As mentioned in the previous Chapters, the bottom up approach adopted for the WPT1 “Integrated Multimodal Transport” including the analysis and results presented in DT1.2.3 has been useful to collect the point of view of the stakeholders about the problems and solutions required to promote intermodal transport in the Adriatic Ionian Region. In this respect barriers and measures have been identified, which have been also clustered in line with relevant studies and plans. It is also possible to conclude that this classification exercise allows to clearly identify relevant measures capable of addressing the corresponding barriers. Most critical categories of barriers and measures are accordingly possible to be identified. However, the scarcity of data available from the surveys do probably not allow considering the developed database an exhaustive one covering all the existing problems and already identified measures for the entire ADRION Region and all the BCPs and transport nodes. In line with these considerations, whereas an indication of the nodes and countries where the identified measures could be implemented is reported in this Chapter, it is not completely appropriate to be indicated in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region*.

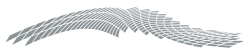
In order to better characterise all the transport facilitation measures with reference to the content of DT.1.2.3, further to the number of problems addressed by each measure and the list of involved countries and transport nodes, the TEN-T Corridors affected by each facilitation measure have been also included in the above tables so to give a comprehensive overview of the impact of the identified measures on the Core Network Corridors where the nodes affected by the measures are located. Finally, the distance to frontier parameter has been elaborated on the basis of the Multicriteria Analysis (MCA) that was carried out as part of DT.1.2.3, by taking or by deriving though in aggregation the same category/sub-category of measures used herein. This indicator considers the distance between the overall score that was assigned to the transport nodes by node type (i.e. maritime ports, road BCPs and rail BCPs) and measure category, and the maximum assignable score as defined in the MCA analysis, representing the overall gap to be covered by all node types per category of measures to reach the desired standards.

As a result, and as shown in Table 13, measures related to IT solutions appear to be highly relevant for maritime ports and in particular those regarding advanced IT technologies (such as augmented reality, internet of things, cloud computing, big data analysis, etc...) which can address about half the problems identified for the related macro-category (i.e. 26 on 51). Another measure category that can solve many maritime port problems/barriers (i.e. 37) is the one related to the possibility to realise infrastructure works to remove the current physical and/or technical barriers and hence increase the operational and infrastructure port capacity. Furthermore, high distance to frontier (i.e. 75%) was measured for the latter category.



For both road (Table 14) and rail (Table 15) BCPs, the most important category of measures involves hiring of additional personnel and the provision of training courses to increase the quality of the working staff, as well as the implementation of ICT solutions dedicated to operational and administrative issues. Such category addresses 47 problems for road and 31 for rail. For both BCP types, the lack of staff covers the highest amount of addressable operational and administrative problems. Furthermore, the distance to frontier indicator associated to the discussed category of measures results to be very high for both road and rail BCPs (i.e. 73% and 85% respectively).

Given the lower amount of measures that was identified for IWW ports and logistic facilities, none of the analysed categories of measures appears to be paramount compared to the others. However, in the case of IWW ports (Table 16), those measures that aim to solve capacity problems by realising or modernising the node infrastructure and to improve the existing IT systems and applications seem to be the most relevant ones. For what concerns the logistic facility nodes (Table 17), the situation is even more balanced. However, measures aiming to improve or expand the last-mile connections both within and outside the node areas (including the hinterland), particularly for rail transport, seem to be more important than others.



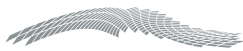
5. Transnational action plan for transport facilitation in the Adriatic-Ionian region

5.1.1. Defining a comprehensive transnational action plan for transport facilitation in the Adriatic-Ionian region

The table overleaf outlines the *Transnational action plan for transport facilitation in the Adriatic-Ionian region*. As already commented in the previous chapters, the identification of the measures for the definition of the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* is based on a mixed bottom up and top down approach. The first is ensured by the consideration of the analysis developed as part of the WPT1 “Integrated Multimodal Transport” activities, whose results are included in DT1.2.3. The second derives from the review and consideration of the relevant strategic studies and plans complementary with the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* in terms of geographic scope and technical content.

The measures included in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* are in fact comparable with the ones identified in the studies summarised in Chapter 3, and particularly with the objectives, targets and priorities set in line with the current TEN-T Regulation (EU) 1315/2013 and in the Work Plans of the European Coordinators of the Core Network Corridors crossing the ADRION Region. They are also comparable with other strategic studies for the development of transport infrastructure and facilitation measures for intermodal transport in the Adriatic Ionian Region, including the ones with a focus on telematic applications and ICT solutions at BCPs and at Logistic Nodes. The inclusion of these measures in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* instead of other solutions is furthermore dependent upon the analysis of the problems/barriers/bottlenecks identified by means of review of DT1.2.3: the aggregation/disaggregation of the identified measures also reflects the number of problems described in that report, as summarised in Chapters 2 and 4 and in Annex A. The identification of the measures included in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* is also related to the main scope of the ADRIPASS project, namely telematic applications and ICT solutions that are capable of solving operational and administrative bottlenecks affecting long distance transport across borders within the European Union and between the European Union and its neighbouring countries, with a focus on the Western Balkans, where the Core Network Corridors are going to be extended.

| ID Category Code | | Identified Measures | Measure Applicability | Involved Corridors | Involved Stakeholders | Frequency of reported problems in the DT1.2.3 | Time Horizon for Implementation | Critical to Ensure the Operability of the Node | |
|-----------------------|---|--|--|--|--|---|---------------------------------|--|---|
| Non-physical Measures | IT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | | Maritime and IWW Ports, Road and Rail BCPs, and Logistic Facilities | BAC, MED, OEM, RDAN, SCMED | Port Authority, Logistic Facility Managers, Official Bodies¹, Users² | High | Mid-Term (by 2027) | - |
| | AIT | Upgrade of the current IT systems and/or implementation of advanced IT solutions (Augmented Reality, Internet of Things, Cloud Computing, Big Data Analysis, etc...) at maritime ports | | Potentially applicable to all node types, particularly relevant to Maritime and IWW Ports, and Logistic Facilities | BAC, MED, OEM, RDAN, SCMED | Port Authority, Logistic Facility Managers | High | Mid-Term (by 2027) | - |
| | PCS | Improvement of the interoperability of IT systems and solutions at node level including the development and improvement of PCS | | Maritime and IWW Ports | BAC, MED, OEM, RDAN, SCMED | Port Authority, Official Bodies ¹ , Users ² | Medium | Mid-Term (by 2027) | - |
| | SW | Improvement of the interoperability of PCS and ICT technologies and solutions at basin or national level | | Maritime and IWW Ports | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Official Bodies ¹ | Medium | Mid-Term (by 2027) | - |
| | ST | Integration of ICT technologies and solutions at BCPs or between BCPs and the central administration | | Road and Rail BCPs, particularly relevant to Road BCPs | MED, OEM | Official Bodies ¹ , Users ² | Medium | Mid-Term (by 2027) | - |
| | OSS | Realisation of a one-stop-shop solution to the road users at BCPs | | Road and Rail BCPs, particularly relevant to Road BCPs | MED, OEM | Official Bodies ¹ , Users ² | Medium | Mid-Term (by 2027) | - |
| | TM | Implementation of ICT solutions to trace and/or monitor freight train operations | | Road and Rail BCPs, particularly relevant to Rail BCPs | MED, OEM | Port Authority, Logistic Facility Managers, Official Bodies ¹ , Users ² | Medium | Mid-Term (by 2027) | - |
| | OA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | | Maritime and IWW Ports, Road and Rail BCPs, and Logistic Facilities | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Logistic Facility Managers, Official Bodies¹ | High | Short-Term (by 2023) | ✓ |
| | LS | Hiring of additional personnel / implementation of ICT solutions to reduce the staff's individual workload and tasks | | Potentially applicable to all node types, particularly relevant to Road and Rail BCPs | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Logistic Facility Managers, Official Bodies ¹ | High | Short-Term (by 2023) | ✓ |
| | U | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | | Potentially applicable to all node types, particularly relevant to Road and Rail BCPs | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Logistic Facility Managers, Official Bodies¹ | Medium | Short-Term (by 2023) | ✓ |
| Physical Measures | IN | Purchase and installation of basic infrastructure and facilities to allow the internet connection, preferably combined with the deployment of ICT solutions to provide integrated services at the single BCP or network level, or to support communication between BCPs and the central administration | | Potentially applicable to all node types, particularly relevant to Road and Rail BCPs | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Logistic Facility Managers, Official Bodies ¹ | High | Short-Term (by 2023) | ✓ |
| | E | Purchase and installation of equipment for the improvement of efficiency and effectiveness of processes at BCPs and transport nodes | | Maritime and IWW Ports, Road and Rail BCPs, and Logistic Facilities | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Logistic Facility Managers, Official Bodies¹ | High | Mid-Term (by 2027) | - |
| | LM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | | Maritime and IWW Ports, and Logistic Facilities | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Road and Rail Infrastructure Managers, Logistic Facility Managers | High | Long-Term (by 2030) | - |
| | RA | Infrastructure improvement or expansion of the rail last-mile connections within and outside the logistic node areas | | Maritime and IWW Ports, Logistic Facilities | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Rail Infrastructure Managers, Logistic Facility Managers | High | Long-Term (by 2030) | - |
| I | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | | Maritime and IWW Ports, Road and Rail BCPs, and Logistic Facilities | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Logistic Facility Managers, Official Bodies¹ | High | Long-Term (by 2030) | - | |

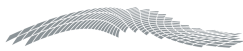


Notwithstanding the focus of the ADRIPASS project on this type of issues and related barriers/solutions, DT1.2.3 includes a wider spectrum of issues, also related to equipment, infrastructure, utilities... not only at BCPs, but also at the logistics nodes and along the corridor sections. As commented in Chapters 2 and 4 this analysis is uneven by node and particularly by corridor sections (not directly covered by the scope of the ADRIPASS project). However, by reflecting the direct view of the concerned stakeholders, it shows that intermodal transport is entangled with the most different aspects of transport infrastructure characteristics and developments, as well as logistic operational solutions between different nodes and transport modes. Accordingly, the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* while focussing on ICT solutions, is comprehensive in reflecting the complexity and articulated nature of intermodal transport. This is also in line with the recommendations provided in the relevant studies reviewed in Chapter 3, where the opportunity to improve logistics nodes interconnecting infrastructure, particularly by railway, and the modernisation of the rail network in line with the TEN-T requirements are identified as key measures.

In line with the main scope of the ADRIPASS initiative, the measures included in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* primarily refer to problems at BCPs and transport logistics nodes. No measures concern the rail, road and IWW links of the Core Network Corridors where these nodes are located. In this respect, the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* is however assuming the development of the rail, road and IWW links of the Core Network Corridors in line with the standards required in the TEN-T Regulation by 2030 (See set of KPIs in Section 3.6.1) as an implicit priority for the transport network in the ADRION Region. In particular, the development of an interoperable rail network is considered essential for the promotion of intermodal transport in the Adriatic Ionian Region, whereas the modernisation of both railway and IWW infrastructure are also deemed key to support sustainable transport of freights along the Core Network. The promotion of intermodal transport along the Core Network Corridors also requires fulfilment of the requirements set in the TEN-T Regulation in what concerns the deployment of the following telematic applications for traffic management along the rail, road and IWW links and nodes of the Core Network: ERTMS, VTMS, RIS, ITS.

The *Transnational action plan for transport facilitation in the Adriatic-Ionian region* is also not directly addressing the development of the Core Network Infrastructure in the urban nodes. However, the integration of the urban nodes in the core network is also assumed as a relevant element. In line with what is identified in the Work Plan of the Baltic/Adriatic Corridor, attention shall be given to the following different types of measures to ensure the corridors will develop as an interoperable infrastructure, which may affect both urban areas and core urban nodes:

- *Projects for the improvement of the standards of the rail and road core network corridor links in urban areas, including stations, sidings, etc. as well as junctions (last mile sections);*



- *Actions for the improvement of rail and road links directly interconnecting the corridor with a core transport node in an urban area and possible alternatives to solve capacity issues (last mile connections);*
- *Initiatives for the improvement of interconnections between core transport nodes and between transport modes in core urban nodes, i.e. projects relating to regional and suburban railways, metro or tramway lines (and interchange facilities located on their alignment) which are directly interconnecting to at least one core transport node in a core urban area, where services are operated towards other core urban nodes belonging to the core network (core urban node projects);*
- *Initiatives to promote interconnection between different transport modes and sustainable transport solutions for both passengers and freight, including ICT, ITS, Clean fuel (or other sustainable transport and mobility) projects that are implemented in core urban areas or at a territorial scale involving at least one core urban area. These may also include any other soft or administrative measure for the promotion of integrated transport and mobility in core urban area towards Mobility as a Service solutions (other core urban node projects);*
- *Infrastructure solutions to mitigate the negative effects of long distance traffic along the corridor transiting urban areas, including corridor rail and road bypasses regardless their classification as core or comprehensive, provided that they are implemented to mitigate environmental impacts associated to the existing corridor sections.*

5.1.2. Characterisation of the measures included in the Transnational action plan for transport facilitation in the Adriatic-Ionian region

In line with the focus of the ADRIPASS project, the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* is first presenting the non-physical measures related to telematic applications and ICT solutions to solve administrative and operational barriers, including instalment of IT related utilities and technologies to support their use. Further to develop and implement solutions to solve problems in a more effective and efficient way, the ultimate scope of these measures to support long distance intermodal transport and develop transnational cooperation, is that of supporting the integration of the existing tools at the network level, and particularly at the corridor and sea basin scales. These measures are presented in a more disaggregated way than the physical measures, also reflecting the target of the ADRIPASS initiative to focus on quick win project solutions to facilitate intermodal transport in the ADRION Region. Non-physical measures also include equipment required to facilitate and reduce travel times of control and transshipment operations at BCPs and logistics nodes.

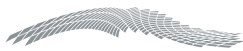


As part of the definition of the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* physical measures have been also considered, which are however presented in a more aggregate way. The need to expand the existing infrastructure both at BCPs and logistics nodes is particularly relevant to solve existing and future capacity constraints. To the scope of the improvement of intermodal operations, last mile and hinterland connections related measures are included in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region*. Within these, the ones related to the development and improvement of rail interconnections are the most important ones for the promotion of intermodal transport.

The measures included in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* are generally multimodal, provided that the plan specifies for each of them their applicability to the relevant transport nodes/modes. The Core Network Corridors where the measures could be implemented are also identified for each solution aimed at showing the measures capable of improving their efficiency and increase their attractiveness. Potential project promoters and main involved stakeholders have been also identified for each solution.

The *Transnational action plan for transport facilitation in the Adriatic-Ionian region* also presents an indication of the impact of each proposed measure on the solution of the issues identified by means of review of the problems and measures described in the *Final report on the results of data collection at BCPs at corridor level in the ADRION Region*. A Lickert scale has been adopted in this respect to indicate for each solution the frequency of their impact on the total number of problems associated to each macro-category and sub-category of measure (high, medium and low frequency). In greater detail, the macro-category of measures included in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* refers on average to 68 reported problems from DT1.2.3, ranging from a maximum of 98 to a minimum of 35, whereas the sub-categories of measures relate on average to 18 problems reported in the same deliverable, ranging from 48 to a minimum of 8 per measure. In general terms the measures associated with a lower number of problems reported in DT1.2.3 are included in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region*, only if the measure relates to ICT solution identified as relevant in strategic documents and studies. In any case ICT measures with lower reported problems than 8 have not been associated to any specific sub-category in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region*. In line with this approach, not all the sub-categories of measures considered in Chapter 4 above have been included in the action plan. The plan is in any case addressing all the problems identified by means of review of the *Final report on the results of data collection at BCPs at corridor level in the ADRION Region*.

Finally, the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* identifies for each measure an implementation timeline. Three time-horizons have been defined which relate to the duration of the current and future programming periods up until 2030. The first relevant timeline is 2023, which is the ultimate date for the



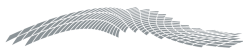
implementation of projects under the scope of the 2014-2020 programming period. This deadline has been associated with those non-physical measures that relate to the basic technology and essential solutions that are needed to ensure adequate operation of the BCPs and allow for possible improvements and interoperability of the systems. The second time horizon refers to the date of completion of the next programming period: 2021-2027. 2030 is finally the deadline set in the TEN-T Regulation (EU) 1315/2013 for the development of the Core Network. In consideration of the fact that the most relevant measures under the scope of the ADRIPASS initiative are the ones associated with telematic applications and ICT solutions to facilitate intermodal transport along the Core Network Corridors crossing the Adriatic Ionian Region for the interconnection and integration of the Western Balkans and the improvement of accessibility of Europe towards the Far East, most of the measures and all the non-physical solutions should be implemented by 2027. In line with previous programming periods, 31st December 2030 would also represent the latest possible date for the completion of the works supported by the EU financial instruments under the period 2021-2027.

5.1.3. Prioritisation of the measures included in the transnational action plan for transport facilitation in the Adriatic-Ionian region

As anticipated in previous sections of this report, the measures identified in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* are all derived from the analysis of studies and plans aimed at defining priority measures for the improvement of the Core Network Corridors and facilitate intermodal transport operations including in the Adriatic Ionian Region. As such, they shall all be considered priority measures.

In consideration of the scope of ADRIPASS and in order to take into consideration the results of DT1.2.3, an analysis of the measures identified in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* has been conducted in order to highlight those measures that are deemed to have a greater impact on facilitating transport in the ADRION Region towards an improvement of intermodal transport along the Core Network Corridors. In this respect, the measures included in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* have been reviewed aimed at identifying:

- Solutions that are critical to ensure the operability of the nodes;
- Measures for the improvement of operability of the nodes and solve capacity issues;
- Quick-win solutions, i.e. those allowing an improvement of the efficiency of the existing intermodal system with limited investment costs and implementation effort;



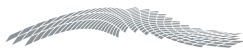
- Measures with a particular positive impact on decarbonisation, and particularly the ones aimed at keeping or improving the attractiveness of the rail and IWW transport modes in favour of intermodal transport;
- Solutions that based on Multicriteria Analysis performed as part of the DT1.2.3 are likely to have a greater impact in improving the conditions and performance of the infrastructure at the BCPs and Logistics Nodes, thus reducing *Distance to Frontier* gaps identified in this analysis (see also Chapter 4 above in this respect).

Based on the above criteria, solutions that are impacting on at least three elements have been classified as high priority, measures impacting on two elements have been marked as medium priority and those impacting only on one element would be considered as low priority, specified that no such measures are included in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region*.

In line with DT1.2.3 and other strategic studies summarised in Chapter 3, the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* highlights that due attention shall be given to the implementation of those non-physical barriers aimed at increasing the use of existing infrastructures, making them more attractive by increasing their efficiency. As mentioned in DT1.2.3, large infrastructure projects are underway in the ADRION Region, and particularly in the Western Balkans, with the support of the European Union and the International Financial Institutions. Improvement of the performance and of the attractiveness of the Core Network Corridors requires infrastructure development and expansion projects. However, the benefits of such large initiatives can be amplified and be made more tangible by solving existing operational and administrative barriers supporting the development of an integrated Single Transport Area, also interoperable in terms of ICT technologies and solutions to smooth the flows of people and goods.

These measures generally represent quick win solutions, as they provide substantial benefits without requiring significant infrastructure investments and time for their implementation. In line with the *Report on best practices on ICT tools (D.T2.1.3)*, it is worth to notice that particularly the integration and interoperability at the node or even at the centre periphery and regional scales are capable of generating significant benefits to the stakeholders and society in terms of time-savings, as well as security of intermodal transport.

Unless serious and coordinated measures, including ICT, are taken, border crossings and other non-physical barriers at logistics nodes will still hamper the full exploitation of existing, upgraded or even completely new and modern infrastructures. This will mean a much slower pace in the return of investments, in the improvement of the attractiveness and competitiveness of the Corridors and in regional and national economic development and convergence.

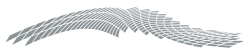


6. Adjusted transnational action plan for transport facilitation in the Adriatic-Ionian region

As mentioned at Chapter 2 above, the data collection process at the basis of the elaboration of deliverable DT1.2.3 of the ADRIPASS project was significantly hampered by the cease of the operation of SEETO. SEETO was one of the key ADRIPASS project partners, and this organisation was supposed to collect data in Albania, Kosovo, North Macedonia and Serbia. Several activities and functions performed in the past by SEETO are currently under the responsibility of the newly established Transport Community Treaty Secretariat - TCS, which was however not in force at the time the data collection process for the elaboration of deliverable DT1.2.3 was performed. Furthermore, TCS could not replace SEETO as partner in the ADRIPASS project. In order to overcome the difficulties generated by the absence of SEETO, the ADRIPASS partners opted for the involvement of CCIS as a new partner. The involvement of CCIS became effective over the course of 2019, when DT1.2.3 had however been already completed and the elaboration of DT1.2.4 finalised as pre-final reports. Thanks to the involvement of CCIS and in order to fill a relevant data gap in a crucial geographical area of the ADRION region (i.e. more than half of the Western Balkans, where many of the border crossings stations are located and procedures are hampering international transport), the ADRIPASS partners finally decided to integrate the analysis included in the DT1.2.3. An additional data collection process was accordingly performed by CCIS late autumn 2019, with the ultimate purpose of integrating the results of this exercise in the deliverable DT1.2.4 of the ADRIPASS project. This Chapter incorporates the outcome of the additional data collection process performed by CCIS into the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region*.

6.1.1. Additional data collection performed by CCIS

Notwithstanding the difficulties in the data collection process in the framework of the Activity T1.2, a relevant amount of data and information was gathered and processed as part of its elaboration. On this basis, as part of the activities undertaken for the definition of the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region*, it was possible to identify a robust set of transport facilitation measures as presented at Chapter 4 of this report (see Tables from 12 to 17). The solidity of the set of transport facilitation measures identified as part of the elaboration of DT1.2.4 is backed by: 1) an extensive bottom up analysis describing in qualitative and quantitative terms the problems associated with their implementation, reflecting the outcome of stakeholders interviews and/or review of several relevant documents (see Chapter 2 above); and 2) the review of the key findings and recommendations of the most relevant strategic and planning documents affecting the development, integration and interoperability of the transport system in the Adriatic Ionian Region (see Chapter 3 above).



According to these considerations, the additional data collection activities undertaken in Autumn 2019 by CCIS was structured and organised aimed at 1) confirming the set of transport facilitation measures included in the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region* drafted at July 2019 (see Chapter 5 above); 2) and/or upgrading their priority level. To these purposes, structured questionnaires were elaborated to be used by CCIS to collect relevant data about the BCPs and transport nodes located in the above mentioned Western Balkan countries, subject of the additional data collection process.

The following table provides the number and list of BCPs and nodes involved in the data collection activities performed by CCIS. Overall, 27 nodes have been consulted for the validation and confirmation of the categories of measures included in the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region* and their priority levels. It is worth specifying that no maritime ports were involved in this additional data collection process.

Table 19 BCPs and transport nodes involved in the additional data collection process performed by CCIS in Autumn 2019

| Node Type | Number of Nodes | List of Nodes |
|--------------------|-----------------|---|
| Road BCP | 11 | Kakavia (AL), Hani i Hotit (AL), Blace (MK), Bogorodica (MK), Tabanovce (MK), Batrovci (RS), Gostun (RS), Horgoš (RS), Presevo (RS), Merdare administrative crossing (RS), Hani i Elezit (XK) |
| Rail BCP | 9 | Bajza (AL), Blace (Volkovo) (MK), Gevgelija (MK), Tabanovce (MK), Prijepolje (RS), Ristovac (Presevo) (RS), Šid (RS), Subotica (RS), Hani i Elezit (XK) |
| IWW Port | 3 | Port of Belgrade (RS), Port of Danube (Pancevo) (RS), Port of Novi Sad (RS) |
| Logistics Facility | 4 | Fersped AD Skopje (MK), Kuhne+Nagel Macedonia (MK), Logistics centre ŽIT (RS), Terminal Pristine (XK) |
| Total | 27 | |

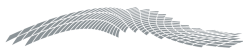
Source: own elaboration

Four different questionnaires were prepared, one for each category of node involved in the data collection process, i.e. Road and Rail BCPs, IWW Ports and Logistics Facilities. This solution was adopted to tailor the questionnaire to the specific measures applicable to the investigated type of node.

As an example, the following table provides the questionnaire used for the additional data collection process for the logistics facilities.

Table 20 Transport facilitation measures questionnaire for logistics facilities

| ID Code | Measure | Involved TEN-T Corridors | Relevance of the measure to the node (Yes/No) | Priority of the measure (from 1 to 3) |
|--|--|--------------------------|---|---------------------------------------|
| Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | | | | |
| IT | Improvement/upgrade of the existing ICT infrastructure to foster transport | | | |



| ID Code | Measure | Involved TEN-T Corridors | Relevance of the measure to the node (Yes/No) | Priority of the measure (from 1 to 3) |
|--|---|--|---|---------------------------------------|
| | digitalisation, the interoperability of communication and data sharing systems | | | |
| Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | | | | |
| OA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | | | |
| Deployment or upgrade of telematic applications for traffic management to the EU standards | | | | |
| TEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | | | |
| Provision of basic utilities (internet, drinkable water, toilettes, etc...) | | | | |
| U | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | | | |
| Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | | | | |
| E | Purchase and installation of equipment for the improvement of efficiency and effectiveness of processes at BCPs and transport nodes | | | |
| Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | | | | |
| LM | RA | Infrastructure improvement or expansion of the rail last-mile connections within and outside the logistic node areas | | |
| LM | RO | Infrastructure improvement or expansion of the road last-mile connections within and outside the logistic node areas | | |
| New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | | | | |
| I | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | | | |
| Realisation of alternative clean fuels supply facilities | | | | |
| CF | Realisation of alternative clean fuels supply facilities | | | |

Source: own elaboration

The structure of the questionnaire included the following elements:

- The “ID Code”, the definition of the transport facilitation measures applicable to the specific type of node subject of analysis as defined at Table 12 and the involved TEN-T Corridors;
- A field related to the relevance of the measure category to the node, to be filled in using Yes/No values on the basis of the existing problems/barriers affecting its operation and development;
- A field to indicate the priority of the measure category for the node, to be filled in using values from 1 to 3, where 1 gives the measure category a higher priority



and 3 a lower priority to solve existing problems/barriers and/or facilitate the operation/development of the node. In case a category of measures was assessed as not relevant for the surveyed node, (i.e. the related cell was filled in with “No”), no value for the prioritisation of the measure category (1-3) was requested. This approach reflects the purpose of the additional data collection process, i.e. to refine the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region*, which was primarily based on the outcome of DT1.2.3, without changing its main structure and results.

One questionnaire was filled in for each of the 27 nodes listed in Table 19 above. The outcome of this survey has been included in a dedicated additional working document/contribution of CCIS to DT1.2.4: *DT1.2.4 update contribution*, which together with deliverable DT1.2.3 represent an input for the definition of the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region*.

6.1.2. Outcome of the additional data collection process performed by CCIS

Annex B to this report includes a set of tables summarising the outcome of the data collection process performed by CCIS in Autumn 2019, aimed at integrating and completing the data gathering activities for the needs of DT1.2.3.

Four summary tables have been elaborated in total, one for each type of nodes involved in this additional data collection process, i.e. Road and Rail BCPs, IWW Ports and Logistics facilities. Each table provides the aggregated results of the data comprised in the 27 questionnaires included in the working document *DT1.2.4 update contribution*.

Table 21 overleaf combines the results of the data collection process for the four types of nodes. In line with the tables included in Annex B, this table provides for each category of measures for which at least one measure was marked as relevant by the investigated nodes, the ID code and definition, as specified at Table 12 of Chapter 4 above, the involved countries, nodes and Core Network Corridors, as well as the total number of nodes that marked at least one measure as relevant within the specific category of measures and the total number of measures marked as relevant under each category of measures.

In addition to this information, for each category of measures a priority score has been calculated multiplying the total number of measures marked as relevant by the priority value (1-3) assigned by the respondents to each of them, specified that to the purpose of calculation of the priority scores values 1 and 3 have been inverted, so that the measures associated with value 1 have been assigned the highest score. Furthermore, a priority index has been calculated dividing the assigned priority score by the maximum possible priority score, determined multiplying the maximum priority score (3) by the total number of measures marked relevant under each measure category. Finally, a total relevance score multiplying the number of nodes marking as relevant at least one measure within the specific category of measures by the indexed priority score has been derived.



Table 21 Outcome of the additional data collection process performed by CCIS

| ID Category Code | Identified Measures | Involved countries | Involved nodes | Involved TEN-T Corridors | Nodes marking at least one measure as relevant | Number of measures indicated as relevant | Assigned priority score | Maximum priority score | Indexed Priority Score | Total Relevance | |
|------------------|---|--|---|---|--|--|-------------------------|------------------------|------------------------|-----------------|----|
| IT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Bogorodica, Blace, Hani i Hotit, Hani i Elezit, Kakavia, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gostun, Tabanovce, Gevgelija, Ristovac (Presevo), Prijepolje, Subotica, Šid, Bajza, Port of Belgrade, Port of Novi Sad, Port of Danube (Pancevo), Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT, Terminal Pristine | OEM, MED, RDAN | 27 | 54 | 104 | 162 | 0.64 | 17 | |
| | ST | Integration of ICT technologies and solutions at BCPs or between BCPs and the central administration | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Bogorodica, Blace, Hani i Hotit, Hani i Elezit, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gostun, Tabanovce, Gevgelija, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Hani i Elezit, Bajza | MED, OEM | 19 | 19 | 37 | 57 | 0.65 | 12 |
| | OSS | Realisation of a one-stop-shop solution to the road users at BCPs | Albania, Kosovo, North Macedonia, Serbia | Bogorodica, Blace, Hani i Hotit, Hani i Elezit, Kakavia, Horgoš, Batrovci, Merdare administrative crossing, Gostun | MED, OEM | 9 | 9 | 19 | 27 | 0.70 | 6 |
| | CAM | Improvement of security level by instalment of IT systems and solutions (e.g. CCTV) | Albania, Kosovo, North Macedonia, Serbia | Bogorodica, Blace, Hani i Hotit, Hani i Elezit, Kakavia, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gostun | MED, OEM | 10 | 10 | 15 | 30 | 0.50 | 5 |
| | TM | Implementation of ICT solutions to trace and/or monitor freight train operations | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Gevgelija, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Hani i Elezit, Bajza | OEM | 9 | 9 | 20 | 27 | 0.74 | 7 |



| ID Category Code | Identified Measures | Involved countries | Involved nodes | Involved TEN-T Corridors | Nodes marking at least one measure as relevant | Number of measures indicated as relevant | Assigned priority score | Maximum priority score | Indexed Priority Score | Total Relevance |
|------------------|---|--|--|--------------------------|--|--|-------------------------|------------------------|------------------------|-----------------|
| OA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Bogorodica, Kakavia, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gostun, Gevgelija, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Hani i Elezit, Bajza, Logistics centre ŽIT | MED, OEM | 18 | 27 | 57 | 81 | 0.44 | 8 |
| | Hiring of additional personnel / implementation of ICT solutions to reduce the staff's individual workload and tasks | Kosovo, North Macedonia, Serbia | Tabanovce, Bogorodica, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gostun, Gevgelija, Blace (Volkovo), Ristovac (Presevo), Subotica, Šid, Hani i Elezit | MED, OEM | 13 | 13 | 29 | 39 | 0.73 | 10 |
| | Provision of training to improve staff competences and skills | Albania, Kosovo, North Macedonia, Serbia | Kakavia, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gostun, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Hani i Elezit, Bajza | MED, OEM | 13 | 13 | 27 | 39 | 0.69 | 9 |
| TEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Bogorodica, Blace, Hani i Hotit, Hani i Elezit, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gostun, Gevgelija, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Bajza, Port of Belgrade, Port of Novi Sad, Port of Danube (Pancevo), Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT, Terminal Pristine | OEM, MED, RDAN | 26 | 26 | 47 | 78 | 0.56 | 15 |
| U | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | Albania, Kosovo, North Macedonia, Serbia | Batrovci, Merdare administrative crossing, Prijepolje, Subotica, Šid, Hani i Elezit, Bajza, Fersped AD Skopje | MED, OEM | 9 | 10 | 28 | 30 | 0.71 | 6 |

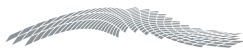


| ID Category Code | Identified Measures | Involved countries | Involved nodes | Involved TEN-T Corridors | Nodes marking at least one measure as relevant | Number of measures indicated as relevant | Assigned priority score | Maximum priority score | Indexed Priority Score | Total Relevance |
|------------------|--|--|---|--------------------------|--|--|-------------------------|------------------------|------------------------|-----------------|
| IN | Purchase and installation of basic infrastructure and facilities to allow the internet connection, preferably combined with the deployment of ICT solutions to provide integrated services at the single BCP or network level, or to support communication between BCPs and the central administration | Albania, Kosovo, Serbia | Batrovci, Merdare administrative crossing, Prijepolje, Subotica, Šid, Hani i Elezit, Bajza | MED, OEM | 7 | 7 | 20 | 21 | 0.92 | 6 |
| E | Purchase and installation of equipment for the improvement of efficiency and effectiveness of processes at BCPs and transport nodes | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Blace, Hani i Elezit, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gevgelija, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Bajza, Port of Belgrade, Port of Danube (Pancevo), Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT | OEM, MED, RDAN | 21 | 21 | 35 | 63 | 0.70 | 15 |
| LM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Hani i Elezit, Kakavia, Horgoš, Merdare administrative crossing, Presevo, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Bajza, Port of Belgrade, Port of Novi Sad, Port of Danube (Pancevo), Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT | OEM, MED, RDAN | 20 | 23 | 45 | 69 | 0.67 | 13 |
| | Infrastructure improvement or expansion of the rail last-mile connections within and outside the logistic node areas | North Macedonia, Serbia | Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT | OEM | 3 | 3 | 5 | 9 | 0.56 | 2 |



| ID Category Code | Identified Measures | Involved countries | Involved nodes | Involved TEN-T Corridors | Nodes marking at least one measure as relevant | Number of measures indicated as relevant | Assigned priority score | Maximum priority score | Indexed Priority Score | Total Relevance |
|------------------|--|--|--|--------------------------|--|--|-------------------------|------------------------|------------------------|-----------------|
| RO | Infrastructure improvement or expansion of the road last-mile connections within and outside the logistic node areas | North Macedonia, Serbia | Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT | OEM | 3 | 3 | 4 | 9 | 0.44 | 1 |
| I | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Bogorodica, Blace, Hani i Hotit, Hani i Elezit, Kakavia, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gevgelija, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Bajza, Port of Belgrade, Port of Novi Sad, Port of Danube (Pancevo), Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT | OEM, MED, RDAN | 25 | 25 | 59 | 75 | 0.78 | 20 |
| CF | Realisation of alternative clean fuels supply facilities | Kosovo, North Macedonia, Serbia | Bogorodica, Blace, Merdare administrative crossing, Gostun, Port of Belgrade, Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT, Terminal Pristine | OEM, RDAN | 9 | 9 | 13 | 27 | 0.33 | 3 |

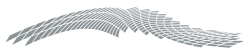
Source: own elaboration based on DT1.2.4 update contribution



Based on the total number of measures marked as relevant by the respondents, the *improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems* represents by far the category of measures associated with the highest number of marked measures (54); and within this type of measure the *integration of ICT technologies and solutions at BCPs or between BCPs and the central administration*, is the one that was indicated more times as relevant (19). Among the soft/non physical type of measures, *Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff*, is the second category of measure with the highest number of measures indicated as relevant (27), followed by *deployment or upgrade of telematic applications for traffic management to the EU standards* (26), and *purchase and installation of equipment for the improvement of efficiency and effectiveness of processes at BCPs and transport nodes* (21). Among the physical type of measures, the ones associated with the highest number of measures marked as relevant are represented by *new construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity* (25), and *infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas* (23). All the other categories of measures are associated with a maximum number of measures indicated as relevant up to 13 and in most cases lower than 10.

According to the registered indexed priority score, *new construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity* is worth to mention that registers an index of 0.78, whereas the sub-category of measure *purchase and installation of basic infrastructure and facilities to allow the internet connection, preferably combined with the deployment of ICT solutions to provide integrated services at the single BCP or network level, or to support communication between BCPs and the central administration*, within the measure category *provision of basic utilities (internet, drinkable water, toilettes, etc...)*, registers an indexed priority score of 0.92.

Finally, according to the total relevance score, combining together the indexed priority score related to the total number of measures marked as relevant with the number of nodes that have at least marked one measure within each category of measure, the most relevant ones are represented by: *new construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity* (20); *Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems* (17), and within this macro-category, the sub-category *integration of ICT technologies and solutions at BCPs or between BCPs and the central administration* (12); *Deployment or upgrade of telematic applications for traffic management to the EU standards* (15); *Purchase and installation of equipment for the improvement of efficiency and effectiveness of processes at BCPs and transport nodes* (15); *Infrastructure improvement or expansion of*



the road and rail last-mile connections within and outside the node areas (13); and the sub-category hiring of additional personnel / implementation of ICT solutions to reduce the staff's individual workload and tasks included within the macro-category hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems (8). All the other categories of measures registered a total relevance score lower than 10.

6.1.3. Adjusted transnational action plan for transport facilitation in the Adriatic-Ionian region

The table overleaf outlines the *Transnational action plan for transport facilitation in the Adriatic-Ionian region*, adjusted on the basis of the results of the additional data collection process performed by CCIS in Autumn 2019. As explained above, the objective of this additional data collection process was that of 1) confirming the set of transport facilitation measures included in the *Transnational Action Plan for Transport Facilitation in the Adriatic Ionian Region* drafted at July 2019 (see Chapter 5 above); 2) and/or upgrading their priority level.

To the purposes of the confirmation of the transport facilitation measures included in the action plan, the total relevance score associated with the measures has been considered, whereas the indexed priority score was used for the upgrading of the priority level of the measures. It is worth to recall that the outcome of the additional data collection process was not intended to be used to remove measures already included in the report or downgrade the priority scores already assigned to the measures listed in the plan. The *Transnational action plan for transport facilitation in the Adriatic-Ionian region* is still primarily built upon the results of deliverable DT1.2.3, and the additional data collection process under the scope of deliverable *DT1.2.4 update contribution* has been structured and implemented for an incremental use of its results. In line with these assumptions, one measure has been added to the action plan and two priority levels upgraded, compared to the previous version of the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* illustrated at Chapter 5 above.

The measure category *Deployment or upgrade of telematic applications for traffic management to the EU standards*, was decided to be added to the *Transnational action plan for transport facilitation in the Adriatic-Ionian region*, due to the registered total relevance score, amounting to 15. This category of measures is indeed the only one that was not already included in the action plan, registering a total relevance score higher than 10. This threshold has been indeed identified for the inclusion of measures not already comprised in the action plan, as it sufficiently reflects the relevance of each category of measures according to the number of nodes marking them as such and the priority of each individual measure in solving existing problems/barriers and/or facilitate the operation/development of the node.

| ID Category Code | | Identified Measures | Measure Applicability | Involved Corridors | Involved Stakeholders | Frequency of reported problems in the DT1.2.3 | Time Horizon for Implementation | Critical to Ensure the Operativity of the Node | |
|-----------------------|---|--|--|--|--|---|---------------------------------|--|----------|
| Non-physical Measures | IT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | | Maritime and IWW Ports, Road and Rail BCPs, and Logistic Facilities | BAC, MED, OEM, RDAN, SCMED | Port Authority, Logistic Facility Managers, Official Bodies¹, Users² | High | Mid-Term (by 2027) | - |
| | | AIT | Upgrade of the current IT systems and/or implementation of advanced IT solutions (Augmented Reality, Internet of Things, Cloud Computing, Big Data Analysis, etc...) at maritime ports | Potentially applicable to all node types, particularly relevant to Maritime and IWW Ports, and Logistic Facilities | BAC, MED, OEM, RDAN, SCMED | Port Authority, Logistic Facility Managers | High | Mid-Term (by 2027) | - |
| | | PCS | Improvement of the interoperability of IT systems and solutions at node level including the development and improvement of PCS | Maritime and IWW Ports | BAC, MED, OEM, RDAN, SCMED | Port Authority, Official Bodies ¹ , Users ² | Medium | Mid-Term (by 2027) | - |
| | | SW | Improvement of the interoperability of PCS and ICT technologies and solutions at basin or national level | Maritime and IWW Ports | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Official Bodies ¹ | Medium | Mid-Term (by 2027) | - |
| | | ST | Integration of ICT technologies and solutions at BCPs or between BCPs and the central administration | Road and Rail BCPs, particularly relevant to Road BCPs | MED, OEM | Official Bodies ¹ , Users ² | Medium | Mid-Term (by 2027) | - |
| | | OSS | Realisation of a one-stop-shop solution to the road users at BCPs | Road and Rail BCPs, particularly relevant to Road BCPs | MED, OEM | Official Bodies ¹ , Users ² | Medium | Mid-Term (by 2027) | - |
| | | TM | Implementation of ICT solutions to trace and/or monitor freight train operations | Road and Rail BCPs, particularly relevant to Rail BCPs | MED, OEM | Port Authority, Logistic Facility Managers, Official Bodies ¹ , Users ² | Medium | Mid-Term (by 2027) | - |
| | OA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | | Maritime and IWW Ports, Road and Rail BCPs, and Logistic Facilities | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Logistic Facility Managers, Official Bodies¹ | High | Short-Term (by 2023) | ✓ |
| | | LS | Hiring of additional personnel / implementation of ICT solutions to reduce the staff's individual workload and tasks | Potentially applicable to all node types, particularly relevant to Road and Rail BCPs | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Logistic Facility Managers, Official Bodies ¹ | High | Short-Term (by 2023) | ✓ |
| | TEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | | Maritime, IWW, Road and Rail Infrastructure | BAC, MED, OEM, RDAN, SCMED | Coast Guard, Road and Rail Infrastructure Managers | Low | Mid-Term (by 2027) | - |
| | U | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | | Potentially applicable to all node types, particularly relevant to Road and Rail BCPs | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Logistic Facility Managers, Official Bodies¹ | Medium | Short-Term (by 2023) | ✓ |
| | | IN | Purchase and installation of basic infrastructure and facilities to allow the internet connection, preferably combined with the deployment of ICT solutions to provide integrated services at the single BCP or network level, or to support communication between BCPs and the central administration | Potentially applicable to all node types, particularly relevant to Road and Rail BCPs | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Logistic Facility Managers, Official Bodies ¹ | High | Short-Term (by 2023) | ✓ |
| | E | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | | Maritime and IWW Ports, Road and Rail BCPs, and Logistic Facilities | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Logistic Facility Managers, Official Bodies¹ | High | Mid-Term (by 2027) | - |
| LM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | | Maritime and IWW Ports, and Logistic Facilities | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Road and Rail Infrastructure Managers, Logistic Facility Managers | High | Long-Term (by 2030) | - | |
| | RA | Infrastructure improvement or expansion of the rail last-mile connections within and outside the logistic node areas | Maritime and IWW Ports, Logistic Facilities | BAC, MED, OEM, RDAN, SCMED | Port Authorities, Rail Infrastructure Managers, Logistic Facility Managers | High | Long-Term (by 2030) | - | |



Further to the addition of telematic applications to the action plan, two priority levels have been also adjusted on the basis of the indexed priority score associated to the measures by the respondents participating to the additional data collection process performed by CCIS. To this purpose, those measures registering a priority index higher than 0.75 were assumed to result in an upgrade of the priority level assigned to each measure included in the previous version of the *Transnational action plan for transport facilitation in the Adriatic-Ionian region*. In line with this assumption, the priority level of two categories of measures has been upgraded: *provision of basic utilities (internet, drinkable water, toilettes, etc...)*, from medium to high, and *new construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase current capacity*, from low to medium.

The additional data collection performed by CCIS in Autumn 2019 has overall confirmed the content and structure of the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* elaborated on the basis of deliverable DT1.2.3. It furthermore allowed its refinement by adding the category of measure related to the deployment of telematic applications and reinforced the priority level of the provision of basic utilities, which is a primary condition for the implementation of ICT solutions at the nodes; as well as the one associated with the development of new infrastructure and modernisation of the existing one to increase capacity.

All the considerations expressed at Chapter 5 on the previous version of the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* also apply to the adjusted version presented in this chapter.



7. Towards the implementation of the Action Plan

7.1. Finalising the ADRIPASS project

The *Transnational action plan for transport facilitation in the Adriatic-Ionian region* as the final deliverable of the WPT1 “Integrated Multimodal Transport” is the first of three key documents of the ADRIPASS project aiming at providing strategic inputs to consolidate and further develop relevant ongoing initiatives in the Adriatic Ionian Region for the improvement of intermodal transport with a special focus on transport facilitation measures. The other two deliverables of the ADRIPASS project strictly interrelated with the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* are:

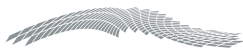
- The *ICT action plan for improving multimodal transport in the ADRION Region* (D.T2.2.6); and
- The *Transnational strategy for the improvement of multimodal transport and accessibility in the ADRION Region* (D.T3.2.2).

The finalisation of the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* is deemed to represent a key milestone in the definition of the above mentioned additional strategy and plan. Relevant considerations are included in this document, which relate to the review of strategic studies complementary to the ADRIPASS initiative in their geographical and technical scope. The *Transnational action plan for transport facilitation in the Adriatic-Ionian region* is furthermore reflecting the points of view of the main stakeholders involved in the management and operation of the BCPs and logistics nodes located in the ADRION Region, as directly and indirectly collected and analysed as part of the elaboration of DT1.2.3 and additional data collection activities performed by CCIS. This information represents a solid basis for the definition of the two additional strategic deliverables of ADRIPASS.

7.2. From measures to projects

The *Transnational action plan for transport facilitation in the Adriatic-Ionian region* defines relevant and priority measures for the improvement of intermodal transport in the ADRION Region. It does not either identify, or prioritise projects. This will be a key activity to be undertaken in first instance in the coming years by the Member States, IPA countries and Infrastructure Managers, as well as BCPs and Logistics Nodes Operators involved in the development of the Core Network Corridors in the Adriatic Ionian Region, possibly under the coordination of the Transport Community Secretariat and the European Coordinators.

A detailed and consistent review of the ongoing and planned projects within the scope of each of the measures defined in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* should be done with the aim of understanding the impact of these measures, and possibly identifying additional ones towards the achievement of the



targets and objectives set in the TEN-T Regulation, either in quantitative or qualitative terms. Especially for the measures set in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* and additional ADRIPASS project related activities, for which KPIs are not easy to be defined in quantitative terms, the identification of the projects and the setting and measurement of their targets and impact shall be based on best practice analysis and customer/stakeholders satisfaction related analyses. This further emphasises the need for a coordinated implementation of the *Transnational action plan for transport facilitation in the Adriatic-Ionian region*. In this regard, it is also noticed that significant differences exist between the conditions of the technologies and practices in the territories and nodes located in the ADRION Region, which also requires a strong coordination and possible supervision by the Transport Community Secretariat, EU Coordinators and the European Commission.

A list of projects under the scope of each measure in the *Transnational action plan for transport facilitation in the Adriatic-Ionian region* is currently not available, which does also not allow estimating the amount of financial resources required to improve intermodal transport in the ADRION Region at adequate standards. The time before the start of the 2021-2027 programming period shall be accordingly used to identify a pipeline of projects and prepare them for their implementation. In this respect, consideration may be given to the development of Cost-Benefit or Cost-effectiveness Analyses to prioritise the implementation of projects.

The definition of the projects shall also be aimed at identifying possible sources of funding. In this regard, several instruments shall be considered, which include:

- European Funds, including the Connecting Europe Facility (CEF), the European Structural and Investment Funds (ESIF), the Instrument for Pre-Accession Assistance (IPA);
- Western Balkans Investment Framework (WBIF), providing finance and technical assistance for strategic investments to the Western Balkans and is linked to the EU Strategy for the Danube Region (EUSDR) and for the Adriatic - Ionian Region (EUSAIR);
- Technical assistance to connectivity in the Western Balkans (CONNECTA), supporting connectivity reform measures in the fields of road safety, institutional reforms, road and rail maintenance planning, deployment of ITS, identifying the missing gaps, and offering assistance and expertise on the maturity of the projects, and meet the needs of stakeholders;
- Technical Assistance and Information Exchange instrument of the European Commission (TAIEX), supporting public administrations with regard to the approximation, application and enforcement of EU legislation as well as facilitating the sharing of EU best practices.



7.3. Synergies of the ADRIPASS project with other initiatives

By assessing the performance of the BCPs and logistics nodes along the Core Network Corridors the ADRIPASS project was already aimed at establishing a synergy with the ongoing activities related to the development and implementation of the TEN-T policy by the European Coordinators of the Core Network Corridors crossing the ADRION Region.

Considering the focus of the ADRIPASS Initiative on telematic applications and ICT measures aimed at solving operational and administrative barriers for the promotion of intermodal transport, synergies also exist with the activities under development by the Rail Freight Corridors, also focussing on the improvement of the attractiveness of international long distance transport by railway for freight.

Concerning road transport, synergies can be identified with the activities and studies in place by the EU ITS Platform, particularly the ones related to the 5 ITS Road Corridor projects: Arc Atlantique², Crocodile², NEXT-ITS², MedTIS² and URSA MAJOR², of which the Crocodile 2, MEDTIS² and URSA MAJOR² also cross the ADRION Region.

Synergies are finally worth identifiable with the Macro-regional strategies involving the territories of the ADRION Region, including the EU Strategy for the Adriatic and Ionian Region (EUSAIR), EU Strategy for the Danube Region (EUSDR), and EU-Strategy for the Alpine Region (EUSALP). Among these the Adriatic-Ionian Macro-regional strategy is particularly relevant in terms of geographical scope. The Transport Masterplan of this Macro-regional strategy is currently under development which may take into consideration the results of the ADRIPASS project.



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Annex A - Detailed summary tables of barriers and measures from Deliverable DT1.2.3

This annex includes the tables resulting from the further elaboration of the information included in the *Final report on data collection at BCPs at corridor level in the ADRION Region (DT1.2.3)*.

Such tables are ordered as follows: table 19 to 42 show the result of the extensive analysis carried out to identify all the problems and the measures, proposed and adopted, at node (i.e. maritime ports, road BCPs, rail BCPs, IWW ports and logistic facilities) or network level (i.e. road network, rail network and IWW network). In particular: table 19 to 26 reports the problems/barriers; table 27 to 34 reports the proposed measures/solutions; and table 35 to 42 reports the adopted measures/solution, which, given the purpose of the DT1.2.3, mainly regard the ICT tools and applications area.

The subsequent tables, from 43 to 66, show the results of the work that was done to quantify the occurrence of the categorised problems and measures by node/network type and country, in order to attribute a magnitude allowing for further analysis and quantitative comparisons. Specifically, tables 43 to 50 report the number of problems/barriers; tables 51 to 58 report the number of proposed measures/solutions; finally, table 59 to 66 report the number of adopted measures/solutions.



Table 23 Identification of Problems / Barriers by Maritime Port nodes

| Maritime Port | Country | TEN-T Corridor | Problem / Barrier | ID Category Code | ID Sub-category Code | ID Problem Code |
|---------------|---------|----------------|---|------------------|----------------------|-----------------|
| Durrës | Albania | MED | No Vessel Traffic Management Information System | TEL | - | PTEL1 |
| Durrës | Albania | MED | Customs procedures | OA | - | POA1 |
| Durrës | Albania | MED | Limited depth | I | - | PI1 |
| Durrës | Albania | MED | No Port Community System | IT | - | PIT1 |
| Igoumenitsa | Greece | OEM | There is no rail connection to the port since there is no railway connection of the Region of Epirus with the railway network of Greece | LM | RA | PLM1-RA |
| Patras | Greece | OEM | The port is not currently connected to the railway network | LM | RA | PLM2-RA |
| Piraeus | Greece | OEM | Port's freight infrastructure and operations evaluated as low in terms of intermodal connectivity with other transport modes (Road) | LM | RO | PLM3-RO |
| Piraeus | Greece | OEM | Port's freight infrastructure and operations evaluated as low in terms of intermodal connectivity with other transport modes (Rail) | LM | RA | PLM4-RA |
| Rijeka | Croatia | MED | Long vessel waiting times re-scheduling due to port congestion | I | - | PI2 |
| Rijeka | Croatia | MED | Insufficient mooring space | I | - | PI3 |
| Rijeka | Croatia | MED | Not flexible Infrastructure to Increasing ship size | I | - | PI4 |
| Rijeka | Croatia | MED | Low level of Information integration Among port community | IT | - | - |
| Rijeka | Croatia | MED | Lack of common Integrated development Strategy of the Seaports and atomized market | OA | - | POA4 |
| Rijeka | Croatia | MED | According to the Port's Authorities, the main problem is the development of road connection (D403) to the New Deep-Sea Container Terminal | LM | RO | PLM5-RO |
| Rijeka | Croatia | MED | The existing railway infrastructure in the Rijeka Basin is aging, severely damaged and unsafe, hindering the efficiency of daily port operations | LM | RA | PLM6-RA |
| Thessaloniki | Greece | OEM | Port's freight infrastructure and operations evaluated as low in terms of availability/ capacity by 1 out of 4 respondents | I | - | PI5 |
| Thessaloniki | Greece | OEM | Port's freight infrastructure and operations evaluated as low in terms of intermodal connectivity with other transport modes by 1 out of 4 respondents (Road) | LM | RO | PLM7-RO |
| Thessaloniki | Greece | OEM | Port's freight infrastructure and operations evaluated as low in terms of intermodal connectivity with other transport modes by 1 out of 4 respondents (Rail) | LM | RA | PLM8-RA |
| Thessaloniki | Greece | OEM | Port's freight infrastructure and operations evaluated as low in terms of quality of infrastructures by 1 out of 3 respondents | I | - | PI6 |
| Thessaloniki | Greece | OEM | Port's freight infrastructure and operations evaluated as low in terms of quality and reliability of services by 1 out of 5 respondents | OA | - | POA3 |
| Trieste | Italy | BAC, MED | Last mile by rail: congestion due to infrastructure bottleneck | LM | RA | PLM9-RA |
| Trieste | Italy | BAC, MED | Last mile by rail: congestion due to operating agreements | OA | - | POA4 |
| Venezia | Italy | BAC, MED | Low depth | I | - | PI7 |
| Venezia | Italy | BAC, MED | Future railway capacity constrains | LM | RA | PLM10-RA |
| Ploče | Croatia | MED | Poor state of road connection between the port and the hinterland | LM | RO | PLM11-RO |



| Maritime Port | Country | TEN-T Corridor | Problem / Barrier | ID Category Code | ID Sub-category Code | ID Problem Code |
|---------------|------------|----------------|--|------------------|----------------------|-----------------|
| Ploče | Croatia | MED | Poor state of railway connection between the port and the hinterland | LM | RA | PLM12-RA |
| Ploče | Croatia | MED | Bureaucracy | OA | - | POA5 |
| Ploče | Croatia | MED | Customs procedures | OA | - | POA6 |
| Ploče | Croatia | MED | Port infrastructure bottlenecks | I | - | PI8 |
| Ploče | Croatia | MED | IT system bottlenecks | IT | - | PIT3 |
| Bar | Montenegro | MED, OEM | Low quality of road hinterland connections | LM | RO | PLM13-RO |
| Bar | Montenegro | MED, OEM | Low quality of railway hinterland connections | LM | RA | PLM14-RA |
| Ravenna | Italy | BAC, MED | Low depth of the port canal | I | - | PI9 |
| Ravenna | Italy | BAC, MED | Last mile connections by rail: Improvement of accessibility to terminals and elimination of road-rail crossings | LM | RA | PLM15-RA |
| Ravenna | Italy | BAC, MED | Last mile connections by road: Improvement/ upgrading of road infrastructure to rationalize/ optimize traffic management and flows | LM | RO | PLM16-RO |
| Ravenna | Italy | BAC, MED | Undersize of administrative offices involved in health and safety checks | OA | - | POA7 |
| Ravenna | Italy | BAC, MED | Health and safety labs not located at the port | OA | - | POA8 |
| Vlore | Albania | MED | The age of the existing infrastructure is an obstacle to the performance of the port | I | - | PI10 |
| Koper | Slovenia | BAC, MED | Railway connection of the port with the hinterland: only one railway track serving also passenger transport Capacity bottlenecks are expected in the near future. Main physical bottleneck is about the rail section Koper-Divača | LM | RA | PLM17-RA |
| Koper | Slovenia | BAC, MED | The port's gates are located in the near proximity of the city centre. This limits the possibility to increase the area for the port's activity. Potential lack of port infrastructure considering the expected growth of cargo volumes | I | - | PI11 |
| Koper | Slovenia | BAC, MED | The most urgent priorities to be addressed are the data processing and organization of works involving containers and cars terminal, where capacities are being improved, for which a software adaptation of the port's Port Community System is needed, in order to accompany the development of the whole administrative system within the port's area. One of the main reasons that hamper the growth and the economic development of logistic operations is the lack of efficient maritime - hinterland connections, mainly caused by the existence of various bottlenecks at border level | IT | - | PIT4 |
| Koper | Slovenia | BAC, MED | The most urgent upgrades are needed at container and cars terminal, where new gates and areas are being prepared, to face the lack of space and organization at system level | I | - | PI12 |
| Koper | Slovenia | BAC, MED | The port of Koper needs additional port infrastructure capacities in order to support the growing volumes via the port of Koper, suitable supporting and connecting public infrastructure has to be realized (Road) | LM | RO | PLM18-RO |
| Koper | Slovenia | BAC, MED | The port of Koper needs additional port infrastructure capacities in order to support the growing volumes via the port of Koper, suitable supporting and connecting public infrastructure has to be realized (Rail) | LM | RA | PLM19-RA |
| Koper | Slovenia | BAC, MED | Direct interconnection between the A1 motorway and the Port is missing at present and should be developed together with the associated construction of a truck terminal | LM | RO | PLM20-RO |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 24 Identification of Problems / Barriers by Road BCP nodes

| Road BCP | Country | TEN-T Corridor | Main problems | ID Category Code | ID Sub-category Code | ID Problem Code |
|-------------|-----------------|----------------|---|------------------|----------------------|-----------------|
| Bogorodica | North Macedonia | OEM | Lack of truck and bus scanners | E | - | ROE1 |
| Bogorodica | North Macedonia | OEM | No ICT facility to allow use of Advanced Notification | IT | ST | ROIT1-ST |
| Bogorodica | North Macedonia | OEM | Customs and Border Police have their own, separate information systems including internet and intranet connections and supporting equipment | IT | ST | ROIT2-ST |
| Bogorodica | North Macedonia | OEM | Lacks non-intrusive inspection equipment | E | - | ROE2 |
| Blace | North Macedonia | OEM | The BCP currently lacks non-intrusive inspection equipment | E | - | ROE3 |
| Dobrakovo | Montenegro | OEM | - | - | - | - |
| Evzonoï | Greece | OEM | Many problems concerning the management of the BCS, toilettes | U | - | ROU1 |
| Evzonoï | Greece | OEM | Lack of adequate staff | OA | LS | ROOA1-LS |
| Evzonoï | Greece | OEM | Lack of technological infrastructure | OA | LS | ROOA2-LS |
| Evzonoï | Greece | OEM | Insufficient number of working staff 24/7 | OA | LS | ROOA3-LS |
| Evzonoï | Greece | OEM | No X-Ray machine | E | - | ROE4 |
| Evzonoï | Greece | OEM | Bad conditions of the infrastructure | I | - | ROI1 |
| Evzonoï | Greece | OEM | Limited working hours of phytosanitary agents | OA | LS | ROOA4-LS |
| Promachonas | Greece | OEM | No telephone connection, Bad level of internet connection | U | IN | ROU2-IN |
| Promachonas | Greece | OEM | The BCP is not operational - The Greek Agents have to work on the Bulgarian BCP at Kulata | n.a. | - | - |
| Promachonas | Greece | OEM | No equipment for phytosanitary controls | E | - | ROE5 |
| Promachonas | Greece | OEM | The number of the current staff is not considered sufficient. | OA | LS | ROOA5-LS |
| Gostun | Serbia | OEM | Facilities (Based on commercial drivers opinion) | see below | - | - |
| Gostun | Serbia | OEM | Way of the controls are performed (Based on commercial drivers opinion) | see below | - | - |
| Gostun | Serbia | OEM | Water supply is in bad condition and thus the water is not drinkable | U | - | ROU3 |
| Gostun | Serbia | OEM | No X-Ray machine and weighbridge | E | - | ROE6 |
| Gostun | Serbia | OEM | No selective or simultaneous controls are implemented at the station | OA | - | ROOA6 |
| Gostun | Serbia | OEM | There are not closed lanes for the inspection of the vehicles | E | - | ROE7 |
| Gostun | Serbia | OEM | The number of the staff must be increased in order to upgrade the provided services | OA | LS | ROOA7-LS |
| Gostun | Serbia | OEM | Limited working hours of phytosanitary and veterinary agents | OA | LS | ROOA8-LS |
| Gostun | Serbia | OEM | Lengthy queues of trucks in peak periods | I | - | ROI2 |
| Horgos | Hungary | OEM | No drinkable water supply | U | - | ROU4 |
| Horgos | Hungary | OEM | Bad condition of the weighbridge | E | - | ROE8 |
| Horgos | Hungary | OEM | Customs working 24/7 with insufficient number of staff | OA | LS | ROOA9-LS |
| Horgos | Hungary | OEM | Level of discipline of the users and of the working staff should be increased | OA | SC | ROOA10-SC |
| Horgos | Hungary | OEM | There are redundancies in the system which unnecessarily create delays | OA | - | ROOA11 |



| Road BCP | Country | TEN-T Corridor | Main problems | ID Category Code | ID Sub-category Code | ID Problem Code |
|------------------|-----------------|----------------|---|------------------|----------------------|-----------------|
| Horgos | Hungary | OEM | Customs and border police have their own separate information systems including internet and intranet connections as well as supporting equipment | IT | ST | ROIT3-ST |
| Hani i Hotit | Albania | OEM | No X-Ray scanner | E | - | ROE9 |
| Hani i Hotit | Albania | OEM | No auxiliary facilities for the drivers | U | - | ROU5 |
| Merdare | Serbia/Kosovo | OEM | Absence of a weighbridge | E | - | ROE10 |
| Merdare | Serbia/Kosovo | OEM | Customs and border police have their own separate information systems including internet and intranet connections as well as supporting equipment | IT | ST | ROIT4-ST |
| Merdare | Serbia/Kosovo | OEM | Lack of sufficient traffic lanes in the present configuration | I | - | ROI3 |
| Merdare | Serbia/Kosovo | OEM | General absence of technology to facilitate processing of vehicles | OA | - | ROOA12 |
| Presevo | Serbia | OEM | Insufficient number of staff (custom agents, police, phytosanitary and veterinary agents) | OA | LS | ROOA13-LS |
| Presevo | Serbia | OEM | Bad level of installed CCTV | IT | CAM | ROIT5-CAM |
| Presevo | Serbia | OEM | No cargo handling equipment and thus the commercial vehicles cannot be properly inspected | E | - | ROE11 |
| Presevo | Serbia | OEM | Lack of passive non-intrusive technology to shorten processing times | E | - | ROE12 |
| Tabanovce | North Macedonia | OEM | No import clearing | OA | - | ROOA14 |
| Tabanovce | North Macedonia | OEM | Lack of passive non-intrusive technology to shorten processing times | E | - | ROE13 |
| Tabanovce | North Macedonia | OEM | At the BCP both Customs and Border Police have their own, separate information systems including internet and intranet connections and supporting equipment | IT | ST | ROIT6-ST |
| Lipovac/Bajakovo | Croatia | OEM | Police with insufficient number of working staff working 24/7 | OA | LS | ROOA15-LS |
| Lipovac/Bajakovo | Croatia | OEM | Lighting in bad level especially for some lanes | U | - | ROU6 |
| Lipovac/Bajakovo | Croatia | OEM | Internet connection is problematic | U | IN | ROU7-IN |
| Lipovac/Bajakovo | Croatia | OEM | There is CCTV system but there are problems on reading vehicles' licensing plates during sunny days | IT | CAM | ROIT7-CAM |
| Lipovac/Bajakovo | Croatia | OEM | Parking areas in bad level | I | - | ROI4 |
| Lipovac/Bajakovo | Croatia | OEM | No constant internet connection with Central Custom Offices | U | IN | ROU8-IN |
| Lipovac/Bajakovo | Croatia | OEM | Limited working hours of phytosanitary and veterinary agents | OA | LS | ROOA16-LS |



| Road BCP | Country | TEN-T Corridor | Main problems | ID Category Code | ID Sub-category Code | ID Problem Code |
|----------------------|------------------------|----------------|--|------------------|----------------------|-----------------|
| Lipovac/ Bajakovo | Croatia | OEM | Both customs and border police have their own separate information systems including internet and intranet connections as well as supporting equipment | IT | ST | ROIT8-ST |
| Lipovac/ Bajakovo | Croatia | OEM | The monitoring equipment (CCTV) is considered outdated | IT | CAM | ROIT9-CAM |
| Lipovac/ Bajakovo | Croatia | OEM | Visual checks instead of 100% selected examinations based on risk profiles | OA | - | ROOA17 |
| Lipovac/ Bajakovo | Croatia | OEM | Not all traffic lanes are staffed during peak periods | OA | - | ROOA18 |
| Lipovac/ Bajakovo | Croatia | OEM | No designated traffic lanes for NCTS, TIR (transit) or AEO | OA | - | ROOA19 |
| Lipovac/ Bajakovo | Croatia | OEM | The current facilities are near the end of their useful life | I | - | ROI5 |
| Obrežje | Slovenia | MED | More HR needed | OA | LS | ROOA20-LS |
| Batrovci | Serbia | MED | Insufficient number of custom agents and police officers working 24/7 | OA | LS | ROOA21-LS |
| Batrovci | Serbia | MED | Installed CCTV does not cover the entire BCP | IT | CAM | ROIT10-CAM |
| Batrovci | Serbia | MED | Lack of phytosanitary equipment | E | - | ROE14 |
| Batrovci | Serbia | MED | Insufficient number of parking places | I | - | ROI6 |
| Batrovci | Serbia | MED | Inexistence of terminal for Custom Agency | E | - | ROE15 |
| Batrovci | Serbia | MED | No separate areas for detailed inspections | E | - | ROE16 |
| Batrovci | Serbia | MED | Insufficient number of lanes per directions serving the vehicles | I | - | ROI7 |
| Batrovci | Serbia | MED | Phytosanitary and Veterinary with insufficient number of staff | OA | LS | ROOA22-LS |
| Batrovci | Serbia | MED | Inexistence of a terminal for the Custom Agency | E | - | ROE17 |
| Batrovci | Serbia | MED | Bad level of the facilities and of the electric and water supply networks | U | - | ROU9 |
| Batrovci | Serbia | MED | There are visual checks instead of 100% selected examinations based on risk profiles | OA | LS | ROOA23-LS |
| Batrovci | Serbia | MED | Limited working hours of phytosanitary and veterinary agents during weekends only | OA | LS | ROOA24-LS |
| Batrovci | Serbia | MED | Customs and border police have their own separate information systems including internet and intranet connections as well as supporting equipment | IT | ST | ROIT11-ST |
| Batrovci | Serbia | MED | Not all traffic lanes are staffed during peak periods and that there are no designated traffic lanes for NCTS, TIR (transit) or AEO | OA | - | ROOA25 |
| Batrovci | Serbia | MED | The current facilities are near the end of their useful life | I | - | ROI8 |
| Bosanski Samac | Bosnia and Herzegovina | MED | Present layout not ideal with the Customs Terminal located on the western side | E | - | ROE18 |



| Road BCP | Country | TEN-T Corridor | Main problems | ID Category Code | ID Sub-category Code | ID Problem Code |
|----------------|------------------------|----------------|---|------------------|----------------------|-----------------|
| Bosanski Samac | Bosnia and Herzegovina | MED | No phytosanitary and veterinary staff stationed | OA | LS | ROOA26-LS |
| Bosanski Samac | Bosnia and Herzegovina | MED | No X-Ray scanner | E | - | ROE19 |
| Bosanski Samac | Bosnia and Herzegovina | MED | Necessity of maintaining the BCP | E | - | ROE20 |
| Bosanski Samac | Bosnia and Herzegovina | MED | The number of the Police officers has to be increased | OA | LS | ROOA27-LS |
| Bosanski Samac | Bosnia and Herzegovina | MED | The station is not linked to the Central Custom Offices but there is regular communication with the authorities of the neighbouring BCP | U | IN | ROU10-IN |
| Bosanski Samac | Bosnia and Herzegovina | MED | The current layout creates problems for trucks coming from the opposite direction | I | - | ROI9 |
| Bosanski Samac | Bosnia and Herzegovina | MED | Lack of sufficient traffic lanes during peak periods | I | - | ROI10 |
| Bregana | Croatia | MED | Insufficient number of personnel | OA | LS | ROOA28-LS |
| Bregana | Croatia | MED | Bad conditions of the equipment | E | - | ROE21 |
| Bregana | Croatia | MED | The station is not linked to the Central Custom Offices and there is regular communication with the authorities of the neighbouring BCP | U | IN | ROU11-IN |
| Bregana | Croatia | MED | Limited working hours of phytosanitary and veterinary agents | OA | LS | ROOA29-LS |
| Debeli Brijeg | Montenegro | MED | Insufficient number of Customs Agents | OA | LS | ROOA30-LS |
| Debeli Brijeg | Montenegro | MED | No X-Ray scanner | E | - | ROE22 |
| Debeli Brijeg | Montenegro | MED | The existing weighbridge is in bad condition | E | - | ROE23 |
| Debeli Brijeg | Montenegro | MED | The main problems of the BCP are the insufficient number of inbound and outbound lanes | I | - | ROI11 |
| Debeli Brijeg | Montenegro | MED | Lack of space for a truck terminal | I | - | ROI12 |
| Debeli Brijeg | Montenegro | MED | The station is not linked to the Central Custom Offices but there is regular communication with the authorities of the neighbouring BCP | U | IN | ROU12-IN |
| Gorican | Croatia | MED | Police insufficient number of staff working 24/7 | OA | LS | ROOA31-LS |
| Gorican | Croatia | MED | No surveillance (CCTV) are installed | IT | CAM | ROIT12-CAM |
| Gorican | Croatia | MED | Limited working hours of phytosanitary and veterinary agents | OA | LS | ROOA32-LS |
| Kakavia | Greece | MED | Insufficient number of staff | OA | LS | ROOA33-LS |
| Kakavia | Greece | MED | Low level of staff training | OA | SC | ROOA34-SC |
| Kakavia | Greece | MED | Bad level of existing facilities | U | - | ROU13 |
| Kakavia | Greece | MED | CCTV in bad level | IT | ST | ROIT13-ST |
| Kakavia | Greece | MED | Obsolete equipment | E | - | ROE24 |
| Kakavia | Greece | MED | Limited working time of veterinary agents | OA | LS | ROOA35-LS |



| Road BCP | Country | TEN-T Corridor | Main problems | ID Category Code | ID Sub-category Code | ID Problem Code |
|------------|------------------------|----------------|--|------------------|----------------------|-----------------|
| Kakavia | Greece | MED | The topography of the site creates difficulties regarding expansion of the existing facilities without requiring significant costs related to earthworks | I | - | ROI13 |
| Karasovici | Croatia | MED | The number of Custom agents and Police officers is considered insufficient according to the Custom Authorities | OA | LS | ROOA36-LS |
| Karasovici | Croatia | MED | Bad condition of the weighbridge | E | - | ROE25 |
| Karasovici | Croatia | MED | No X-Ray scanner | E | - | ROE26 |
| Karasovici | Croatia | MED | Limited working hours of phytosanitary and veterinary agents | OA | LS | ROOA37-LS |
| Karasovici | Croatia | MED | Restrictions regarding possible expansion on the Montenegrin side due to the topography of the area | I | - | ROI14 |
| Klek | Croatia | MED | No X-Ray scanner | E | - | ROE27 |
| Klek | Croatia | MED | Heavy traffic of passenger vehicles during the summer period | I | - | ROI15 |
| Klek | Croatia | MED | Insufficient parking areas for the vehicles' inspection | I | - | ROI16 |
| Klek | Croatia | MED | Limited possibilities of expanding the facilities due to the area's topography | I | - | ROI17 |
| Metkovic | Croatia | MED | No X-Ray scanner | E | - | ROE28 |
| Metkovic | Croatia | MED | Traffic lanes for commercial vehicles and goods inspections are not closed | E | - | ROE29 |
| Metkovic | Croatia | MED | The number of working staff has to be increased | OA | LS | ROOA38-LS |
| Metkovic | Croatia | MED | Financial agency should be established in order to improve the provided services | OA | - | ROOA39 |
| Metkovic | Croatia | MED | Limited working hours of phytosanitary and veterinary agents | OA | LS | ROOA40-LS |
| Neum I NW | Bosnia and Herzegovina | MED | No X-Ray scanner | E | - | ROE30 |
| Neum I NW | Bosnia and Herzegovina | MED | Lack of infrastructure | I | - | ROI18 |
| Neum I NW | Bosnia and Herzegovina | MED | Lack of communication | U | IN | ROU14-IN |
| Neum I NW | Bosnia and Herzegovina | MED | Insufficient equipment for transitions | E | - | ROE31 |
| Neum I NW | Bosnia and Herzegovina | MED | Insufficient number of employees | OA | LS | ROOA41-LS |
| Neum I NW | Bosnia and Herzegovina | MED | The station is not linked to the Central Custom Offices, however, there is regular communication with the authorities of the neighbouring BCP | U | IN | ROU15-IN |
| Neum II SE | Bosnia and Herzegovina | MED | Lack of infrastructure | I | - | ROI19 |
| Neum II SE | Bosnia and Herzegovina | MED | Lack of communication | U | IN | ROU16-IN |
| Neum II SE | Bosnia and Herzegovina | MED | Insufficient equipment for transitions | E | - | ROE32 |



| Road BCP | Country | TEN-T Corridor | Main problems | ID Category Code | ID Sub-category Code | ID Problem Code |
|-------------|------------------------|----------------|---|------------------|----------------------|-----------------|
| Neum II SE | Bosnia and Herzegovina | MED | Insufficient number of employees | OA | LS | ROOA42-LS |
| Neum II SE | Bosnia and Herzegovina | MED | No X-Ray scanner | E | - | ROE33 |
| Neum II SE | Bosnia and Herzegovina | MED | The station is not linked to the Central Custom Offices, however, there is regular communication with the authorities of the neighbouring BCP | U | IN | ROU17-IN |
| Neum II SE | Bosnia and Herzegovina | MED | No trucks are allowed on Saturdays and Sundays during summer | OA | - | ROOA43 |
| Zupanja | Croatia | MED | Often technical failures of the equipment | E | - | ROE34 |
| Zupanja | Croatia | MED | Traffic congestion due to the position of the BCP near Sava's river bridge which performs as bottleneck | I | - | ROI20 |
| Zupanja | Croatia | MED | No X-Ray scanner | E | - | ROE35 |
| Zupanja | Croatia | MED | Facilities in bad level | U | - | ROU18 |
| Zupanja | Croatia | MED | Phytosanitary agents are called when needed | OA | LS | ROOA44-LS |
| Zatoni Doli | Croatia | MED | No phytosanitary and veterinary agents | OA | LS | ROOA45-LS |
| Zatoni Doli | Croatia | MED | No X-Ray scanner | E | - | ROE36 |
| Zatoni Doli | Croatia | MED | No tracing means | IT | - | ROIT14 |
| Bijaca | Bosnia and Herzegovina | MED | No X-Ray scanner | E | - | ROE37 |
| Bijaca | Bosnia and Herzegovina | MED | Electronic submission of the custom declarations is not supported | OA | - | ROOA46 |
| Bijaca | Bosnia and Herzegovina | MED | The station needs to be maintained | I | - | ROI21 |
| Bijaca | Bosnia and Herzegovina | MED | The number of the working staff to be increased as it is considered insufficient | OA | LS | ROOA47-LS |
| Bijaca | Bosnia and Herzegovina | MED | Limited working hours of phytosanitary agents | OA | LS | ROOA48-LS |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 25 Identification of Problems / Barriers by Rail BCP nodes

| Rail BCP | Country | TEN-T Corridor | Main problems | ID Category Code | ID Sub-category Code | ID Problem Code |
|------------------|---------|----------------|---|------------------|----------------------|-----------------|
| Idomeni | Greece | OEM | Inexistence of appropriate and needed equipment | E | - | RAE1 |
| Idomeni | Greece | OEM | Insufficiency of working staff | OA | LS | RAOA1-LS |
| Idomeni | Greece | OEM | No connection through internet with the Central Custom Agencies | U | IN | RAU1-IN |
| Idomeni | Greece | OEM | Need of engine change | E | - | RAE2 |
| Idomeni | Greece | OEM | Limited working hours of Customs agents | OA | LS | RAOA2-LS |
| Ristovac/Presevo | Serbia | OEM | Insufficient number of Custom Agents and Police Officers | OA | LS | RAOA3-LS |
| Ristovac/Presevo | Serbia | OEM | No knowledge of the English language | OA | SC | RAOA4-SC |
| Ristovac/Presevo | Serbia | OEM | Inexistence of a terminal for commercial vehicles | E | - | RAE3 |
| Ristovac/Presevo | Serbia | OEM | No tracing means | IT | TM | RAIT1-TM |
| Ristovac/Presevo | Serbia | OEM | The station is not linked with the Central Custom Offices and also no controls are implemented on board or/ and simultaneously. The communication with the neighbouring station is regular through meetings and telephone | U | IN | RAU2-IN |
| Ristovac/Presevo | Serbia | OEM | All incoming freight trains must be checked for immigrants by the Ministry of Interior by opening each empty wagon individually | OA | - | RAOA5 |
| Ristovac/Presevo | Serbia | OEM | Along the railway line Belgrade - Nis - Presevo and near the Presevo station there is a crossing point with state road V1 (Corridor X) in which congestion phenomena occur for both the freight trains and the vehicles | I | - | RAI1 |
| Sid | Serbia | OEM | No connection with the Central Custom Offices | U | IN | RAU3-IN |
| Sid | Serbia | OEM | Facilities overall are in bad level | U | - | RAU4 |
| Sid | Serbia | OEM | No tracing means | IT | TM | RAIT2-TM |
| Sid | Serbia | OEM | Internet connection in bad level | U | IN | RAU5-IN |
| Sid | Serbia | OEM | Obsolete infrastructure | I | - | RAI2 |
| Sid | Serbia | OEM | Not sufficient staff | OA | LS | RAOA6-LS |
| Sid | Serbia | OEM | Lack of well-trained staff | OA | SC | RAOA7-SC |
| Sid | Serbia | OEM | limited working hours of phytosanitary and veterinary agents | OA | LS | RAOA8-LS |
| Tovarnik | Croatia | OEM | No police and customs inspections | OA | - | RAOA9 |
| Tovarnik | Croatia | OEM | Not enough tracks | I | - | RAI3 |
| Tovarnik | Croatia | OEM | Veterinary and phytosanitary inspectors not constantly available but come when asked and also not working night shifts or weekends | OA | LS | RAOA10-LS |
| Vrbnica | Serbia | OEM | Facilities overall are in bad level | U | - | RAU6 |
| Vrbnica | Serbia | OEM | No tracing means | IT | TM | RAIT3-TM |



| Rail BCP | Country | TEN-T Corridor | Main problems | ID Category Code | ID Sub-category Code | ID Problem Code |
|----------|---------|----------------|---|------------------|----------------------|-----------------|
| Vrbnica | Serbia | OEM | The station is not linked to the Central Custom Offices although there is regular communication with the Authorities of the neighbouring BCP | U | IN | RAU7-IN |
| Vrbnica | Serbia | OEM | Obsolete infrastructure | I | - | RAI4 |
| Vrbnica | Serbia | OEM | Not sufficient staff | OA | LS | RAOA11-LS |
| Vrbnica | Serbia | OEM | Lack of well-trained staff | OA | SC | RAOA12-SC |
| Bajza | Albania | MED | CCC cross border commission as in art 14 of the Agreement not established and called in at least twice a year stipulated by law 128/2012 | OA | - | RAOA13 |
| Bajza | Albania | MED | Protocols derived by the Agreement not published and lack of knowhow on regulatory provisions arranged already. | OA | - | RAOA14 |
| Bajza | Albania | MED | Modus Operandi not known at satisfactory level by personnel in duty - at managerial levels | OA | SC | RAOA15-SC |
| Bajza | Albania | MED | Rules of procedure incl. manoeuvring has got an issue for the decision making of ZiCG all these kinds of operation manoeuvres shall be done by our Montenegrin partners (RU). | OA | - | RAOA16 |
| Bajza | Albania | MED | Guideline of the MIE on mutual actions in Tuzi and in the Zone are not signed, the old decision is related to the old agreement repealed by 2012. | OA | - | RAOA17 |
| Bajza | Albania | MED | Alb IM is not accommodated in Tuzi so that decision making level of IMs according to the Recast directive. | OA | - | RAOA18 |
| Bajza | Albania | MED | Alb broker agency has not office in Tuzi he causes delays when brought accompanying docs of trains to Hani i Hotit road border point to be completed and back to Tuzi | OA | - | RAOA19 |
| Bajza | Albania | MED | Lack of bank affiliate especially needed in holidays | OA | LS | RAOA20-LS |
| Bajza | Albania | MED | Lack of installing ITS for railways or ERTMS, and CCS in the Zone. | TEL | - | RATEL1 |
| Bajza | Albania | MED | EDI networks for IMs not yet in place | IT | - | RAIT4 |
| Bajza | Albania | MED | RAILDATA, RNE for RUs and CoReDA | IT | - | RAIT5 |
| Bajza | Albania | MED | Official communication between IMs and RUs should be improved as in EU recommendations in alignment to Decision of the Commission on OPE TSI | IT | - | RAIT6 |
| Bajza | Albania | MED | Training of capacity on system maintenance upon installation | OA | SC | RAOA21-SC |
| Bajza | Albania | MED | Lack of land line for telephony in Bajza border station - the zone as per the Agreement | U | - | RAU8 |
| Bajza | Albania | MED | There are neither Custom agents nor Police officers at the Bajza BCP (Albanian custom agents and police officers are stationed at the Tuzi BCP in Montenegrin territory providing their services for 12 hours per day). | OA | LS | RAOA22-LS |



| Rail BCP | Country | TEN-T Corridor | Main problems | ID Category Code | ID Sub-category Code | ID Problem Code |
|------------------------|------------------------|----------------|--|------------------|----------------------|-----------------|
| | | | Furthermore, at Tuzi a phyto-sanitary agent is also stationed working 12 hours per day | | | |
| Bajza | Albania | MED | No telephone and internet connections, thus the station is not linked to the Central Custom Offices | U | IN | RAU9-IN |
| Bajza | Albania | MED | No tracing means | IT | TM | RAIT7-TM |
| Bajza | Albania | MED | No monitoring equipment (CCTV) | IT | - | RAIT8 |
| Bajza | Albania | MED | Domestic and border freight transport is performed by the ALBANIAN RAILWAYS TRAINS (HSH), of which incoming trains of tractions vehicles of HSH locos are using the foreign wagons entering in the Albanian railway territory. On the other hand, outgoing empty trains are going back to TUZI joint rail station and the border Zone, since none of the rolling stock of HSH has got a Vehicle Authorization V.A. | OA | - | RAOA23 |
| Tuzi (Railway Station) | Montenegro | MED | Major problem at the border crossing point is the lack of IT infrastructure (no internet connection) | U | IN | RAU10-IN |
| Bosanski Samac | Bosnia and Herzegovina | MED | No internet connection | U | IN | RAU11-IN |
| Bosanski Samac | Bosnia and Herzegovina | MED | No tracing means | IT | TM | RAIT9-TM |
| Capljina | Bosnia and Herzegovina | MED | Failure of border crossings | I | - | RAI5 |
| Capljina | Bosnia and Herzegovina | MED | Failure of toilets | U | - | RAU12 |
| Capljina | Bosnia and Herzegovina | MED | Failure of maintenance of border crossing and equipment | E | - | RAE4 |
| Capljina | Bosnia and Herzegovina | MED | Failure of modernization of the border crossing | E | - | RAE5 |
| Capljina | Bosnia and Herzegovina | MED | Supporting equipment (computer) and internet connection are in bad condition | U | IN | RAU13-IN |
| Capljina | Bosnia and Herzegovina | MED | No tracing means | IT | TM | RAIT10-TM |
| Capljina | Bosnia and Herzegovina | MED | Outdated supporting and communicating equipment | U | IN | RAU14-IN |
| Capljina | Bosnia and Herzegovina | MED | Insufficient number of Police officers | OA | LS | RAOA24-LS |
| Koprivnica | Croatia | MED | No CCTV system installed | IT | - | RAIT11 |
| Koprivnica | Croatia | MED | Technical with insufficient staff working 24/7 | OA | LS | RAOA25-LS |
| Dobova | Slovenia | MED | Train speed for freight (<100km/h) | I | - | RAI6 |



| Rail BCP | Country | TEN-T Corridor | Main problems | ID Category Code | ID Sub-category Code | ID Problem Code |
|--------------|------------|----------------|--|------------------|----------------------|-----------------|
| Dobova | Slovenia | MED | Train length limitations (400-500m) | I | - | RAI7 |
| Subotica | Serbia | OEM | Facilities are in bad level | U | - | RAU15 |
| Subotica | Serbia | OEM | No tracing means | IT | TM | RAIT12-TM |
| Subotica | Serbia | OEM | The station is not linked with the Central Custom Offices although there is regular communication with the neighbouring BCP | U | IN | RAU16-IN |
| Subotica | Serbia | OEM | Lack of capacity in relation to the demand | I | - | RAI8 |
| Subotica | Serbia | OEM | Lack of the required infrastructure to serve all carriers | I | - | RAI9 |
| Subotica | Serbia | OEM | Poor state of the railway infrastructure resulting that the maximum speed for all trains inside the station is limited to 10km/h | I | - | RAI10 |
| Subotica | Serbia | OEM | Obsolete equipment and specifically the lack of radio communication | E | - | RAE6 |
| Subotica | Serbia | OEM | Untimely coordination between carriers in Serbia and Hungary which as a result increases the retention of the freight trains in the station | OA | - | RAOA26 |
| Subotica | Serbia | OEM | Insufficient number of working staff | OA | LS | RAOA27-LS |
| Subotica | Serbia | OEM | Limited working hours of phytosanitary agents | OA | LS | RAOA28-LS |
| Bijelo Polje | Montenegro | OEM | The railway station Bijelo Polje does not have a separate track at which a detailed control of freight trains would be carried out, which would be fenced and in which it would be possible to interrupt power supply for safety purposes of the officers conducting the control | E | - | RAE7 |
| Metkovic | Croatia | MED | No tracing means | IT | TM | RAIT13-TM |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 26 Identification of Problems / Barriers by IWW Port nodes

| IWW Port | Country | TEN-T Corridor | Main problems | ID Category Code | ID Sub-category Code | ID Problem Code |
|--|------------------------|----------------|--|------------------|----------------------|-----------------|
| Slavonski Brod | Croatia | MED, RDAN | - | - | - | - |
| Vukovar | Croatia | RDAN | Potentially problematic sectors for navigation due to bank erosion or problems with sediment deposition | I | - | IWI1 |
| Brčko | Bosnia and Herzegovina | RDAN | As far as customs and other goods and services are concerned, when it comes to road, river or rail, at time can be timely and costly | OA | - | IWOA1 |
| Brčko | Bosnia and Herzegovina | RDAN | As far as customs terminal and vehicle processing are concerned, the procedure can be long | OA | - | IWOA2 |
| Brčko | Bosnia and Herzegovina | RDAN | Regarding the procedures of arrival and departure of goods by river, they are relatively effective, the problem is the lack of a Customs Report in Brčko for River Traffic | OA | - | IWOA3 |
| Brčko | Bosnia and Herzegovina | RDAN | Delay in lowering wagons in the harbour as well as their extraction as well as limited working hours Railways | OA | - | IWOA4 |
| Brčko | Bosnia and Herzegovina | RDAN | Lack of certain manipulative mechanisms and equipment for manipulating objects in waters | E | - | IWE1 |
| Brčko | Bosnia and Herzegovina | RDAN | Lack of certain storage capacity for certain types of goods | I | - | IWI2 |
| Brčko | Bosnia and Herzegovina | RDAN | limited navigation and launch period for commercial vessels of more than 2 meters | OA | - | IWOA5 |
| Northern Italy Waterway System consisting of the river PO and its connecting canals (Section Milano-Cremona-Mantova-Venezia-Ravenna-Trieste along the Mediterranean Core Network Corridor) | Italy | MED | - | - | - | - |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 27 Identification of Problems / Barriers by Logistic Facility nodes

| Logistic facility | Country | TEN-T Corridor | Main problems | ID Category Code | ID Sub-category Code | ID Problem Code |
|-----------------------|------------------------|-----------------|---|------------------|----------------------|-----------------|
| Padova | Italy | BAC, MED | Security problems related to entrance, exit and presence of trucks in the logistic areas outside the terminal | IT | - | ITIT1 |
| Trieste | Italy | BAC, MED | - | - | - | - |
| Bologna | Italy | BAC, MED, SCMED | Need to allow 740 m train length accessibility at handover station/terminal | LM | RA | ITLM1-RA |
| Maribor Tezno | Slovenia | BAC, MED | - | - | - | - |
| Ljubljana - Moste | Slovenia | BAC, MED | Limitation of capacity due to high traffic volumes on roads and RRTs | LM | RO | ITLM2-RO |
| Ljubljana - Moste | Slovenia | BAC, MED | Lack of capacity for railway lines | LM | RA | ITLM3-RA |
| Ljubljana - Moste | Slovenia | BAC, MED | Cargo traffic through the city centre needs to be reduced | LM | RO | ITLM4-RO |
| Ljubljana - Moste | Slovenia | BAC, MED | The Ljubljana ring road is the main road bottleneck, as it suffers from severe capacity limitations | LM | RO | ITLM5-RO |
| Ljubljana - Moste | Slovenia | BAC, MED | The majority of railway tracks in Ljubljana run at ground level, grade separated crossings of roads and railways occur only in some places, mostly at main line crossings. Level crossings with gates are still in the majority, which causes significant congestion, especially during rush hours. | LM | RA | ITLM6-RA |
| Vrapče, Zagreb | Croatia | MED | Delays due to a track maintenance | E | - | ITE1 |
| Vrapče, Zagreb | Croatia | MED | Lack of wagons | E | - | ITE2 |
| Vrapče, Zagreb | Croatia | MED | Lack of shunting locomotives | E | - | ITE3 |
| Agit d.o.o. | Croatia | MED | The worst bottleneck is the railway operator's uncertain delivery dates | OA | - | ITOA1 |
| Adria Terminal Sežana | Slovenia | BAC, MED | Currently the financial crisis is the main problem | n.a. | - | - |
| Adria Terminal Sežana | Slovenia | BAC, MED | No payments from some of the costumers | n.a. | - | - |
| Adria Terminal Sežana | Slovenia | BAC, MED | High prices of the service in comparison to road transport | OA | - | ITOA2 |
| JP Luka Brčko | Bosnia and Herzegovina | RDAN | Limited navigation and launch period for commercial vessels of more than 2 meters. It is estimated that the wider community shows little interest in the only BH river port when it comes to development plans, port modernization, investment in the same, exploitation of the same. | n.a. | - | - |
| Pristina | Kosovo | OEM | - | - | - | - |



| Logistic facility | Country | TEN-T Corridor | Main problems | ID Category Code | ID Sub-category Code | ID Problem Code |
|-------------------|---------|----------------|--|------------------|----------------------|-----------------|
| Smederevo | Serbia | OEM | Absence of rail connection of the New Port which is currently under construction | LM | RA | ITLM7-RA |
| Smederevo | Serbia | OEM | The Old Port is located in the centre of Pristina | n.a. | - | - |
| Smederevo | Serbia | OEM | The terminal does not exchange information with the BCPs located in Serbia | OA | - | ITOA3 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 28 Identification of Problems / Barriers by Road Network

| Country | Main problems | ID Category Code | ID Sub-category Code | ID Problem Code |
|------------------------|---|------------------|----------------------|-----------------|
| Albania | - | - | - | - |
| Bosnia and Herzegovina | The route largely consists of two-lane roads with at-grade intersections (Corridor Vc on the Bosnia and Herzegovina side) | I | - | RONI1 |
| North Macedonia | - | - | - | - |
| Greece | - | - | - | - |
| Italy | Lack of general guidelines for standard development of open and interoperable systems | OA | - | RONOA1 |
| Italy | Pilot projects are not always part of large-scale applications, | OA | - | RONOA2 |
| Italy | Lack of national funds for financing ITS | n.a. | - | - |
| Montenegro | - | - | - | - |
| Serbia | - | - | - | - |
| Kosovo | - | - | - | - |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 29 Identification of Problems / Barriers by Rail Network

| Country | Main problems | ID Category Code | ID Sub-category Code | ID Problem Code |
|------------------------|---|------------------|----------------------|-----------------|
| Albania | Albania has no ERTMS/ ITS services at the moment. The railway network is completely operated by manual signalling and telecommunications services are limited to AM radio (subsequently supplanted by mobile telephony, as is the case in countries where public available technology gets implemented faster than system-specific technology). At this point, Albania is in direct need of local basic knowledge and experience to start building a signalling system of its own on its rail network | TEL | - | RANTEL1 |
| Albania | Currently there is no fibre optics network, and no General Design or strategy for implementing it | TEL | - | RANTEL2 |
| Albania | There is a GSM-R feasibility study, but no GSM-R network, and the frequency band that GSM-R should use is currently the private property of the mobile provider, and -according to the information provided-with an option to be reassigned to GSM-R | TEL | - | RANTEL3 |
| Bosnia and Herzegovina | - | - | - | - |
| North Macedonia | - | - | - | - |
| Greece | - | - | - | - |
| Italy | - | - | - | - |
| Montenegro | Infrastructure is relatively old, with latest upgrades dating from the '80s, ex-Yugoslavia | I | - | RANI1 |
| Montenegro | All the railway alignments are single track | I | - | RANI2 |
| Montenegro | Signalling systems are a challenge to maintain, given that they are out-dated | I | - | RANI3 |
| Serbia | No ERTMS project has been implemented so far | TEL | - | RANTEL4 |
| Kosovo | Kosovo has no ERTMS technical standards officially adopted and there are no ITS systems at this time | TEL | - | RANTEL5 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 30 Identification of Problems / Barriers by IWW Network

| Country | Main problems | Source | ID Category Code | ID Sub-category Code | ID Problem Code |
|------------------------|---|--------|------------------|----------------------|-----------------|
| Bosnia and Herzegovina | Along the Inland Waterway Corridor in the territory of Bosnia and Herzegovina River Information Services have not been deployed | | TEL | - | IWTEL1 |
| Serbia | - | | - | - | - |
| Croatia | - | | - | - | - |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 31 Identification of proposed Measures / Solutions by Maritime Port nodes

| Maritime Port | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|---------------|---------|----------------|---|------------------|----------------------|----------------------|
| Durrës | Albania | MED | Vessel Traffic Management Information System | MTEL | - | PTEL1 |
| Durrës | Albania | MED | Reconstructing several berths | MI | - | - |
| Durrës | Albania | MED | Expanding the land area in the eastern side of the port | MI | - | - |
| Durrës | Albania | MED | <p>The Durrës Port Authority does not have a Port Community System. It is foreseen the launch of a project led by Durrës Port Authority to set up Port Community System as a standardized electronic platform that connects multiple systems and enables intelligent and secure exchange of information between stakeholders in the port community.</p> <p>The Port Community System is seen as a system that is organized and used by private and public entity in port community sector. The project is going to be built by considering Port Community System, as centralized and automated system for exchanging of information and documentation between organizations and marine transport authorities in Durrës Port Community.</p> <p>Each movement of the cargo in the port requires multiple communications among members of the port community, thus creating a complex information web. One of the main goals to be achieved through this system is the harmonization of procedures for organizing and standardizing operations in the logistics chain.</p> <p>Up to today, the different actors of the Durrës Port community are exchanging information - traditionally paper, but now increasingly electronically - between each other, both for: Administrative purposes, to: a) Custom administration, b) Border police, c) National statistical office, and d) Health and Sanitary inspection Operational purposes, to: a) Terminal Operators, b) Stevedoring companies, c) Shipping Agents, and d) Freight forwarders.</p> <p>For the Port of Durrës Authority, it is an urgent need for a neutral and open Port Community System to the entire port community, enabling secure exchange and an intelligent use of information between public and private stakeholders in order to improve the competitive position in the port communities</p> | MIT | MPCS | PIT1 |
| Igoumenitsa | Greece | OEM | Single Window | MIT | MSW | - |



| Maritime Port | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|---------------|---------|----------------|---|------------------|----------------------|----------------------|
| Igoumenitsa | Greece | OEM | Cloud computing | MIT | MAIT | - |
| Igoumenitsa | Greece | OEM | Internet of Things | MIT | MAIT | - |
| Igoumenitsa | Greece | OEM | Big Data Analysis | MIT | MAIT | - |
| Igoumenitsa | Greece | OEM | Cyber-Security for advanced technology networks | MIT | MAIT | - |
| Igoumenitsa | Greece | OEM | Several plans of developing the port mainly concerning new infrastructure. | MI | - | - |
| Igoumenitsa | Greece | OEM | <p>The current Port Community System of Igoumenitsa Port Authority, GAIA, is an integration of the systems developed within the projects above and has been fully customized to the needs of the Port. The Port Community System provides the following operations:</p> <ul style="list-style-type: none"> - Passenger Flow Management System. The Passenger Flow Management System records and controls the passenger flow (including vehicles) through the control check points through the use of tickets or security cards. - Electronic Document Management System. Through the EDMS passenger information can be imported and tickets (security cards) to be issued as by the shipping companies. The current EDMS is supported by a set of web services that can be used by shipping companies to send data on expected ships, freights and vehicles, offering direct communication between OLIG and shipping companies' information systems. In cases that shipping companies do not operate an IT system, a web application was implemented in order to serve the possibility of issuing and printing the security card (with a unique barcode) by the shipping agent before arriving in the port. - Control/ security subsystem for passenger/ vehicles handling. The application operates by scanning the barcode of ticket/ security card through PDAs at the control checkpoints. Ticket and security cards information is imported directly through EDMS as described above, while the data from PDAs are being transferred via the Wi-Fi network to the central Passenger and Vehicle Tracking System. - Passenger and Vehicle Tracking System. The tracking system presents in total all information available in the previous subsystems, offering tracking of passengers and vehicles within the port area. In addition, the system allows for reports such as number of passengers entered the Port and how many are expected on a particular trip | n.a. | - | - |
| Igoumenitsa | Greece | OEM | The pilot action entails two (2) sub-actions. The major sub-action is the design, development, operation of a Platform for Port Community System flows analysis, and forecast | MIT | MPCS | - |



| Maritime Port | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|---------------|---------|----------------|--|------------------|----------------------|----------------------|
| Igoumenitsa | Greece | OEM | The pilot action entails two (2) sub-actions. Additional sub-action refers to the development of Augmented Reality (AR) virtual navigation mobile application for vehicle drivers | MIT | MAIT | - |
| Igoumenitsa | Greece | OEM | <p>Platform for Port Community System flows analysis: OLIG already operates a Port Community System, providing useful information for passengers, vehicles, freights and ships. Therefore, the pilot application that will be implemented through ADRIPASS project will be a web-based platform operated by RUTH, for Port Community System flows analysis, which by getting input from the current system, will process appropriate information through data analysis, performance management and Business Intelligence (BI) tools in order to provide RUTH and OLIG various type of useful information about the transport load presented through charts and dashboards in a comprehensive and user friendly way. In addition, the platform will elaborate various scenarios in order to provide forecast charts of transport flows and warnings in case of insufficient infrastructure. Moreover, the system will be accessible from other transport stakeholders and public authorities as well, with limited however, user permissions, providing them with a customized level of information adjusted and based on their needs.</p> <p>The platform will use various tools such as digital boards, offering adequate information about current and previous situation of the transport flow. Such tool may host and visually include high volume of data in order that users will be able to compare actual performance in terms of goals, standards and previous network performance. In addition, business intelligence procedures (such as data analysis) offer the opportunity to the users to make decisions on transportation issues, which in turn will improve their operational effectiveness. This analysis of Port Community System data concerning the above flows is an important activity both for OLIG and for Regional Unit of Thesprotia. Obviously, for the Port, the ability to gather and present in a comprehensive way all data concerning flows of passengers, vehicles, freights and ships will act as a business intelligence tool for the improvement of administrative and operational purposes.</p> <p>Nevertheless, the importance is significant for RUTH as well, because the organization will improve the planning capacities in the field of transportation taking into account the strategic position of Igoumenitsa</p> | MIT | MPCS | - |



| Maritime Port | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|---------------|---------|----------------|--|------------------|----------------------|----------------------|
| | | | in the West Balkans. It will also help RUTH to provide data to several transport stakeholders facilitating the design and implementation of medium/ long term transportation strategies for the area, in collaboration with other organizations such as Egnatia Motorway Observatory and the Ministry of Infrastructure and Transport | | | |
| Igoumenitsa | Greece | OEM | Augmented Reality (AR) tools: The second sub-action is addressed mainly to vehicle drivers (trucks, TIR trucks, buses, cars) which will be designed to serve as a virtual tour mobile application (available on Android and iOS) in order to provide drivers with useful information about the route that has to be followed from the arrival to the Port from Egnatia Motorway up to the boarding and backwards. The mobile app will present useful information about the location of critical points within the port area, i.e. terminals, control checkpoints, tickets/ security cards, as well as the relevant documentation needed at each critical point. Through the mobile app, the vehicle driver approaching the Port of Igoumenitsa will have the opportunity to receive navigation information by means of AR tools | MIT | MAIT | - |
| Patras | Greece | OEM | Single Window | MIT | MSW | - |
| Patras | Greece | OEM | Wireless communication technologies (smart mobile phones, QR codes, RFID and telematics tracking) | MIT | MAIT | - |
| Patras | Greece | OEM | Internet of Things | MIT | MAIT | - |
| Patras | Greece | OEM | Big Data Analysis | MIT | MAIT | - |
| Piraeus | Greece | OEM | Single Window | MIT | MSW | - |
| Piraeus | Greece | OEM | Internet of Things | MIT | MAIT | - |
| Piraeus | Greece | OEM | Better cooperation between ports, in order to share best practices, emphasizing the necessity of implementing Single Window | MIT | MSW | - |
| Piraeus | Greece | OEM | Synchronizing all operations in a 24/7 mode (including customs) in order to avoid port warehousing fees and minimizing loading time | MOA | - | - |
| Rijeka | Croatia | MED | Port Community System | MIT | MPCS | - |
| Rijeka | Croatia | MED | Cloud computing | MIT | MAIT | - |
| Rijeka | Croatia | MED | Internet of Things | MIT | MAIT | - |
| Rijeka | Croatia | MED | Big Data Analysis | MIT | MAIT | - |
| Rijeka | Croatia | MED | Augmented Reality | MIT | MAIT | - |
| Rijeka | Croatia | MED | Robotics and Autonomy | ME | - | - |
| Rijeka | Croatia | MED | Reconstruction of the quay in the Raša basin, to enable the port of Rijeka to adequately respond to the current growing trend of timber traffic | MI | - | - |



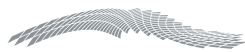
| Maritime Port | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|---------------|---------|----------------|--|------------------|----------------------|----------------------|
| Rijeka | Croatia | MED | The aim of the Action is the creation of a larger operational area by the reconstruction of the railway infrastructure connecting the quays and piers of the Rijeka basin | MLM | MRA | PLM6-RA |
| Rijeka | Croatia | MED | The Action's main objective is the reconstruction of the railway infrastructure connecting the Podbok terminal to the existing Bakar freight railway station | MLM | MRA | - |
| Thessaloniki | Greece | OEM | Single Window | MIT | MSW | - |
| Thessaloniki | Greece | OEM | Cloud computing | MIT | MAIT | - |
| Thessaloniki | Greece | OEM | Internet of Things | MIT | MAIT | - |
| Thessaloniki | Greece | OEM | Synchronizing all operations in a 24/7 mode (including customs) in order to avoid port warehousing fees and minimizing loading time | MOA | - | - |
| Trieste | Italy | BAC, MED | Interoperability between National Single Window and Venezia Port Community System (EASYCONNECTING project) | MIT | MSW | - |
| Trieste | Italy | BAC, MED | Realisation of an information system in order to real time monitor maritime traffic and forecast the maritime traffic levels in the last maritime mile | MIT | - | - |
| Trieste | Italy | BAC, MED | Railway telematics systems for shunting operations (SIMA) and its integration with Port Community System and information systems of other subject involved in developing rail services | MIT | MPCS | - |
| Trieste | Italy | BAC, MED | Broadband connection: Development of broadband connectivity for the development and competitiveness of the industrial area of Porto Marghera | MIT | - | - |
| Trieste | Italy | BAC, MED | Railway works inside and outside the port area | MLM | MRA | PLM9-RA |
| Trieste | Italy | BAC, MED | Functional and technical restructuring of Pier VI in the Port of Trieste | MI | - | - |
| Trieste | Italy | BAC, MED | Construction of a new quay called "Logistic Platform" | MI | - | - |
| Trieste | Italy | BAC, MED | Enlargement of the container terminal at quay VII | MI | - | - |
| Trieste | Italy | BAC, MED | Realization of a new Ro-Ro terminal in the Noghère valley area | MI | - | - |
| Trieste | Italy | BAC, MED | Second phase of passengers' terminal upgrade encompassing the enlargement of the related quay | MI | - | - |
| Trieste | Italy | BAC, MED | Upgrading of the port railway system to operate longer trains | MLM | MRA | - |
| Trieste | Italy | BAC, MED | Construction of a new rail connection from the Logistic Platform, the Timber terminal and the steel plant in Servola with the existing national rail system | MLM | MRA | - |
| Trieste | Italy | BAC, MED | Capital dredging of the port in the area of Noghère Muggia | MI | - | - |
| Venezia | Italy | BAC, MED | LNG supply facilities implementation at the Port of Venezia | MCF | - | - |
| Venezia | Italy | BAC, MED | Direct Connection of the Venice Port to the Mediterranean and Baltic-Adriatic Corridors | MLM | MRA | PLM10-RA |



| Maritime Port | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|---------------|---------|----------------|---|------------------|----------------------|----------------------|
| Venezia | Italy | BAC, MED | Definitive Design of the Venice Onshore Offshore Port System for large ships | MI | - | - |
| Venezia | Italy | BAC, MED | Upgrading to 2 tracks railway line in order to support growth in traffic flows due also to the realisation of Fusina Ro-Ro terminal (Adriamos EU project) | MLM | MRA | - |
| Venezia | Italy | BAC, MED | Upgrade of rail links between the South Industrial Area of Marghera and Marghera Scalo Station and redesign of road infrastructure | MLM | MRA | - |
| Venezia | Italy | BAC, MED | New rolling stock vehicle maintenance and repair depot | ME | - | - |
| Venezia | Italy | BAC, MED | West Industrial Canal Dredging | MI | - | PI7 |
| Venezia | Italy | BAC, MED | New access to Passengers Terminal of Marittima | MI | - | - |
| Ploče | Croatia | MED | Internet of Things | MIT | MAIT | - |
| Ploče | Croatia | MED | Big Data Analysis | MIT | MAIT | - |
| Ploče | Croatia | MED | Augmented Reality | MIT | MAIT | - |
| Ploče | Croatia | MED | Robotics and Autonomy | ME | - | - |
| Ploče | Croatia | MED | Accessibility and connectivity of the port with the hinterland in terms of the road infrastructure must be addressed | MLM | MRO | PLM11-RO |
| Ploče | Croatia | MED | Accessibility and connectivity of the port with the hinterland in terms of the railway infrastructure must be addressed | MLM | MRA | PLM12-RA |
| Ploče | Croatia | MED | Construction of a new jetty for liquid cargo | MI | - | - |
| Ploče | Croatia | MED | Extension of the quay regarding the container terminal | MI | - | PI8 |
| Ploče | Croatia | MED | Port Community System was financed from loan of World Bank, which is also used for construction of dry bulk cargo terminal, container terminal and entrance terminal. Within this construction of terminal, Centralized systems which control flow of electronic information was needed. Through development of port terminals and due to the need for exchange of information, Port Community System technology is used also on the construction of entrance terminal to control and manage such terminals. This system is based on existing Port Community System and exchange information with Port Community System because control and process of information based on business rules and defined business processes are crucial. Port Community System also exchange information with security system that is used for control of vehicles and visitors, and is used for issuing permits for vehicles and visitors (truck drivers etc.) This was crucial because some information is generated based on exchanged information through Port Community System | MIT | - | - |
| Ploče | Croatia | MED | Port Community System has many features and end users are using web portal for entering data. This must be upgraded on a new functional | MIT | MPCS | PIT3 |



| Maritime Port | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|---------------|------------|----------------|--|------------------|----------------------|----------------------|
| | | | level and technological level so that users can smoothly enter data without any problems | | | |
| Ploče | Croatia | MED | Port of Ploče Authority has constructed new entrance terminal with Control and Management system that control gate in/out procedures. Terminal is automated, and this automation has impact on billing system and monitoring activities regarding cargo and vehicles, which are entering to, or leaving port area. Through this monitoring and big data analysis, there is an impact to custom procedures and therefor Port Community System must serve as an intelligent system having the ability to properly report services based on BI and Big Data aspects for improving data use and data analytics aiming to modernize and fasten cargo flows and procedures in port areas. With this action, users through Port Community System will be able to control and analyse data that are exchanged in port areas as prerequisite for proper decisions. Port Community System as control management system will gather all information and data that are exchanged among Port Community System users and present those data to restricted users from which they can have benefits in further analysis and planes for further management activities. Port Community System will not only act as exchange platform. By using new technologies, it will be developed as a tool with higher value providing smarter presentation and use of data. Data which are exchanged must not be only operational data. Data must have other important purpose as well, with benefit for all included stakeholders and proper digitalization of processes with aim of transformation to digital so that could be exchange on all levels to all systems, if needed, based on proper defined rules | MIT | MPCS | - |
| Bar | Montenegro | MED, OEM | Further development of the Port Community System | MIT | MPCS | - |
| Bar | Montenegro | MED, OEM | Single Window | MIT | MSW | - |
| Bar | Montenegro | MED, OEM | Wireless communication technologies (smart mobile phones, QR codes, RFID and telematics tracking) | MIT | MAIT | - |
| Bar | Montenegro | MED, OEM | Development of the Montenegro Highway Network | MLM | MRO | PLM13-RO |
| Bar | Montenegro | MED, OEM | Rehabilitation of Vrbnica-Bar railway is an ongoing project | MLM | MRA | PLM14-RA |
| Bar | Montenegro | MED, OEM | In accordance with ADRIPASS goals, pilot actions of the Port of Bar will intend to improve the planning capacities of transport stakeholders and policy makers concerning the multimodal transport accessibility and network efficiency in Montenegro. These will be achieved through better use of available data in Port Community System. The developed Port Community System can be replicated at BCPs in Montenegro or Port | MIT | MPCS | - |



| Maritime Port | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|---------------|------------|----------------|--|------------------|----------------------|----------------------|
| | | | Community System can communicate with other similar systems via messages (EDI, XML, etc.). The pilot action will improve port operations and increase competitiveness between the port and the hinterland. In addition, better communication between different types of stakeholders will be achieved through the end-user-oriented pilot actions (upgrade of the GUI, mobile solutions for the Port Community System, etc.) | | | |
| Bar | Montenegro | MED, OEM | The main output of the project referred to the Port of Bar was the development and implementation of the 1st phase of the Port Community System (Port Community System) (Implementation of pilot ICT tools - Integrated Port Management System). The developed Port Community System is a centralized and automated system for exchanging of information and documentation among stakeholders and maritime transport authorities. The implemented Port Community System is in line with EU Directive 65/2010. In addition, Port Community System has improved port operations and increased competitiveness of the Port of Bar. Port Community System will be a part of the future Maritime Single Window in Montenegro. Within the ADB project, the core of the system was developed as well as the main modules (modules Disposition and Customs). Disposition is a basic document for all activities related to the cargo movement. This is also a main connection among Customs, forwarders/agents and port. Further development of the Port Community System was done in the EA SEA-WAY project (output Innovative ICT system & infrastructure). Main achievement was the implementation of activities referred to electronic exchange of all relevant information related to ship's arrival and departure resulting in usage and exchange of ship information (arrivals, departures) on different types of ICT systems, introduction of IMO FAL forms, etc | MIT | MPCS | - |
| Ravenna | Italy | BAC, MED | Internet of Things | MIT | MAIT | - |
| Ravenna | Italy | BAC, MED | Big Data Analysis | MIT | MAIT | - |
| Ravenna | Italy | BAC, MED | ICT services for the port community: interoperability of Port Community System with the National Maritime Single Window; the National Logistics Platform and the Customs ICT platform | MIT | MSW | - |
| Ravenna | Italy | BAC, MED | Improvement of Data connection infrastructure for port services: Improvement of connectivity infrastructure for the development of new general services supporting the port security and the digitalization of port procedures contributing to the de-materialization of the processes and to a better coordination among the Administrations for a general efficiency improvement | MIT | MPCS | - |



| Maritime Port | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|---------------|----------|----------------|---|------------------|----------------------|----------------------|
| Ravenna | Italy | BAC, MED | Dredging works in several parts of the canal harbour | MI | - | PI9 |
| Ravenna | Italy | BAC, MED | Operational quays upgrading. Realization of a new quay serving a specific container terminal | MI | - | - |
| Ravenna | Italy | BAC, MED | Development of multimodal platform | MI | - | - |
| Ravenna | Italy | BAC, MED | Ro-Ro terminal upgrading | MI | - | - |
| Ravenna | Italy | BAC, MED | Dredged material treatment plant | MI | - | - |
| Ravenna | Italy | BAC, MED | Upgrading of the railway link to the port of Ravenna | MLM | MRA | PLM15-RA |
| Ravenna | Italy | BAC, MED | LNG supply facilities implementation at the Port of Ravenna | MCF | - | - |
| Ravenna | Italy | BAC, MED | In the near future, this information can be used/exchanged with all relevant stakeholders for achieving better information on mobility issues. The implemented ICT/IT tools (Port Community System) were upgraded within CAPTAIN project. The goal of this upgrade was to ensure efficient up-to-date exchange of information delivered by machine generated emails about different actions in the Port Community System (e.g. for Ship announcement, berthing requests and Pilot requests on different milestones, etc.) | MIT | MPCS | - |
| Ravenna | Italy | BAC, MED | Upgrading of the road link to the port of Ravenna | MLM | MRO | PLM16-RO |
| Vlore | Albania | MED | Wireless communication technologies (smart mobile phones, QR codes RFID, telematics tracking) | MIT | MAIT | - |
| Vlore | Albania | MED | Internet of Things | MIT | MAIT | - |
| Vlore | Albania | MED | Robotics and Autonomy | ME | - | - |
| Koper | Slovenia | BAC, MED | Internet of Things | MIT | MAIT | - |
| Koper | Slovenia | BAC, MED | Augmented Reality | MIT | MAIT | - |
| Koper | Slovenia | BAC, MED | Robotics and Autonomy | ME | - | - |
| Koper | Slovenia | BAC, MED | Internal redistribution of areas dedicated to containers, cars, timber and general cargo | MI | - | PI12 |
| Koper | Slovenia | BAC, MED | The basic operative system, which, among other things, enables (1) the commissioning of services, (2) the planning of work at most terminals, (3) the preparation of the ship's mooring plan, (4) the management of warehouse records, (5) invoicing etc. is the TinO system (marketing and operations). TinO is the official system for keeping records of goods located in the territory of the Port of Koper. For this purpose, the system is linked to the Customs systems | n.a. | - | - |
| Koper | Slovenia | BAC, MED | Recently, the connection between the NEO (National Single Window) system, operated by the Maritime Authority of Slovenia and the TinO system, was initiated, so that ship reporting agents send only the NEO system, which then distributes the information to the TinO system. With | n.a. | - | - |



| Maritime Port | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|---------------|----------|----------------|--|------------------|----------------------|----------------------|
| | | | the TinO system, it is possible to communicate using the Lunaris web solution developed by Luka Koper | | | |
| Koper | Slovenia | BAC, MED | Due to the specialization of work at the container terminal and at the car terminal, there are specialized TOS (terminal operation systems), which are systems that support the planning and execution of works. At the container terminal, the Tideworks system is in use, and at the car terminal there is an updated AVTI system that supports the bar code system that is installed on cars. For the needs of the management of the distribution centre and the fruit terminal, TinO is also integrated with the WMS (warehouse management system) - system of the Mentek manufacturer, which enables the planning, handling and storage of goods based on micro locations | n.a. | - | - |
| Koper | Slovenia | BAC, MED | New solutions and new gates at the car and container terminal will allow quicker movements of goods, with big emphasis on the rationalization of the existing equipment and transport organization. The implementation of the Port Community System will allow quicker scanning and registration of goods, with higher level of data exchange between terminals and operators within the port's area. Development of the Port Community System will allow railway operators, forwarders and terminal employees, to better plan their works, better know where the goods are located and what is the status of bureaucracy linked to the cargo leaving/arriving in the port | MIT | MPCS | PIT4 |
| Koper | Slovenia | BAC, MED | The new gate is planned to be completed within 2019 | MI | - | PI11 |
| Koper | Slovenia | BAC, MED | Construction of the second track on the line Koper-Divača is planned for the period 2016-2025 | MLM | MRA | PLM17-RA |
| Koper | Slovenia | BAC, MED | Road internal works are also planned to be implemented by 2020 to improve accessibility | MLM | MRO | PLM18-RO |
| Koper | Slovenia | BAC, MED | Rail internal works are also planned to be implemented by 2020 to improve accessibility | MLM | MRA | PLM19-RA |
| Koper | Slovenia | BAC, MED | Extension of the existing piers (works at piers 1 and 2) | MI | - | - |
| Koper | Slovenia | BAC, MED | Deepening of waterways | MI | - | - |
| Koper | Slovenia | BAC, MED | Construction of a third pier | MI | - | - |
| Koper | Slovenia | BAC, MED | Construction of a second access to port's area with a new gate in front of the container terminal | MI | - | - |
| Koper | Slovenia | BAC, MED | Extension of port's back area at the third berthing basin: sixth group of railways | MLM | MRA | - |
| Koper | Slovenia | BAC, MED | Extension of port's back area at the third berthing basin: parking for cars entering/leaving the port as freight | MI | - | - |



| Maritime Port | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|---------------|----------|----------------|--|------------------|----------------------|----------------------|
| Koper | Slovenia | BAC, MED | Reconstruction of berths 7, 7a, 7b, 5 | MI | - | - |
| Koper | Slovenia | BAC, MED | Rationalization of container yards' definition and positioning | MI | - | - |
| Koper | Slovenia | BAC, MED | Reconstruction of berthing place nr.12 for general and project cargo | MI | - | - |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 32 Identification of proposed Measures / Solutions by Road BCP nodes

| Road BCP | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|----------------------|-----------------|----------------|---|------------------|----------------------|---------------------------------------|
| Bogorodica | North Macedonia | OEM | Construction of a one-stop-shop | MIT | MOSS | - |
| Blace | North Macedonia | OEM | Construction of a one-stop-shop | MIT | MOSS | - |
| Dobrakovo | Montenegro | OEM | - | - | - | - |
| Evzonoï | Greece | OEM | Suggestions made by the station's authorities are towards solving the mentioned problems | n.a. | - | - |
| Promachonas | Greece | OEM | Plans for upgrading and maintaining the existing building facilities | MI | - | - |
| Gostun | Serbia | OEM | Design and construction of a new BCP started in 2010 is ongoing in Serbia and Montenegro | MI | - | - |
| Gostun | Serbia | OEM | Rollout of SEED/ SEED+ system for electronic declaration is ongoing in Serbia and Montenegro | MIT | MST | - |
| Gostun | Serbia | OEM | Installation of joint Custom and Border Police booth and the fact that there is the opportunity to construct a one-stop-shop on the Serbian (Gostun BCP) side | MIT | MOSS | - |
| Horgos | Hungary | OEM | Construction of a one-stop-shop | MIT | MOSS | - |
| Hani i Hotit | Albania | OEM | Construction of a one-stop-shop | MIT | MOSS | - |
| Merdare | Serbia/Kosovo | OEM | Brokers could use Advance Notification of import trucks to help process imports faster and reduce congestion during peak periods | MIT | MST | - |
| Merdare | Serbia/Kosovo | OEM | The existing facilities are being expanded and new facilities will be constructed | MI | - | ROI3 |
| Presevo | Serbia | OEM | Construction of a terminal for the commercial vehicles | MI | - | - |
| Presevo | Serbia | OEM | BCP must be equipped with different types of equipment for the inspections to be performed properly | ME | - | ROE12 |
| Tabanovce | North Macedonia | OEM | Construction of a one-stop-shop | MIT | MOSS | - |
| Lipovac/ Bajakovo | Croatia | OEM | Increase working staff | MOA | MLS | ROOA15-LS |
| Lipovac/ Bajakovo | Croatia | OEM | Construction of additional control lanes | MI | - | - |
| Lipovac/ Bajakovo | Croatia | OEM | Electronic pre-clearance and the usage of technologies, for example National Single Window and eQMS | MIT | MST | - |
| Lipovac/ Bajakovo | Croatia | OEM | Construction of extra traffic lanes for trucks as well as a lane for when the NCTS system gets implemented | MI | - | - |
| Obrežje | Slovenia | MED | - | - | - | - |
| Batrovci | Serbia | MED | Increase working staff | MOA | MLS | ROOA21-LS, ROOA22-LS, ROOA24-LS |



| Road BCP | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|----------------|------------------------|----------------|---|------------------|----------------------|----------------------|
| Batrovci | Serbia | MED | Construction of additional control lanes | MI | - | ROI7 |
| Batrovci | Serbia | MED | Electronic pre-clearance and the usage of technologies, for example National Single Window and eQMS | MIT | MST | - |
| Batrovci | Serbia | MED | Construction of extra traffic lanes for trucks as well as a lane for when the NCTS system gets implemented | MI | - | - |
| Batrovci | Serbia | MED | Construction of a one-stop-shop | MIT | MOSS | - |
| Bosanski Samac | Bosnia and Herzegovina | MED | Specific measure for relieving the pressure created at the Bosnian side | n.a. | - | - |
| Bosanski Samac | Bosnia and Herzegovina | MED | Construction of a one-stop-shop | MIT | MOSS | - |
| Bregana | Croatia | MED | - | - | - | - |
| Debeli Brijeg | Montenegro | MED | - | - | - | - |
| Gorican | Croatia | MED | - | - | - | - |
| Kakavia | Greece | MED | Construction of a one-stop-shop | MIT | MOSS | - |
| Karasovici | Croatia | MED | Construction of an inland clearance depot (ICD) could relieve the pressure on this site | ME | - | - |
| Klek | Croatia | MED | The authorities suggest the enlargement of the transit areas in order congestion phenomena during the summer period to be avoided | MI | - | - |
| Metkovic | Croatia | MED | - | - | - | - |
| Neum I NW | Bosnia and Herzegovina | MED | - | - | - | - |
| Neum II SE | Bosnia and Herzegovina | MED | - | - | - | - |
| Zupanja | Croatia | MED | - | - | - | - |
| Zatoni Doli | Croatia | MED | - | - | - | - |
| Bijaca | Bosnia and Herzegovina | MED | Opportunity to construct a one-stop shop | MIT | MOSS | - |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 33 Identification of proposed Measures / Solutions by Rail BCP nodes

| Rail BCP | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|------------------------|------------------------|----------------|--|------------------|----------------------|----------------------|
| Idomeni | Greece | OEM | - | - | - | - |
| Ristovac/ Presevo | Serbia | OEM | A common BCP with the neighbouring country (North Macedonia) should be constructed in order to perform Joint Border Control by the respective authorities of the two countries mainly because the Tabanovci BCP has reached its capacity | MOA | - | - |
| Sid | Serbia | OEM | Necessity of reconstructing the majority of the existing infrastructure | MI | - | RAI2 |
| Sid | Serbia | OEM | Necessity of the station to be properly equipped with modern and updated IC tools and technologies | MIT | - | - |
| Tovarnik | Croatia | OEM | - | - | - | - |
| Vrbnica | Serbia | OEM | Necessity of improving the coverage and strength of the existing mobile network | MTEL | - | - |
| Bajza | Albania | MED | Planning and deployment of ERTMS and EDI as well as RAILDATA, RNE are considered to be very important | MTEL | - | RATEL1 |
| Bajza | Albania | MED | Modernization of rolling stock for HSH as well as the rehabilitation of the Albanian railway network in the core Transport network | MI | - | - |
| Tuzi (Railway Station) | Montenegro | MED | - | - | - | - |
| Bosanski Samac | Bosnia and Herzegovina | MED | - | - | - | - |
| Capljina | Bosnia and Herzegovina | MED | Authorities suggest that a precise protocol procedure between the services of Bosnia and Herzegovina and the Republic of Croatia is needed | MOA | - | - |
| Dobova | Slovenia | MED | - | - | - | - |
| Subotica | Serbia | OEM | Improvements in IT connectivity and better coordination between the managers of the public railway infrastructure, railway transport operators and other services at border stations are possible | MIT | - | - |
| Bijelo Polje | Montenegro | OEM | Within the passenger traffic should be regulated that the train controls are carried out in such a way that officials of both neighbouring countries conduct train control during the movement of the train between the two closest train stations within the territory of both countries, thereby reducing holding at the border railway stations and in order to improve the effectiveness of controls in such a way as to prevent persons carrying undeclared and prohibited goods from removing it from the train at the border office | MOA | - | - |
| Metkovic | Croatia | MED | - | - | - | - |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 34 Identification of proposed Measures / Solutions by IWW Port nodes

| IWW Port | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|----------------|---------|----------------|---|------------------|----------------------|----------------------|
| Slavonski Brod | Croatia | MED, RDAN | Construction and upgrade of infrastructure | MI | - | - |
| Slavonski Brod | Croatia | MED, RDAN | Capital dredging works | MI | - | - |
| Slavonski Brod | Croatia | MED, RDAN | Construction of two new vertical quays and a handling and logistics area | MI | - | - |
| Slavonski Brod | Croatia | MED, RDAN | Construction of an industrial road network, industrial rail tracks and a crane rail | MI | - | - |
| Slavonski Brod | Croatia | MED, RDAN | Construction of two handling and logistics area | MI | - | - |
| Slavonski Brod | Croatia | MED, RDAN | Upgrade and installation of the port public utilities infrastructure | MU | - | - |
| Slavonski Brod | Croatia | MED, RDAN | Construction of a Port weigh house | ME | - | - |
| Slavonski Brod | Croatia | MED, RDAN | <p>The project "Construction and upgrading of infrastructure in the port of Slavonski Brod" is a project of great significance for the Republic of Croatia and the European Union. The project comprises the construction of the vertical coast, two piers, installation of the equipment for handling the goods (cranes), the construction of weighing cranes, container- and RO-LA terminals and other related facilities. The project will create a better system of inland waterways navigation of the TEN-T network and improve freight handling at the Sava River waterways. The result of this investment will include:</p> <ul style="list-style-type: none"> - Upgraded infrastructure, - Enhanced inter-mobility and improved transshipment procedures in the road, railway and river transport, - Increased capacities of the port Slavonski Brod and, consequently, of the total capacity of the corridor, - Promoted development of the internal river navigation, - Improved business activity in the port, its rear area and the region as a whole, - Transshipment of cargo from road- and railway- to the river transport resulting in lower transport costs for final consumers | MI | - | - |
| Slavonski Brod | Croatia | MED, RDAN | <p>Another project concerns the construction of a Dangerous Goods Terminal in the Port Area Slavonski Brod. The importance of the future Terminal.</p> <ul style="list-style-type: none"> -Storage and transshipment of petroleum products, to: <ol style="list-style-type: none"> 1) ship supply and reception of oil-water and faecal, 2) transshipment of petroleum products to final beneficiary. - Current ship supply is unsafe because waste disposal of liquids (water, oil, faecal) not exist. - Dangerous goods Terminal is relevant for environmental protecting on Sava river (water, coast, plants, animals) - in Croatia and the other countries | MI | - | - |



| IWW Port | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|--|------------------------|----------------|--|------------------|----------------------|----------------------|
| Vukovar | Croatia | RDAN | - | - | - | - |
| Brčko | Bosnia and Herzegovina | RDAN | The reported future plans for developing the port concern the realization of certain projects funded by the World Bank and the EBRD, when it comes to improving the working conditions (purchase of larger capacity cranes, procurement of manipulative conveyor mechanisms, storage of infrastructure in Port). It is critical for the authorities the port to be properly equipped and investments to be made regarding the infrastructure | ME | - | IWE1 |
| Northern Italy Waterway System consisting of the river PO and its connecting canals (Section Milano-Cremona-Mantova-Venezia-Ravenna-Trieste along the Mediterranean Core Network Corridor) | Italy | MED | - | - | - | - |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 35 Identification of proposed Measures / Solutions by Logistic Facility nodes

| Logistic facility | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|-------------------|----------|-----------------|---|------------------|----------------------|----------------------|
| Padova | Italy | BAC, MED | Enhancing Interporto di Padova - Step 2: ancillary measures and ICT solutions for optimising terminal operations, accessibility and interconnections. The CEF 2015 proposal aims at fully exploiting all the potentials arising from the infrastructural improvements gained from the ongoing CEF 2014 project maximising the efficiency in the operations performed within the terminal by setting an ICT infrastructure providing a centralized management system making large use of automation. It furthermore addresses the optimization of traffic flows and operations within and outside the terminal, extending flows monitoring and information exchange along the corridors heading to Interporto Padova | MIT | - | - |
| Trieste | Italy | BAC, MED | Construction of a new apron for trucks and for containers at the areas once called ex Wärtsilä (270,000m2). | MI | - | - |
| Trieste | Italy | BAC, MED | Adjustment of railway (connection with Aquilinia station) and warehouse at the areas once called ex Wärtsilä | MLM | MRA | - |
| Trieste | Italy | BAC, MED | Electrification of the rail yard (activity 6.1 of the ADRI UP project): the aim of this project is to boost the link of the Interport of Trieste with the electric-powered line Villa Opicina - National border | MLM | MRA | - |
| Trieste | Italy | BAC, MED | Logistics facilities to support intermodality (activity 6.2 of the ADRI UP project): the action consists in new warehouse facilities for the organisation of the cargo flows and in the preparation of intermodal units for delivery: 1) 800 m2 shed next to existing warehouses; 2) a new warehouse of 3,000 m2 for various goods adjacent to the railway embankment beam rails north side | ME | - | - |
| Bologna | Italy | BAC, MED, SCMED | The plans reported by the authorities concern ICT system application in RRT on the Italian part of the corridor, for operations synchronization and management efficiency with other nodes | MIT | - | - |
| Bologna | Italy | BAC, MED, SCMED | Big Data Analysis | MIT | - | - |
| Bologna | Italy | BAC, MED, SCMED | Augmented Reality | MIT | - | - |
| Bologna | Italy | BAC, MED, SCMED | Robotics and Autonomy | ME | - | - |
| Bologna | Italy | BAC, MED, SCMED | Cyber-Security for advanced technology networks | MIT | - | - |
| Maribor Tezno | Slovenia | BAC, MED | Expansion of the working area for 20 m width which will be used to deploy the containers | MI | - | - |



| Logistic facility | Country | TEN-T Corridor | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|-----------------------|------------------------|----------------|--|------------------|----------------------|----------------------|
| Ljubljana – Moste | Slovenia | BAC, MED | The need for a new line is also clear in the central part of Slovenia, where freight traffic could reach over 200 trains a day | MLM | MRA | ITLM3-RA |
| Ljubljana – Moste | Slovenia | BAC, MED | Road bypass of the Ljubljana railway hub | MLM | MRO | ITLM5-RO |
| Vrapče, Zagreb | Croatia | MED | - | - | - | - |
| Agit d.o.o. | Croatia | MED | - | - | - | - |
| Adria Terminal Sežana | Slovenia | BAC, MED | Need to develop a bigger and modern logistic centre in Sežana. To achieve this purpose, there are plans to build a car and container terminal, a multistore warehouse, and multipurpose warehouse for additional cargo | MI | - | - |
| JP Luka Brčko | Bosnia and Herzegovina | RDAN | - | - | - | - |
| Pristina | Kosovo | OEM | - | - | - | - |
| Smederevo | Serbia | OEM | The New Port must be connected with HBIS by rail | MLM | MRA | ITLM7-RA |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 36 Identification of proposed Measures / Solutions by Road Network

| Country | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|------------------------|---|------------------|----------------------|----------------------|
| Albania | Ensure the implementation of the cross-border agreement with Montenegro as part of the Adriatic-Ionian highway project | - | - | - |
| Albania | Reduce border crossing times and procedures by establishing joint road BCPs following the principle of Single Window applied to the Muriqan-Sukobin BCP to all existing and planned road BCPs | MOA | - | - |
| Albania | Build dedicated parking infrastructure in BCPs in order to speed up border crossing procedures for trucks and buses | MI | - | - |
| Albania | According to the “Strategic framework for implementation of ITS on TEN-T Core/ Comprehensive Network on the WB6” (CONNECTA, 2018), Albania approved the national Transport Sector Strategy 2016-2020 in November 2016, in which priority actions are included regarding the deployment of ITS | - | - | - |
| Albania | Build dedicated parking infrastructure in BCPs in order to speed up border crossing procedures for trucks and buses. | MI | - | - |
| Bosnia and Herzegovina | There were plans to introduce ITS on the existing motorway section form Gradiska - Banja Luka, while another control centre is completed in Doboј | MTEL | - | - |
| North Macedonia | The deployment of ITS along the road network is included in the new Transport Strategy | MTEL | - | - |
| North Macedonia | Reconstruction of road section between Demir Kapija and Udovo | MI | - | - |
| North Macedonia | Rehabilitation of the road sections between Jumanovo and Miladinovci | MI | - | - |
| North Macedonia | Construction of road section Skopje-Kosovo border | MI | - | - |
| North Macedonia | Implementation of ITS on Road Corridor X | MTEL | - | - |
| Greece | - | - | - | - |
| Italy | Priority Area 2: AP1 (Development of ITS services for multimodal logistics), AP5 (Continuity of services along the borders) | MTEL | - | - |
| Italy | Priority Area 3: AP2 (Implementation of safe and secure parking places for trucks and commercial vehicles), AP6 (Nationwide deployment of ITS for long freight transport control), AP7 (ITS solutions for managing and monitoring of dangerous goods transport) | MTEL | - | - |
| Montenegro | The new Transport Development Strategy Report for Montenegro (November 2017) defines ITS as one of its priority areas. ITS is identified as one of the four priority areas for infrastructure, where the expected outcomes are upgraded services to users, advanced monitoring and management of network operations and performance and safety improvement with infrastructural measures, such as installation of ITS equipment (VMS, dynamic signage, WIM stations), installation of integrated system for monitoring and information provision of interurban public transport | MTEL | - | - |
| Montenegro | Completion of Road Route 4, section Matesevo-Andrijeva | MI | - | - |
| Montenegro | Construction of bypass Podgorica (Capital-Smokovac-Farmacі) | MI | - | - |
| Montenegro | Route 4: Highway Bar-Boljare, section Matesevo-Podgorica (Smokovac) | MI | - | - |
| Montenegro | Route 4: Highway Bar-Boljare-section Djurmani-Farmacі | MI | - | - |



| Country | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|------------|--|------------------|----------------------|----------------------|
| Montenegro | Route 4: Highway Bar-Boljare-section Andrijevica-Boljare | MI | - | - |
| Serbia | Introduction of ITS systems on 220km of section Belgrade - Nis has been planned | MTEL | - | - |
| Serbia | Completion of Belgrade bypass, Sector 6: Strazevica-Bubank Potok | MI | - | - |
| Serbia | Reconstruction and upgrade of road section between Ostruznica and Strazevica (Sectors 4 and 5) | MI | - | - |
| Serbia | Construction of road section between Grdelica and Presevo | MI | - | - |
| Serbia | Pozega-Boljare road (border with MNE) | MI | - | - |
| Serbia | Construction of the road sections Pozega-Belgrade | MI | - | - |
| Serbia | Construction of highway section Merdare-Kursumlija-Prokuplje bypass-Merosina-Nis | MI | - | - |
| Kosovo | There are plans to introduce ITS on two Core Network Routes: 6 (Pristina - Hani I Elezit) and 7 (Besli - Morine) | MTEL | - | - |
| Kosovo | Construction of the road section Prishtine/ Pristina border with NMK | MI | - | - |
| Kosovo | Construction of the motorway section Prishtine/ Pristina-Merdare | MI | - | - |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 37 Identification of proposed Measures / Solutions by Rail Network

| Country | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|------------------------|---|------------------|----------------------|----------------------|
| Albania | The railway strategy reforms implementation for establishing the new railway bodies, opening rail market in the TEN-T corridor and RFCs rail freight corridors | n.a. | - | - |
| Albania | The railway strategy reforms implementation for planning deployment of the ITS/ ERTMS in the TEN-T corridor and RFCs rail freight corridors | n.a. | - | - |
| Albania | There are a number of designs, mostly feasibility studies and preliminary designs (one of which has been completed and three are under elaboration) for existing alignments as well as future alignments that would complete the western arm of Corridor VIII, and all entail the use of ERTMS Level 1. This is the only signalling system planned in Albania at the moment, and no other systems were considered | MTEL | - | RANTEL1 |
| Bosnia and Herzegovina | - | - | - | - |
| North Macedonia | Reconstruction of the railway section along the corridor X Dracevo - Veles | MI | - | - |
| North Macedonia | Rehabilitation and modernization of the railway section along Corridor X Tabanovci-Dracevo | MI | - | - |
| North Macedonia | Rehabilitation and modernization of the railway section along Corridor X Veles-Gevgelija | MI | - | - |
| Greece | Construction of new deviation of the existing line Thessaloniki-Idomeni | MI | - | - |
| Greece | Installation of ECTS level 1 in Thessaloniki-Polikastro | MTEL | - | - |
| Greece | Installation of GSM-R in Thessaloniki-Idomeni | MTEL | - | - |
| Italy | According to an article published in International Railway Journal by Sue Morant in March 1st 2018 , CEO of Italian Rail Network, ERTMS/ ECTS High Density was going to be installed by June 2018 on lines in the urban nodes of Milan, Florence and Rome (50km) and later the system will be extended to other main nodes in Italy, namely Naples, Turin, Bologna and Genoa. | MTEL | - | - |
| Italy | Additionally, two signalling initiatives were underway for use on secondary and low0-traffic lines (ECTS Level 3 Regional signalling system and Ersat EAV system for secondary low-traffic conventional lines) so that ERTMS will be possible to interface and integrate with the Galileo satellite navigation and positioning technology. | MTEL | - | - |
| Italy | The competition of the rail terminal of the so called “gronda nord” (north drainpipe, composed of the rail terminals located in the northern Italy: Novara, Busto Arsizio, Melzo, Segrete, Verona, Padua) together with the rail terminals of the Emilia Romagna Region. The lack of the infrastructures referred to in the previous question would allow to lower that line (gronda) till Bologna | MI | - | - |
| Italy | Lack of infrastructure expected based on the “Cura del ferro” established by the previous Government. These are the high profile PC80/P400 on the rail lines Milano-Bologna and on the Adriatic one | MI | - | - |
| Montenegro | There is a plan for interstate alignment Podgorica - Vlore; the Montenegrin side of the section will be equipped with ERTMS Level 1 | MTEL | - | - |
| Montenegro | Montenegro is also inconsistent, in the sense that one of its primary needs is cross border compatibility | MOA | - | - |



| Country | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|------------|--|------------------|----------------------|----------------------|
| Montenegro | Reconstruction and Modernization Railway Line (Belgrade) - Vrbnica - Bar 1) Rehabilitation of Train Track (superstructure), Culverts, Regulation of watercourse, reconstruction of steel bridges 2) Rehabilitation of Slopes 3) Rehabilitation of landslides, tunnels, concrete bridges and electrical works | MI | - | RANI1 |
| Serbia | On the railway line Belgrade - Subotica - border, implementation of ECTS Level 2 is planned | MTEL | - | - |
| Serbia | On the railway line Belgrade - Subotica - border, building, modernization and reconstruction of the double-track railway line | MI | - | - |
| Serbia | An ERTMS Deployment Strategy is underway | MTEL | - | RANTEL4 |
| Serbia | Modernisation of the Nis-Presevo (border with NMK) railway line | MI | - | - |
| Serbia | Reconstruction, modernization and construction of the second track on the section Stalac-Djunis of the railway line Belgrade-Nis | MI | - | - |
| Serbia | Modernisation for the contemporary double track traffic of the single track section of the railway line Resnik-Klenje-Mali Pozarevac-Velika Plana | MI | - | - |
| Serbia | Modernisation and reconstruction of the Railway Line Velika Plana-Stalac | MI | - | - |
| Serbia | Reconstruction and modernization of the railway line Novi Sad-Subotica-border with Hungary (Kelebija) | MI | - | - |
| Serbia | Reconstruction and modernization of the railway line Stalac-Kraljevo-Rudnica | MI | - | - |
| Kosovo | General rehabilitation of Railway Route 10 (admin. Line with Serbia Leshak-Fushe-Kosove-Hani i Elezit-Border with NMK) | MI | - | - |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 38 Identification of proposed Measures / Solutions by IWW Network

| Country | Proposed Measures | ID Category Code | ID Sub-category Code | Addressed Problem(s) |
|------------------------|--|------------------|----------------------|----------------------|
| Bosnia and Herzegovina | The country has signed along with the other countries of the Sava region, a Framework Agreement in which declares her commitment to prepare a River Information System, as IT System along the Sava navigation path | MTEL | - | IWTEL1 |
| Serbia | The RIS in Serbia is expected to be upgraded with the implementation of the navigation monitoring system on the Danube River (AtoNs - Aids to Navigation), the deployment of shore-based Radar Surveillance System alongside the “blue borders” in order to achieve higher navigation safety and better control to the navigation transport, traffic, border control, people and goods flows. This surveillance system must be combined with AIS based tracking and tracing system, so that a clear overview of all activities in the border stretches to be achieved. | MTEL | - | - |
| Croatia | A second research project under the acronym RIS COMEX (RIS Corridor Management Execution) was launched in 2016 and it will last until the end of 2020. RIS COMEX is a CEF funded multi-Beneficiary project aiming at the definition, specification, implementation and sustainable operation of Corridor RIS Services following the results of the CoRISMa study. In this project, Agency for Inland Waterways of Croatia participates as a partner. Among the main objectives of the project, is the development of harmonized River Information Services for inclusion in the DINA initiative that will bring RIS one step further to integration with other transport modes | MTEL | - | - |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 39 Identification of adopted Measures / Solutions by Maritime Port nodes

| Maritime Port | Country | TEN-T Corridor | ICT Tools and applications | ID Category Code |
|---------------|---------|----------------|---|------------------|
| Durrës | Albania | MED | - | - |
| Igoumenitsa | Greece | OEM | Port Community System | AMIT |
| Igoumenitsa | Greece | OEM | Wireless communication technologies (smart mobile phones, QR codes, RFID and telematics tracking) | AMIT |
| Patras | Greece | OEM | Port Community System | AMIT |
| Patras | Greece | OEM | Cyber-Security for advanced technology networks | AMIT |
| Piraeus | Greece | OEM | Port Community System | AMIT |
| Piraeus | Greece | OEM | Cloud Computing | AMIT |
| Piraeus | Greece | OEM | Wireless communication technologies (smart mobile phones, QR codes, RFID and telematics tracking) | AMIT |
| Piraeus | Greece | OEM | Big Data Analysis | AMIT |
| Piraeus | Greece | OEM | Cyber-Security for advanced technology networks | AMIT |
| Rijeka | Croatia | MED | Wireless communication technologies (smart mobile phones, QR codes, RFID and telematics tracking) | AMIT |
| Rijeka | Croatia | MED | Cyber-Security for advanced technology networks | AMIT |
| Thessaloniki | Greece | OEM | Port Community System | AMIT |
| Thessaloniki | Greece | OEM | Big Data Analysis | AMIT |
| Thessaloniki | Greece | OEM | Robotics and Autonomy | AME |
| Thessaloniki | Greece | OEM | Cyber-Security for advanced technology networks | AMIT |
| Trieste | Italy | BAC, MED | Single Window | AMIT |
| Trieste | Italy | BAC, MED | Port Community System | AMIT |
| Trieste | Italy | BAC, MED | Cloud Computing | AMIT |
| Trieste | Italy | BAC, MED | Wireless communication technologies (smart mobile phones, QR codes, RFID and telematics tracking) | AMIT |
| Trieste | Italy | BAC, MED | Internet of Things | AMIT |
| Venezia | Italy | BAC, MED | Single Window | AMIT |
| Venezia | Italy | BAC, MED | Port Community System | AMIT |
| Venezia | Italy | BAC, MED | Cloud Computing | AMIT |
| Venezia | Italy | BAC, MED | Wireless communication technologies (smart mobile phones, QR codes, RFID and telematics tracking) | AMIT |
| Venezia | Italy | BAC, MED | Internet of Things | AMIT |
| Venezia | Italy | BAC, MED | Big Data Analysis | AMIT |
| Venezia | Italy | BAC, MED | Cyber-Security for advanced technology networks | AMIT |
| Ploče | Croatia | MED | Single Window | AMIT |
| Ploče | Croatia | MED | Port Community System | AMIT |
| Ploče | Croatia | MED | Cloud Computing | AMIT |



| Maritime Port | Country | TEN-T Corridor | ICT Tools and applications | ID Category Code |
|---------------|------------|----------------|---|------------------|
| Ploče | Croatia | MED | Cyber-Security for advanced technology networks | AMIT |
| Ploče | Croatia | MED | Wireless communication technologies (smart mobile phones, QR codes, RFID and telematics tracking) | AMIT |
| Bar | Montenegro | MED, OEM | Port Community System | AMIT |
| Ravenna | Italy | BAC, MED | Port Community System | AMIT |
| Ravenna | Italy | BAC, MED | Cloud Computing | AMIT |
| Ravenna | Italy | BAC, MED | Wireless communication technologies (smart mobile phones, QR codes, RFID and telematics tracking) | AMIT |
| Ravenna | Italy | BAC, MED | Cyber-Security for advanced technology networks | AMIT |
| Vlore | Albania | MED | Port Community System | AMIT |
| Vlore | Albania | MED | Cloud Computing | AMIT |
| Vlore | Albania | MED | Big Data Analysis | AMIT |
| Vlore | Albania | MED | Cyber-Security for advanced technology networks | AMIT |
| Koper | Slovenia | BAC, MED | Port Community System | AMIT |
| Koper | Slovenia | BAC, MED | Single Window | AMIT |
| Koper | Slovenia | BAC, MED | Cloud Computing | AMIT |
| Koper | Slovenia | BAC, MED | Wireless communication technologies (smart mobile phones, QR codes, RFID and telematics tracking) | AMIT |
| Koper | Slovenia | BAC, MED | Big Data Analysis | AMIT |
| Koper | Slovenia | BAC, MED | Cyber-Security for advanced technology networks | AMIT |
| Koper | Slovenia | BAC, MED | ACAR system | AMIT |
| Koper | Slovenia | BAC, MED | VBS (Vehicle Booking System) | AMIT |
| Koper | Slovenia | BAC, MED | VGM self-service | AMIT |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 40 Identification of adopted Measures / Solutions by Road BCP nodes

| Road BCP | Country | TEN-T Corridor | ICT Tools and applications | ID Category Code |
|-------------------|-----------------|----------------|--|------------------|
| Bogorodica | North Macedonia | OEM | Weighbridge | AME |
| Bogorodica | North Macedonia | OEM | Equipment for phytosanitary and veterinary inspections | AME |
| Bogorodica | North Macedonia | OEM | Plate recognition system | AMIT |
| Bogorodica | North Macedonia | OEM | Radiological inspection equipment | AME |
| Blace | North Macedonia | OEM | Weighbridge | AME |
| Blace | North Macedonia | OEM | Equipment for phytosanitary and veterinary inspections | AME |
| Blace | North Macedonia | OEM | Radiological inspection equipment | AME |
| Dobrakovo | Montenegro | OEM | Customs information system is installed and operating along with the required hardware and communication equipment | AMIT |
| Evzonoj | Greece | OEM | Weighbridge | AME |
| Evzonoj | Greece | OEM | Monitoring equipment (CCTV) | AMIT |
| Evzonoj | Greece | OEM | Tracing means | AMIT |
| Promachonas | Greece | OEM | X-Ray scanner | AME |
| Promachonas | Greece | OEM | Weighbridge | AME |
| Gostun | Serbia | OEM | Equipment for phytosanitary and veterinary inspections | AME |
| Horgos | Hungary | OEM | Mobile X-Ray scanner | AME |
| Horgos | Hungary | OEM | Constant internet connection with Central Custom Offices | AMU |
| Horgos | Hungary | OEM | Monitoring equipment (CCTV) | AMIT |
| Hani i Hotit | Albania | OEM | Weighbridge | AME |
| Hani i Hotit | Albania | OEM | Mobile devices for radiological inspection | AME |
| Merdare | Serbia/Kosovo | OEM | The station is equipped with phytosanitary inspection, veterinary inspection and radiological inspection equipment | AME |
| Presevo | Serbia | OEM | X-Ray scanner | AME |
| Presevo | Serbia | OEM | Weighbridge | AME |
| Presevo | Serbia | OEM | Equipment for phytosanitary control | AME |
| Tabanovce | North Macedonia | OEM | Weighbridge | AME |
| Tabanovce | North Macedonia | OEM | Phytosanitary, veterinary and radiological inspection equipment | AME |
| Tabanovce | North Macedonia | OEM | Plate recognition system | AMIT |
| Lipovac/ Bajakovo | Croatia | OEM | License Plate Recognition system | AMIT |
| Lipovac/ Bajakovo | Croatia | OEM | Enhanced ICT facility to allow use of Advance Notification | AMIT |
| Lipovac/ Bajakovo | Croatia | OEM | Equipment for phytosanitary and veterinary inspections | AME |
| Lipovac/ Bajakovo | Croatia | OEM | Weighbridge | AME |



| Road BCP | Country | TEN-T Corridor | ICT Tools and applications | ID Category Code |
|-------------------|------------------------|----------------|--|------------------|
| Lipovac/ Bajakovo | Croatia | OEM | The station is linked with the Central Custom Offices via internet and the communication with the neighbouring station is limited to meetings few times per year | AMU |
| Lipovac/ Bajakovo | Croatia | OEM | X-Ray scanner | AME |
| Lipovac/ Bajakovo | Croatia | OEM | The station has adopted the electronic custom policy, through which all custom declarations are submitted electronically | AMOA |
| Obrežje | Slovenia | MED | - | - |
| Batrovci | Serbia | MED | X-Ray scanner | AME |
| Batrovci | Serbia | MED | Weighbridge | AME |
| Batrovci | Serbia | MED | The station is linked to the Central Custom Offices and also there is regular communication with the authorities of the neighbouring BCP | AMU |
| Batrovci | Serbia | MED | Usage of tidal lanes allows operational flexibility to add capacity | AME |
| Bosanski Samac | Bosnia and Herzegovina | MED | Equipment for phytosanitary inspections | AME |
| Bosanski Samac | Bosnia and Herzegovina | MED | Weighbridge | AME |
| Bosanski Samac | Bosnia and Herzegovina | MED | Monitoring equipment (CCTV) | AMIT |
| Bregana | Croatia | MED | X-Ray scanner | AME |
| Bregana | Croatia | MED | Weighbridge | AME |
| Bregana | Croatia | MED | The BCP provides services of the so called “Green Lanes” for the passenger vehicles | AME |
| Debeli Brijeg | Montenegro | MED | Equipment for phytosanitary and veterinary inspections | AME |
| Debeli Brijeg | Montenegro | MED | Tracing means | AMIT |
| Debeli Brijeg | Montenegro | MED | Monitoring equipment (CCTV) | AMIT |
| Debeli Brijeg | Montenegro | MED | The station supports the usage of standardized international documents through the electronic custom platform | AMOA |
| Debeli Brijeg | Montenegro | MED | One-stop-shop policy is supported | AMIT |
| Debeli Brijeg | Montenegro | MED | Electronic Single Window for Trade is supported | AMIT |
| Gorican | Croatia | MED | Equipment for phytosanitary and veterinary inspections | AME |
| Gorican | Croatia | MED | Weighbridge | AME |
| Gorican | Croatia | MED | X-Ray scanner | AME |
| Gorican | Croatia | MED | At the BCP “Green lanes” are installed | AME |
| Kakavia | Greece | MED | Equipment for veterinary inspections | AME |
| Kakavia | Greece | MED | X-Ray scanner | AME |
| Kakavia | Greece | MED | Weighbridge | AME |
| Kakavia | Greece | MED | Tracing means | AMIT |



| Road BCP | Country | TEN-T Corridor | ICT Tools and applications | ID Category Code |
|------------|------------------------|----------------|--|------------------|
| Kakavia | Greece | MED | The station is linked to the Central Custom Offices but there is no communication with the Authorities of the neighbouring station in Albania | AMU |
| Karasovici | Croatia | MED | Equipment for phytosanitary and veterinary inspections | AME |
| Karasovici | Croatia | MED | Weighbridge | AME |
| Karasovici | Croatia | MED | Monitoring equipment (CCTV) | AMIT |
| Karasovici | Croatia | MED | The station is linked to the Central Custom Offices and there is regular communication with the Authorities of the neighbouring BCP | AMU |
| Karasovici | Croatia | MED | The Trade Facilitation measure undertaken at the station concern the existence of Authorized Economic Operator (AEO) as well as Electronic Customs. As a result, all Customs Declarations can be submitted electronically | AMOA |
| Klek | Croatia | MED | Weighbridge | AME |
| Klek | Croatia | MED | The available trade facilitations at the station concern the Authorized Economic Operator, binding rulings, electronic customs, clearance of dry ports and/ or importers' premises and the usage of only standardized international documents. As a result, all custom declarations can be submitted electronically including the T2L procedure | AMOA |
| Klek | Croatia | MED | The station is linked to the Central Custom Offices and moreover the authorities have established regular communication with the authorities of the neighbouring BCP | AMU |
| Klek | Croatia | MED | - | - |
| Metkovic | Croatia | MED | Equipment for phytosanitary and veterinary inspections | AME |
| Metkovic | Croatia | MED | Weighbridge | AME |
| Metkovic | Croatia | MED | Monitoring equipment (CCTV) | AMIT |
| Metkovic | Croatia | MED | The available trade facilitations at the station concern the Authorized Economic Operator, binding rulings, electronic customs, clearance of dry ports and/ or importers' premises and the usage of only standardized international documents. As a result, all custom declarations can be submitted electronically including supporting documents | AMOA |
| Metkovic | Croatia | MED | The station is linked to the Central Custom Offices and also there is regular communication with the authorities of the neighbouring BCP | AMU |
| Neum I NW | Bosnia and Herzegovina | MED | Weighbridge | AME |
| Neum II SE | Bosnia and Herzegovina | MED | Weighbridge | AME |
| Zupanja | Croatia | MED | Weighbridge | AME |



| Road BCP | Country | TEN-T Corridor | ICT Tools and applications | ID Category Code |
|-------------|------------------------|----------------|--|------------------|
| Zupanja | Croatia | MED | Monitoring equipment (CCTV) | AMIT |
| Zupanja | Croatia | MED | The available trade facilitations at the station concern the Authorized Economic Operator, binding rulings, electronic customs, clearance of dry ports and/ or importers' premises and the usage of only standardized international documents. As a result, all custom declarations can be submitted electronically including supporting documents | AMOA |
| Zupanja | Croatia | MED | The station is linked to the Central Custom Offices and also there is regular communication with the authorities of the neighbouring BCP | AMU |
| Zatoni Doli | Croatia | MED | Weighbridge | AME |
| Zatoni Doli | Croatia | MED | Monitoring equipment (CCTV) | AMIT |
| Zatoni Doli | Croatia | MED | Custom declarations can be electronically submitted | AMOA |
| Bijaca | Bosnia and Herzegovina | MED | Equipment for phytosanitary and veterinary inspections | AME |
| Bijaca | Bosnia and Herzegovina | MED | Weighbridge | AME |
| Bijaca | Bosnia and Herzegovina | MED | Monitoring equipment (CCTV) | AMIT |
| Bijaca | Bosnia and Herzegovina | MED | The available trade facilitations at the station concern the Authorized Economic Operator and the usage of only standardized international documents | AMOA |
| Bijaca | Bosnia and Herzegovina | MED | The one-stop-shop police is supported and implemented | AMIT |
| Bijaca | Bosnia and Herzegovina | MED | The station is linked with the Central Custom Offices and there is regular communication with the authorities of the neighbouring BCP | AMU |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 41 Identification of adopted Measures / Solutions by Rail BCP nodes

| Rail BCP | Country | TEN-T Corridor | ICT Tools and applications | ID Category Code |
|------------------------|------------------------|----------------|--|------------------|
| Idomeni | Greece | OEM | The station is linked to the Central Custom Offices via internet, although the custom authorities have no communication of any kind with the authorities of the neighbouring station | AMU |
| Ristovac/ Presevo | Serbia | OEM | Constant internet | AMU |
| Ristovac/ Presevo | Serbia | OEM | Connection with Central Custom Offices | AMU |
| Ristovac/ Presevo | Serbia | OEM | X-Ray scanner | AME |
| Ristovac/ Presevo | Serbia | OEM | Weighbridge | AME |
| Ristovac/ Presevo | Serbia | OEM | Equipment for phytosanitary inspections | AME |
| Ristovac/ Presevo | Serbia | OEM | Radioactivity control equipment | AME |
| Sid | Serbia | OEM | Equipment for phytosanitary and veterinary inspections | AME |
| Tovarnik | Croatia | OEM | - | - |
| Vrbnica | Serbia | OEM | - | - |
| Bajza | Albania | MED | Internet connection is already provided by ZICG infrastructure | AMU |
| Bajza | Albania | MED | SEED + of customs system is operational between them both | AMIT |
| Bajza | Albania | MED | Despite EDI approved for programming it is not incorporated in MTBF 1st rev | n.a. |
| Bajza | Albania | MED | Finalization of ConnectA sub-project on establishing the ICT for the WB6 | n.a. |
| Bajza | Albania | MED | In OCT 2018 for 135,000 might apply through IPA | n.a. |
| Bajza | Albania | MED | Equipment for phytosanitary inspections | AME |
| Tuzi (Railway Station) | Montenegro | MED | - | - |
| Bosanski Samac | Bosnia and Herzegovina | MED | Phytosanitary agent provides services when required | AMOA |
| Bosanski Samac | Bosnia and Herzegovina | MED | Radioactivity control equipment | AME |
| Bosanski Samac | Bosnia and Herzegovina | MED | The station is linked to the Central Custom Offices and also there is regular communication with the authorities of the neighbouring BCP | AMU |
| Capljina | Bosnia and Herzegovina | MED | Radioactivity control equipment | AME |
| Capljina | Bosnia and Herzegovina | MED | The station is linked to the Central Custom Offices and also there is regular communication with the authorities of the neighbouring BCP | AMU |
| Dobova | Slovenia | MED | - | - |
| Subotica | Serbia | OEM | Equipment for phytosanitary and veterinary inspections | AME |
| Subotica | Serbia | OEM | Radioactivity control equipment | AME |
| Bijelo Polje | Montenegro | OEM | - | - |
| Metkovic | Croatia | MED | Equipment for phytosanitary and veterinary inspections | AME |
| Metkovic | Croatia | MED | The station is linked with the Central Custom Offices with regular communication with the authorities of the neighbouring BCP | AMU |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 42 Identification of adopted Measures / Solutions by IWW port nodes

| IWW Port | Country | TEN-T Corridor | ICT Tools and applications | ID Category Code |
|--|------------------------|----------------|----------------------------|------------------|
| Slavonski Brod | Croatia | MED, RDAN | - | - |
| Vukovar | Croatia | RDAN | - | - |
| Brčko | Bosnia and Herzegovina | RDAN | - | - |
| Northern Italy Waterway System consisting of the river PO and its connecting canals (Section Milano-Cremona-Mantova-Venezia-Ravenna-Trieste along the Mediterranean Core Network Corridor) | Italy | MED | - | - |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 43 Identification of adopted Measures / Solutions by Logistic Facility node

| Logistic facility | Country | TEN-T Corridor | ICT Tools and applications | ID Category Code |
|-----------------------|------------------------|-----------------|--|------------------|
| Padova | Italy | BAC, MED | Wireless communication technologies (smart mobile phones, QR codes, RFID and telematics tracking) | AMIT |
| Padova | Italy | BAC, MED | Cloud Computing | AMIT |
| Padova | Italy | BAC, MED | Internet of Things | AMIT |
| Padova | Italy | BAC, MED | Gate automation and traffic management within the port to optimise intermodal loading and unloading of containers | AMIT |
| Padova | Italy | BAC, MED | Implemented with disaster recovery and business continuity projects | AMIT |
| Trieste | Italy | BAC, MED | Port Community System | AMIT |
| Trieste | Italy | BAC, MED | Free circulation by rail between free zones (Manifesto Merci Treno (CH30)) | AMOA |
| Trieste | Italy | BAC, MED | Free circulation by road between free zones | AMOA |
| Trieste | Italy | BAC, MED | Gate Automation | AME |
| Trieste | Italy | BAC, MED | Deployment of cooperative intelligent transport systems applied to logistics, especially multimodal cargo | AMIT |
| Trieste | Italy | BAC, MED | AEOLIX: Optimization of the custom procedures | AMOA |
| Trieste | Italy | BAC, MED | Cloud Computing | AMIT |
| Trieste | Italy | BAC, MED | Wireless communication technologies (smart mobile phones, QR codes, RFID and telematics tracking) | AMIT |
| Trieste | Italy | BAC, MED | Internet of Things | AMIT |
| Trieste | Italy | BAC, MED | Big Data Analysis | AMIT |
| Bologna | Italy | BAC, MED, SCMED | Cloud Computing | AMIT |
| Bologna | Italy | BAC, MED, SCMED | Wireless communication technologies (smart mobile phones, QR codes, RFID and telematics tracking) | AMIT |
| Bologna | Italy | BAC, MED, SCMED | Internet of Things | AMIT |
| Maribor Tezno | Slovenia | BAC, MED | - | - |
| Ljubljana - Moste | Slovenia | BAC, MED | Wireless communication technologies (smart mobile phones, QR codes, RFID and telematics tracking) | AMIT |
| Vrapče, Zagreb | Croatia | MED | - | - |
| Agit d.o.o. | Croatia | MED | - | - |
| Adria Terminal Sežana | Slovenia | BAC, MED | Wireless communication technologies (smart mobile phones, QR codes, RFID and telematics tracking) | AMIT |
| JP Luka Brčko | Bosnia and Herzegovina | RDAN | - | - |
| Pristina | Kosovo | OEM | All procedures are automated | AME |
| Pristina | Kosovo | OEM | The terminal exchanges information with the BCPs of the country through official forms, Outlook, AW system, SEED system as well as active official communications through official lines | AMIT |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 44 Identification of adopted Measures / Solutions by road network

| Country | ICT Tools and applications | ID Category Code |
|------------------------|---|------------------|
| Albania | 43 policies (Priority Actions) were identified in order to define a solid National Transport Strategy and Action Plan | - |
| Albania | According to the “Strategic framework for implementation of ITS on TEN-T Core/ Comprehensive Network on the WB6” (CONNECTA, 2018), Albania approved the national Transport Sector Strategy 2016-2020 in November 2016, in which priority actions are included regarding the deployment of ITS. | - |
| Bosnia and Herzegovina | ITS has been deployed on several newly built motorway sections on Corridor Vc in the length of 52 km. ITS is being managed from two control centres and one smaller intervention control centre for the section Sarajevo North - Sarajevo South. ITS is under 24h surveillance from at least one control centre, with strictly defined rules on the traffic management. ITS on the deployed sections is equipped with the following equipment: Remote tunnel monitoring and management system. WIS (Weather information system) with 12 weather stations installed. AID (automatic incident detection) - with approx. 400 cameras. System of radio diffusion which covers VHF, Tetra Ready, FM, 2G, 3G frequencies. Adaptable traffic signalling system. Telephone system, fire alerting system, ventilation system, tunnel audio system | AMTEL |
| Bosnia and Herzegovina | Overall, in Bosnia and Herzegovina the progress regarding strategic and legal documents is poor. However, ITS is deployed in some tunnels | AMTEL |
| North Macedonia | One ITS project was recorded concerning the introductions of communication-information system for traffic control and management on Corridor X, section Tabanovce - Gevgelija in the length of 175km | AMTEL |
| North Macedonia | The country has implemented The New Computerized Transit System (NCTS) | AMOA |
| Greece | Greece has already implemented a number of ITS projects mainly in the field of road transport and in large cities | AMTEL |
| Greece | PATHE (Patra - Athens - Thessaloniki - Evzonoi) Major Motorway implements ITS for traffic management and the provision of information. Other systems comprise for collection, vehicle detection and safety systems | AMTEL |
| Greece | Greek Interoperable Tolling System (GRITS) allowing the use of same transponder at all electronic toll lanes of the participating motorways, making the journey to Southern, Central and Northern Greece faster and easier | AMIT |
| Italy | - | - |
| Montenegro | In 2016, ITS have been deployed only in Tunnel Soniza and its access road on Route 4 | AMTEL |
| Serbia | ITS has been implemented only on some parts of Corridor X | AMTEL |
| Serbia | The latest achievement regarding ITS in Serbia is the adoption of a new law on roads (May 2018), where a definition of ITS system and interoperability is given, together with priority areas and actions. The law also defines tunnel safety advisor, toll collection and European Electronic Toll Collection and European Electronic Toll Service Provider. ETC and EETC systems have been introduced. Main elements from Directive 2010/40 have been adopted and this law establishes a legal framework for transposition of ITS Directive. A number of by-laws still needs to be drafted and adopted in order to achieve functional implementation | - |
| Kosovo | - | - |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 45 Identification of adopted Measures / Solutions by rail network

| Country | ICT Tools and applications | ID Category Code |
|------------------------|--|------------------|
| Albania | In 2017 the Tuzi joint railway station for common control procedure of all authorities of railways with Montenegro was opened and is now operational. | AMOA |
| Albania | Based on Action No. 4 of SEETO strategic Working Programme in 2017, RAILDATA and RNE systems were established | AMIT |
| Bosnia and Herzegovina | Current ITS is limited to optic fibre links (a section is being equipped with optic fibre and there is a General Design on Telecommunications). ERTMS was discussed several times over the years, but low understanding of the matter and severe limitations on the network resulted in dismissal of the idea every time it was considered. No ERTMS technical standards have been officially adopted; only the relevant EN standards, preconditions for ERTMS” | AMTEL |
| North Macedonia | Concerning rail network, Corridor X is equipped with optic fiber, SDH/ IP procedures and data transfer | AMTEL |
| North Macedonia | Track-side subsystems equipped with electro relay ALB and 30 stations equipped with electro relay interlocking exist | AME |
| North Macedonia | Along Corridor X a Traffic Management Centre for monitoring trains flows and managing operations (CTC) is installed | AMTEL |
| North Macedonia | In 2016 ECTS Level 1 deployment was ongoing on section of Corridor X, Bitola-Kremenica | AMTEL |
| North Macedonia | Regarding ITS deployment along the rail network in the country (CONNECTA, 2018): There is an existing optical fiber network. - A prefeasibility study on ERTMS and GSM-R has been assigned and was expected to be finalized in 2018. - There are ERTMS Designs on some sections of the network. - There is GSM-R legislation and frequency bands are reserved in order to be used. - Self-service ticketing machines are being installed and entering service | AMTEL |
| Greece | The train protection system installed in Greece is of ETCS Level 1 type and requires the prior existence of signalling along the line. The central traffic management (remote command) on the national network is performed by the Central Operators installed at the Traffic Control Centers | AMTEL |
| Italy | ERTMS or ECTS systems are deployed and operational along segments of the Italian rail network. ERTMS is mainly deployed on High Speed Lines of the Italian network | AMTEL |
| Montenegro | Optic fiber along Route 4 has been installed and in railway station Podgorica, ECTS Level 1 equipment was to be installed | AMTEL |
| Montenegro | Montenegro has a functional optic fibre network with no ring architecture/ redundancy, 60 fibres per cable and with more than 90% capacity unused due to low demand for current ITS services. Excess capacity is rented out | AMTEL |
| Serbia | - | - |
| Kosovo | Certain pre-conditions for ERTMS instalment exist. All railway stations and other official railway places are connected between themselves and with the central railway node in Fushe Kosove though an independent digital phone centre, which fulfils all criteria for communication and safety | AMTEL |
| Kosovo | The Kosovo Network statement states that the network is equipped with fibre optics. However, it does not detail the type of fibre optics and it is only used for telephony, so confirmation is needed in order to claim it as part of ITS | AMTEL |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 46 Identification of adopted Measures / Solutions by IWW network

| Country | ICT Tools and applications | ID Category Code |
|------------------------|--|------------------|
| Bosnia and Herzegovina | - | - |
| Serbia | River Information services have been deployed on the Danube River and Sava River in the country, consisting of sub-systems for tracking and tracing of vessels (18 base stations), notices to skippers, voyage planning, correction of GDP signal according to IALA standards, etc | AMTEL |
| Croatia | At the end of 2005 in the framework of research project CRORIS, started the phase of processing the full RIS system installation on Croatian international inland waterways. On the 18th of January 2006 first RIS centre in Vukovar was established and ever since Croatian sections of the Danube and Drava Rivers have been covered with the AIS signal | AMTEL |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 47 Number of Problems / Barriers related to Maritime Ports by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|--|----------|------------------------|-----------|----------|----------|----------|----------|------------|-----------------|----------|----------|-----------|
| IT | Deficiency of existing ICT technologies/solutions for the digitalisation of processes and system interoperability | 1 | - | 2 | - | - | - | - | - | - | - | 1 | 4 |
| OA | Inadequate staff number and competences, lengthy and paper-based procedures, long waiting times of intermodal and border crossing procedures | 1 | - | 3 | 1 | - | 3 | - | - | - | - | - | 8 |
| TEL | Lack or deficiency of the existing telematic applications for traffic management | 1 | - | - | - | - | - | - | - | - | - | - | 1 |
| U | Lack or poor conditions of the basic utilities, such as water, lit, telephone and internet | - | - | - | - | - | - | - | - | - | - | - | - |
| E | Lack of adequate equipment affecting the efficiency and effectiveness of processes at BCPs and transport nodes. This includes machinery, such as cranes weighbridges, x-ray scanners, etc... | - | - | - | - | - | - | - | - | - | - | - | - |
| LM | Deficiency in the last-mile and hinterland transport interconnecting system (both inside and outside the node area) | - | - | 4 | 6 | - | 4 | - | 2 | - | - | 4 | 20 |
| I | Need of major infrastructure works and/or minor investments to remove physical and technical barriers, affecting operations and capacity of the infrastructure | 2 | - | 4 | 2 | - | 2 | - | - | - | - | 2 | 12 |
| CF | Lack of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | 5 | - | 13 | 9 | - | 9 | - | 2 | - | - | 7 | 45 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 48 Number of Problems / Barriers related to Road BCP nodes by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|--|----------|------------------------|-----------|-----------|----------|----------|----------|------------|-----------------|-----------|----------|------------|
| IT | Deficiency of existing ICT technologies/solutions for the digitalisation of processes and system interoperability | - | - | 5 | 1 | 1 | - | - | - | 3 | 3 | - | 13 |
| OA | Inadequate staff number and competences, lengthy and paper-based procedures, long waiting times of intermodal and border crossing procedures | - | 8 | 16 | 8 | 3 | - | - | 1 | 1 | 9 | 1 | 47 |
| TEL | Lack or deficiency of the existing telematic applications for traffic management | - | - | - | - | - | - | - | - | - | - | - | - |
| U | Lack or poor conditions of the basic utilities, such as water, lit, telephone and internet | 1 | 5 | 5 | 3 | 1 | - | - | 1 | - | 2 | - | 18 |
| E | Lack of adequate equipment affecting the efficiency and effectiveness of processes at BCPs and transport nodes. This includes machinery, such as cranes weighbridges, x-ray scanners, etc... | 1 | 8 | 9 | 3 | 1 | - | - | 2 | 4 | 8 | - | 36 |
| LM | Deficiency in the last-mile and hinterland transport interconnecting system (both inside and outside the node area) | - | - | - | - | - | - | - | - | - | - | - | - |
| I | Need of major infrastructure works and/or minor investments to remove physical and technical barriers, affecting operations and capacity of the infrastructure | - | 5 | 7 | 2 | - | - | - | 2 | - | 4 | - | 20 |
| CF | Lack of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | 2 | 26 | 42 | 17 | 6 | - | - | 6 | 8 | 26 | 1 | 134 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 49 Number of Problems / Barriers related to Rail BCP nodes by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|--|-----------|------------------------|----------|----------|----------|----------|----------|------------|-----------------|-----------|----------|-----------|
| IT | Deficiency of existing ICT technologies/solutions for the digitalisation of processes and system interoperability | 5 | 2 | 2 | - | - | - | - | - | - | 4 | - | 13 |
| OA | Inadequate staff number and competences, lengthy and paper-based procedures, long waiting times of intermodal and border crossing procedures | 11 | 1 | 3 | 2 | - | - | - | - | - | 11 | - | 28 |
| TEL | Lack or deficiency of the existing telematic applications for traffic management | 1 | - | - | - | - | - | - | - | - | - | - | 1 |
| U | Lack or poor conditions of the basic utilities, such as water, lit, telephone and internet | 2 | 4 | - | 1 | - | - | - | 1 | - | 8 | - | 16 |
| E | Lack of adequate equipment affecting the efficiency and effectiveness of processes at BCPs and transport nodes. This includes machinery, such as cranes weighbridges, x-ray scanners, etc... | - | 2 | - | 2 | - | - | - | 1 | - | 2 | - | 7 |
| LM | Deficiency in the last-mile and hinterland transport interconnecting system (both inside and outside the node area) | - | - | - | - | - | - | - | - | - | - | - | - |
| I | Need of major infrastructure works and/or minor investments to remove physical and technical barriers, affecting operations and capacity of the infrastructure | - | 1 | 1 | - | - | - | - | - | - | 6 | 2 | 10 |
| CF | Lack of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | 19 | 10 | 6 | 5 | - | - | - | 2 | - | 31 | 2 | 75 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 50 Number of Problems / Barriers related to IWW port nodes by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|--|---------|------------------------|----------|--------|---------|-------|--------|------------|-----------------|--------|----------|----------|
| IT | Deficiency of existing ICT technologies/solutions for the digitalisation of processes and system interoperability | - | - | - | - | - | - | - | - | - | - | - | - |
| OA | Inadequate staff number and competences, lengthy and paper-based procedures, long waiting times of intermodal and border crossing procedures | - | 5 | - | - | - | - | - | - | - | - | - | 5 |
| TEL | Lack or deficiency of the existing telematic applications for traffic management | - | - | - | - | - | - | - | - | - | - | - | - |
| U | Lack or poor conditions of the basic utilities, such as water, lit, telephone and internet | - | - | - | - | - | - | - | - | - | - | - | - |
| E | Lack of adequate equipment affecting the efficiency and effectiveness of processes at BCPs and transport nodes. This includes machinery, such as cranes weighbridges, x-ray scanners, etc... | - | 1 | - | - | - | - | - | - | - | - | - | 1 |
| LM | Deficiency in the last-mile and hinterland transport interconnecting system (both inside and outside the node area) | - | - | - | - | - | - | - | - | - | - | - | - |
| I | Need of major infrastructure works and/or minor investments to remove physical and technical barriers, affecting operations and capacity of the infrastructure | - | 1 | 1 | - | - | - | - | - | - | - | - | 2 |
| CF | Lack of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | - | 7 | 1 | - | - | - | - | - | - | - | - | 8 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 51 Number of Problems / Barriers related to Logistic Facility nodes by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|--|---------|------------------------|----------|--------|---------|----------|--------|------------|-----------------|----------|----------|-----------|
| IT | Deficiency of existing ICT technologies/solutions for the digitalisation of processes and system interoperability | - | - | - | - | - | 1 | - | - | - | - | - | 1 |
| OA | Inadequate staff number and competences, lengthy and paper-based procedures, long waiting times of intermodal and border crossing procedures | - | - | 1 | - | - | - | - | - | - | 1 | 1 | 3 |
| TEL | Lack or deficiency of the existing telematic applications for traffic management | - | - | - | - | - | - | - | - | - | - | - | - |
| U | Lack or poor conditions of the basic utilities, such as water, lit, telephone and internet | - | - | - | - | - | - | - | - | - | - | - | - |
| E | Lack of adequate equipment affecting the efficiency and effectiveness of processes at BCPs and transport nodes. This includes machinery, such as cranes weighbridges, x-ray scanners, etc... | - | - | 3 | - | - | - | - | - | - | - | - | 3 |
| LM | Deficiency in the last-mile and hinterland transport interconnecting system (both inside and outside the node area) | - | - | - | - | - | 1 | - | - | - | 1 | 5 | 7 |
| I | Need of major infrastructure works and/or minor investments to remove physical and technical barriers, affecting operations and capacity of the infrastructure | - | - | - | - | - | - | - | - | - | - | - | - |
| CF | Lack of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | - | - | 4 | - | - | 2 | - | - | - | 2 | 6 | 14 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 52 Number of Problems / Barriers related to road network by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|--|---------|------------------------|---------|--------|---------|----------|--------|------------|-----------------|--------|----------|----------|
| IT | Deficiency of existing ICT technologies/solutions for the digitalisation of processes and system interoperability | - | - | - | - | - | - | - | - | - | - | - | - |
| OA | Inadequate staff number and competences, lengthy and paper-based procedures, long waiting times of intermodal and border crossing procedures | - | - | - | - | - | 2 | - | - | - | - | - | 2 |
| TEL | Lack or deficiency of the existing telematic applications for traffic management | - | - | - | - | - | - | - | - | - | - | - | - |
| U | Lack or poor conditions of the basic utilities, such as water, lit, telephone and internet | - | - | - | - | - | - | - | - | - | - | - | - |
| E | Lack of adequate equipment affecting the efficiency and effectiveness of processes at BCPs and transport nodes. This includes machinery, such as cranes weighbridges, x-ray scanners, etc... | - | - | - | - | - | - | - | - | - | - | - | - |
| LM | Deficiency in the last-mile and hinterland transport interconnecting system (both inside and outside the node area) | - | - | - | - | - | - | - | - | - | - | - | - |
| I | Need of major infrastructure works and/or minor investments to remove physical and technical barriers, affecting operations and capacity of the infrastructure | - | 1 | - | - | - | - | - | - | - | - | - | 1 |
| CF | Lack of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | - | 1 | - | - | - | 2 | - | - | - | - | - | 3 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 53 Identification of Problems / Barriers regarding the rail network by country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|--|----------|------------------------|----------|----------|----------|----------|----------|------------|-----------------|----------|----------|----------|
| IT | Deficiency of existing ICT technologies/solutions for the digitalisation of processes and system interoperability | - | - | - | - | - | - | - | - | - | - | - | - |
| OA | Inadequate staff number and competences, lengthy and paper-based procedures, long waiting times of intermodal and border crossing procedures | - | - | - | - | - | - | - | - | - | - | - | - |
| TEL | Lack or deficiency of the existing telematic applications for traffic management | 3 | - | - | - | - | - | 1 | - | - | 1 | - | 5 |
| U | Lack or poor conditions of the basic utilities, such as water, lit, telephone and internet | - | - | - | - | - | - | - | - | - | - | - | - |
| E | Lack of adequate equipment affecting the efficiency and effectiveness of processes at BCPs and transport nodes. This includes machinery, such as cranes weighbridges, x-ray scanners, etc... | - | - | - | - | - | - | - | - | - | - | - | - |
| LM | Deficiency in the last-mile and hinterland transport interconnecting system (both inside and outside the node area) | - | - | - | - | - | - | - | - | - | - | - | - |
| I | Need of major infrastructure works and/or minor investments to remove physical and technical barriers, affecting operations and capacity of the infrastructure | - | - | - | - | - | - | - | 3 | - | - | - | 3 |
| CF | Lack of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | 3 | - | - | - | - | - | 1 | 3 | - | 1 | - | 8 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 54 Number of Problems / Barriers related to IWW network by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|--|---------|------------------------|---------|--------|---------|-------|--------|------------|-----------------|--------|----------|----------|
| IT | Deficiency of existing ICT technologies/solutions for the digitalisation of processes and system interoperability | - | - | - | - | - | - | - | - | - | - | - | - |
| OA | Inadequate staff number and competences, lengthy and paper-based procedures, long waiting times of intermodal and border crossing procedures | - | - | - | - | - | - | - | - | - | - | - | - |
| TEL | Lack or deficiency of the existing telematic applications for traffic management | - | 1 | - | - | - | - | - | - | - | - | - | 1 |
| U | Lack or poor conditions of the basic utilities, such as water, lit, telephone and internet | - | - | - | - | - | - | - | - | - | - | - | - |
| E | Lack of adequate equipment affecting the efficiency and effectiveness of processes at BCPs and transport nodes. This includes machinery, such as cranes weighbridges, x-ray scanners, etc... | - | - | - | - | - | - | - | - | - | - | - | - |
| LM | Deficiency in the last-mile and hinterland transport interconnecting system (both inside and outside the node area) | - | - | - | - | - | - | - | - | - | - | - | - |
| I | Need of major infrastructure works and/or minor investments to remove physical and technical barriers, affecting operations and capacity of the infrastructure | - | - | - | - | - | - | - | - | - | - | - | - |
| CF | Lack of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | - | 1 | - | - | - | - | - | - | - | - | - | 1 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 55 Number of proposed Measures / Solutions related to Maritime Port nodes by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|----------|------------------------|-----------|-----------|----------|-----------|----------|------------|-----------------|----------|-----------|------------|
| MIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | 3 | - | 11 | 19 | - | 9 | - | 5 | - | - | 3 | 50 |
| MOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | - | - | 2 | - | - | - | - | - | - | - | 2 |
| MTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | 1 | - | - | - | - | - | - | - | - | - | - | 1 |
| MU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | - | - | - | - | - | - | - | - | - |
| ME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | 1 | - | 2 | - | - | 1 | - | - | - | - | 1 | 5 |
| MLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | 4 | - | - | 8 | - | 2 | - | - | 4 | 18 |
| MI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | 2 | - | 3 | 1 | - | 14 | - | - | - | - | 10 | 30 |
| MCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | 2 | - | - | - | - | - | 2 |
| | Total | 7 | - | 20 | 22 | - | 34 | - | 7 | - | - | 18 | 108 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 56 Number of proposed Measures / Solutions related to Road BCP nodes by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|----------|------------------------|----------|----------|----------|----------|----------|------------|-----------------|-----------|----------|-----------|
| MIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | 1 | 2 | 1 | 1 | 1 | - | - | - | 3 | 4 | - | 13 |
| MOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | - | 1 | - | - | - | - | - | - | 1 | - | 2 |
| MTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | - | - | - | - | - | - | - | - | - | - | - |
| MU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | - | - | - | - | - | - | - | - | - |
| ME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | - | - | 1 | - | - | - | - | - | - | 1 | - | 2 |
| MLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | - | - | - | - | - | - | - |
| MI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | - | - | 3 | 1 | - | - | - | - | - | 4 | - | 8 |
| MCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | 1 | 2 | 6 | 2 | 1 | - | - | - | 3 | 10 | - | 25 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 57 Number of proposed Measures / Solutions related to Rail BCP nodes by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|----------|------------------------|----------|----------|----------|----------|----------|------------|-----------------|----------|----------|----------|
| MIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | - | - | - | - | - | - | - | - | - | 2 | - | 2 |
| MOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | 1 | - | - | - | - | - | 1 | - | 1 | - | 3 |
| MTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | 1 | - | - | - | - | - | - | - | - | 1 | - | 2 |
| MU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | - | - | - | - | - | - | - | - | - |
| ME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | - | - | - | - | - | - | - | - | - | - | - | - |
| MLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | - | - | - | - | - | - | - |
| MI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | 1 | - | - | - | - | - | - | - | - | 1 | - | 2 |
| MCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | 2 | 1 | - | - | - | - | - | 1 | - | 5 | - | 9 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 58 Number of proposed Measures / Solutions related to IWW port nodes by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|---------|------------------------|----------|--------|---------|-------|--------|------------|-----------------|--------|----------|-----------|
| MIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | - | - | - | - | - | - | - | - | - | - | - | - |
| MOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | - | - | - | - | - | - | - | - | - | - | - |
| MTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | - | - | - | - | - | - | - | - | - | - | - |
| MU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | 1 | - | - | - | - | - | - | - | - | 1 |
| ME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | - | 1 | 1 | - | - | - | - | - | - | - | - | 2 |
| MLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | - | - | - | - | - | - | - |
| MI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | - | - | 7 | - | - | - | - | - | - | - | - | 7 |
| MCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | - | 1 | 9 | - | - | - | - | - | - | - | - | 10 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 59 Number of proposed Measures / Solutions related to Logistic Facility nodes by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|---------|------------------------|---------|--------|---------|-----------|--------|------------|-----------------|----------|----------|-----------|
| MIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | - | - | - | - | - | 5 | - | - | - | - | - | 5 |
| MOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | - | - | - | - | - | - | - | - | - | - | - |
| MTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | - | - | - | - | - | - | - | - | - | - | - |
| MU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | - | - | - | - | - | - | - | - | - |
| ME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | - | - | - | - | - | 2 | - | - | - | - | - | 2 |
| MLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | 2 | - | - | - | 1 | 2 | 5 |
| MI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | - | - | - | - | - | 1 | - | - | - | - | 2 | 3 |
| MCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | - | - | - | - | - | 10 | - | - | - | 1 | 4 | 15 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 60 Number of proposed Measures / Solutions related to road network by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|----------|------------------------|----------|----------|----------|----------|----------|------------|-----------------|----------|----------|-----------|
| MIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | - | - | - | - | - | - | - | - | - | - | - | - |
| MOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | 1 | - | - | - | - | - | - | - | - | - | - | 1 |
| MTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | 1 | - | - | - | 2 | 1 | 1 | 2 | 1 | - | 8 |
| MU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | - | - | - | - | - | - | - | - | - |
| ME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | - | - | - | - | - | - | - | - | - | - | - | - |
| MLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | - | - | - | - | - | - | - |
| MI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | 2 | - | - | - | - | - | 2 | 5 | 3 | 6 | - | 18 |
| MCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | 3 | 1 | - | - | - | 2 | 3 | 6 | 5 | 7 | - | 27 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 61 Number of proposed Measures / Solutions related to rail network by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|----------|------------------------|----------|----------|----------|----------|----------|------------|-----------------|----------|----------|-----------|
| MIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | - | - | - | - | - | - | - | - | - | - | - | - |
| MOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | - | - | - | - | - | - | 1 | - | - | - | 1 |
| MTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | 1 | - | - | 2 | - | 2 | - | 1 | - | 2 | - | 8 |
| MU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | - | - | - | - | - | - | - | - | - |
| ME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | - | - | - | - | - | - | - | - | - | - | - | - |
| MLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | - | - | - | - | - | - | - |
| MI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | - | - | - | 1 | - | 2 | 1 | 1 | 3 | 7 | - | 15 |
| MCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | 1 | - | - | 3 | - | 4 | 1 | 3 | 3 | 9 | - | 24 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 62 Number of proposed Measures / Solutions related to IWW network by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|---------|------------------------|----------|--------|---------|-------|--------|------------|-----------------|----------|----------|----------|
| MIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | - | - | - | - | - | - | - | - | - | - | - | - |
| MOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | - | - | - | - | - | - | - | - | - | - | - |
| MTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | 1 | 1 | - | - | - | - | - | - | 1 | - | 3 |
| MU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | - | - | - | - | - | - | - | - | - |
| ME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | - | - | - | - | - | - | - | - | - | - | - | - |
| MLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | - | - | - | - | - | - | - |
| MI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | - | - | - | - | - | - | - | - | - | - | - | - |
| MCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | - | 1 | 1 | - | - | - | - | - | - | 1 | - | 3 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 63 Number of adopted Measures / Solutions related to Maritime Port nodes by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|----------|------------------------|----------|-----------|----------|-----------|----------|------------|-----------------|----------|----------|-----------|
| AMIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | 4 | - | 7 | 12 | - | 16 | - | 1 | - | - | 9 | 49 |
| AMOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | - | - | - | - | - | - | - | - | - | - | - |
| AMTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | - | - | - | - | - | - | - | - | - | - | - |
| AMU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | - | - | - | - | - | - | - | - | - |
| AME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | - | - | - | 1 | - | - | - | - | - | - | - | 1 |
| AMLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | - | - | - | - | - | - | - |
| AMI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | - | - | - | - | - | - | - | - | - | - | - | - |
| AMCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | 4 | - | 7 | 13 | - | 16 | - | 1 | - | - | 9 | 50 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 64 Number of adopted Measures / Solutions related to Road BCP nodes by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|----------|------------------------|-----------|-----------|----------|----------|----------|------------|-----------------|----------|----------|-----------|
| AMIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | - | 3 | 6 | 3 | 1 | - | - | 5 | 2 | - | - | 20 |
| AMOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | 1 | 6 | - | - | - | - | 1 | - | - | - | 8 |
| AMTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | - | - | - | - | - | - | - | - | - | - | - |
| AMU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | 1 | 5 | 1 | 1 | - | - | - | - | 1 | - | 9 |
| AME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | 2 | 6 | 17 | 6 | 1 | - | - | 1 | 8 | 7 | - | 48 |
| AMLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | - | - | - | - | - | - | - |
| AMI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | - | - | - | - | - | - | - | - | - | - | - | - |
| AMCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | 2 | 11 | 34 | 10 | 3 | - | - | 7 | 10 | 8 | - | 85 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 65 Number of adopted Measures / Solutions related to Rail BCP nodes by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|----------|------------------------|----------|----------|----------|----------|----------|------------|-----------------|----------|----------|-----------|
| AMIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | 1 | - | - | - | - | - | - | - | - | - | - | 1 |
| AMOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | 1 | - | - | - | - | - | - | - | - | - | 1 |
| AMTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | - | - | - | - | - | - | - | - | - | - | - |
| AMU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | 1 | 2 | 1 | 1 | - | - | - | - | - | 2 | - | 7 |
| AME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | 1 | 2 | 1 | - | - | - | - | - | - | 7 | - | 11 |
| AMLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | - | - | - | - | - | - | - |
| AMI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | - | - | - | - | - | - | - | - | - | - | - | - |
| AMCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | 3 | 5 | 2 | 1 | - | - | - | - | - | 9 | - | 20 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 66 Number of adopted Measures / Solutions related to IWW port nodes by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|---------|------------------------|---------|--------|---------|-------|--------|------------|-----------------|--------|----------|-------|
| AMIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | - | - | - | - | - | - | - | - | - | - | - | - |
| AMOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | - | - | - | - | - | - | - | - | - | - | - |
| AMTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | - | - | - | - | - | - | - | - | - | - | - |
| AMU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | - | - | - | - | - | - | - | - | - |
| AME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | - | - | - | - | - | - | - | - | - | - | - | - |
| AMLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | - | - | - | - | - | - | - |
| AMI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | - | - | - | - | - | - | - | - | - | - | - | - |
| AMCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | - | - | - | - | - | - | - | - | - | - | - | - |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 67 Number of adopted Measures / Solutions related to Logistic Facility nodes by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|---------|------------------------|---------|--------|---------|-----------|----------|------------|-----------------|--------|----------|-----------|
| AMIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | - | - | - | - | - | 14 | 1 | - | - | - | 2 | 17 |
| AMOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | - | - | - | - | 3 | - | - | - | - | - | 3 |
| AMTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | - | - | - | - | - | - | - | - | - | - | - |
| AMU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | - | - | - | - | - | - | - | - | - |
| AME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | - | - | - | - | - | 1 | 1 | - | - | - | - | 2 |
| AMLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | - | - | - | - | - | - | - |
| AMI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | - | - | - | - | - | - | - | - | - | - | - | - |
| AMCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | - | - | - | - | - | 18 | 2 | - | - | - | 2 | 22 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 68 Number of adopted Measures / Solutions related to road network by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|---------|------------------------|---------|--------|---------|-------|--------|------------|-----------------|--------|----------|-------|
| AMIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | - | - | - | 1 | - | - | - | - | - | - | - | 1 |
| AMOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | - | - | - | - | - | - | - | 1 | - | - | 1 |
| AMTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | 2 | - | 2 | - | - | - | 1 | 1 | 1 | - | 7 |
| AMU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | - | - | - | - | - | - | - | - | - |
| AME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | - | - | - | - | - | - | - | - | - | - | - | - |
| AMLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | - | - | - | - | - | - | - |
| AMI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | - | - | - | - | - | - | - | - | - | - | - | - |
| AMCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | - | 2 | - | 3 | - | - | - | 1 | 2 | 1 | - | 9 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 69 Number of adopted Measures / Solutions related to rail network by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|----------|------------------------|----------|----------|----------|----------|----------|------------|-----------------|----------|----------|-----------|
| AMIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | 1 | - | - | - | - | - | - | - | - | - | - | 1 |
| AMOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | 1 | - | - | - | - | - | - | - | - | - | - | 1 |
| AMTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | 1 | - | 1 | - | 1 | 2 | 2 | 4 | - | - | 11 |
| AMU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | - | - | - | - | - | - | - | - | - |
| AME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | - | - | - | - | - | - | - | - | 1 | - | - | 1 |
| AMLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | - | - | - | - | - | - | - |
| AMI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | - | - | - | - | - | - | - | - | - | - | - | - |
| AMCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | 2 | 1 | - | 1 | - | 1 | 2 | 2 | 5 | - | - | 14 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Table 70 Number of adopted Measures / Solutions related to IWW network by category and country

| ID Category Code | Definition | Albania | Bosnia and Herzegovina | Croatia | Greece | Hungary | Italy | Kosovo | Montenegro | North Macedonia | Serbia | Slovenia | Total |
|------------------|---|---------|------------------------|----------|--------|---------|-------|--------|------------|-----------------|----------|----------|----------|
| AMIT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | - | - | - | - | - | - | - | - | - | - | - | - |
| AMOA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | - | - | - | - | - | - | - | - | - | - | - |
| AMTEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | - | - | 1 | - | - | - | - | - | - | 1 | - | 2 |
| AMU | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | - | - | - | - | - | - | - | - | - |
| AME | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | - | - | - | - | - | - | - | - | - | - | - | - |
| AMLM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | - | - | - | - | - | - | - | - | - | - | - | - |
| AMI | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | - | - | - | - | - | - | - | - | - | - | - | - |
| AMCF | Realisation of alternative clean fuels supply facilities | - | - | - | - | - | - | - | - | - | - | - | - |
| | Total | - | - | 1 | - | - | - | - | - | - | 1 | - | 2 |

Source: DT1.2.3: Final report on the results of data collection at BCPs at corridor level in the ADRION Region



Annex B - Detailed summary tables of transport facilitation measures from the working document/contribution of CCIS to DT1.2.4

This annex includes a set of tables summarising the outcome of the data collection process performed by CCIS in Autumn 2019, aimed at integrating and completing the data gathering activities in the framework of Activity T1.2 (Data Collection).

Four summary tables have been elaborated in total, one for each type of nodes involved in this additional data collection process, i.e. Road and Rail BCPs, IWW Ports and Logistics facilities. Each table provides the aggregate results of the data included in each one of the 27 questionnaires comprised in the working document *DT1.2.4 update contribution*, elaborated by CCIS upon completion of the data collection process.

For each measure marked as relevant by at least one of the investigated nodes, these tables provides the ID code and definition as specified at Table 12 of Chapter 4, the involved countries, nodes and Core Network Corridors, as well as the total number of nodes that marked at least one measure as relevant and the total number of measures marked as relevant under each measure category, and finally the assigned priority score, calculated as described at Chapter 6 of this report.



Table 71 Relevant transport facilitation measures and related priority scores for Road BCPs

| ID Code | Measure | Involved countries | Involved nodes | Involved TEN-T Corridors | Nodes marking at least one measure as relevant | Number of measures indicated as relevant | Assigned priority score |
|---------|---|--|--|--------------------------|--|--|-------------------------|
| IT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Bogorodica, Blace, Hani i Hotit, Hani i Elezit, Kakavia, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gostun | MED, OEM | 11 | 29 | 52 |
| ST | Integration of ICT technologies and solutions at BCPs or between BCPs and the central administration | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Bogorodica, Blace, Hani i Hotit, Hani i Elezit, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gostun | MED, OEM | 10 | 10 | 18 |
| OSS | Realisation of a one-stop-shop solution to the road users at BCPs | Albania, Kosovo, North Macedonia, Serbia | Bogorodica, Blace, Hani i Hotit, Hani i Elezit, Kakavia, Horgoš, Batrovci, Merdare administrative crossing, Gostun | MED, OEM | 9 | 9 | 19 |
| CAM | Improvement of security level by instalment of IT systems and solutions (e.g. CCTV) | Albania, Kosovo, North Macedonia, Serbia | Bogorodica, Blace, Hani i Hotit, Hani i Elezit, Kakavia, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gostun | MED, OEM | 10 | 10 | 15 |
| OA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | Albania, North Macedonia, Serbia | Tabanovce, Bogorodica, Kakavia, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gostun | MED, OEM | 8 | 13 | 31 |
| LS | Hiring of additional personnel / implementation of ICT solutions to reduce the staff's individual workload and tasks | North Macedonia, Serbia | Tabanovce, Bogorodica, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gostun | MED, OEM | 7 | 7 | 18 |
| SC | Provision of training to improve staff competences and skills | Albania, Serbia | Kakavia, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gostun | MED, OEM | 6 | 6 | 13 |



| ID Code | Measure | Involved countries | Involved nodes | Involved TEN-T Corridors | Nodes marking at least one measure as relevant | Number of measures indicated as relevant | Assigned priority score |
|---------|--|--|--|--------------------------|--|--|-------------------------|
| TEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Bogorodica, Blace, Hani i Hotit, Hani i Elezit, Horgoš, Batrovci, Merdare administrative crossing, Presevo, Gostun | MED, OEM | 10 | 10 | 18 |
| U | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | Serbia | Batrovci, Merdare administrative crossing | MED, OEM | 2 | 3 | 8 |
| IN | Purchase and installation of basic infrastructure and facilities to allow the internet connection, preferably combined with the deployment of ICT solutions to provide integrated services at the single BCP or network level, or to support communication between BCPs and the central administration | Serbia | Batrovci, Merdare administrative crossing | MED, OEM | 2 | 2 | 5 |
| E | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | Kosovo, North Macedonia, Serbia | Tabanovce, Blace, Hani i Elezit, Horgoš, Batrovci, Merdare administrative crossing, Presevo | MED, OEM | 7 | 7 | 16 |
| LM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Hani i Elezit, Kakavia, Horgoš, Merdare administrative crossing, Presevo | MED, OEM | 6 | 6 | 9 |
| I | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Bogorodica, Blace, Hani i Hotit, Hani i Elezit, Kakavia, Horgoš, Batrovci, Merdare administrative crossing, Presevo | MED, OEM | 10 | 10 | 23 |
| CF | Realisation of alternative clean fuels supply facilities | North Macedonia, Serbia | Bogorodica, Blace, Merdare administrative crossing, Gostun | OEM | 4 | 4 | 7 |

Source: own elaboration based on DT1.2.4 update contribution



Table 72 Relevant transport facilitation measures and related priority scores for Rail BCPs

| ID Code | Measure | Involved countries | Involved nodes | Involved TEN-T Corridors | Nodes marking at least one measure as relevant | Number of measures indicated as relevant | Assigned priority score |
|---------|---|--|--|--------------------------|--|--|-------------------------|
| IT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Gevgelija, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Hani i Elezit, Bajza | OEM | 9 | 18 | 39 |
| ST | Integration of ICT technologies and solutions at BCPs or between BCPs and the central administration | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Gevgelija, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Hani i Elezit, Bajza | OEM | 9 | 9 | 19 |
| TM | Implementation of ICT solutions to trace and/or monitor freight train operations | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Gevgelija, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Hani i Elezit, Bajza | OEM | 9 | 9 | 20 |
| OA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | Albania, Kosovo, North Macedonia, Serbia | Gevgelija, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Hani i Elezit, Bajza | OEM | 8 | 13 | 25 |
| LS | Hiring of additional personnel / implementation of ICT solutions to reduce the staff's individual workload and tasks | Kosovo, North Macedonia, Serbia | Gevgelija, Blace (Volkovo), Ristovac (Presevo), Subotica, Šid, Hani i Elezit | OEM | 6 | 6 | 11 |
| SC | Provision of training to improve staff competences and skills | Albania, Kosovo, North Macedonia, Serbia | Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Hani i Elezit, Bajza | OEM | 7 | 7 | 14 |
| TEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Gevgelija, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Hani i Elezit, Bajza | OEM | 9 | 9 | 19 |



| ID Code | Measure | Involved countries | Involved nodes | Involved TEN-T Corridors | Nodes marking at least one measure as relevant | Number of measures indicated as relevant | Assigned priority score |
|---------|--|--|--|--------------------------|--|--|-------------------------|
| U | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | Albania, Kosovo, Serbia | Prijepolje, Subotica, Šid, Hani i Elezit, Bajza | OEM | 5 | 6 | 17 |
| IN | Purchase and installation of basic infrastructure and facilities to allow the internet connection, preferably combined with the deployment of ICT solutions to provide integrated services at the single BCP or network level, or to support communication between BCPs and the central administration | Albania, Kosovo, Serbia | Prijepolje, Subotica, Šid, Hani i Elezit, Bajza | OEM | 5 | 5 | 15 |
| E | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Gevgelija, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Hani i Elezit, Bajza | OEM | 9 | 9 | 19 |
| LM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Hani i Elezit, Bajza | OEM | 8 | 8 | 19 |
| I | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | Albania, Kosovo, North Macedonia, Serbia | Tabanovce, Gevgelija, Blace (Volkovo), Ristovac (Presevo), Prijepolje, Subotica, Šid, Hani i Elezit, Bajza | OEM | 9 | 9 | 22 |
| CF | Realisation of alternative clean fuels supply facilities | - | - | - | 0 | 0 | 0 |

Source: own elaboration based on DT1.2.4 update contribution



Table 73 Relevant transport facilitation measures and related priority scores for IWW Ports

| ID Code | Measure | Involved countries | Involved nodes | Involved TEN-T Corridors | Nodes marking at least one measure as relevant | Number of measures indicated as relevant | Assigned priority score |
|---------|---|--------------------|--|--------------------------|--|--|-------------------------|
| IT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | Serbia | Port of Belgrade, Port of Novi Sad, Port of Danube (Pancevo) | RDAN | 3 | 3 | 6 |
| OA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | - | - | - | 0 | 0 | 0 |
| TEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | Serbia | Port of Belgrade, Port of Novi Sad, Port of Danube (Pancevo) | RDAN | 3 | 3 | 4 |
| U | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | - | - | - | 0 | 0 | 0 |
| E | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | Serbia | Port of Belgrade, Port of Danube (Pancevo) | RDAN | 2 | 2 | 4 |
| LM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | Serbia | Port of Belgrade, Port of Novi Sad, Port of Danube (Pancevo) | RDAN | 3 | 3 | 8 |
| I | New construction or modernisation of existing infrastructure aiming to remove physical and technical barriers or to increase the actual capacity | Serbia | Port of Belgrade, Port of Novi Sad, Port of Danube (Pancevo) | RDAN | 3 | 3 | 8 |
| CF | Realisation of alternative clean fuels supply facilities | Serbia | Port of Belgrade | RDAN | 1 | 1 | 1 |

Source: own elaboration based on DT1.2.4 update contribution



Table 74 Relevant transport facilitation measures and related priority scores for Logistic Facilities

| ID Code | Measure | Involved countries | Involved nodes | Involved TEN-T Corridors | Nodes marking at least one measure as relevant | Number of measures indicated as relevant | Assigned priority score |
|---------|---|---------------------------------|---|--------------------------|--|--|-------------------------|
| IT | Improvement/upgrade of the existing ICT infrastructure to foster transport digitalisation, the interoperability of communication and data sharing systems | Kosovo, North Macedonia, Serbia | Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT, Terminal Pristine | OEM | 4 | 4 | 7 |
| OA | Hiring of additional/specialised personnel and provision of training courses to increase the quality of the working staff; implementation of ICT solutions to solve Operational and Administrative problems | Serbia | Logistics centre ŽIT | OEM | 1 | 1 | 1 |
| TEL | Deployment or upgrade of telematic applications for traffic management to the EU standards | Kosovo, North Macedonia, Serbia | Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT, Terminal Pristine | OEM | 4 | 4 | 6 |
| U | Provision of basic utilities (internet, drinkable water, toilettes, etc...) | North Macedonia | Fersped AD Skopje | OEM | 1 | 1 | 3 |
| E | Purchase and installation of equipment for the improvement of the process efficiency and effectiveness at BCPs and transport nodes | North Macedonia, Serbia | Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT | OEM | 3 | 3 | 6 |
| LM | Infrastructure improvement or expansion of the road and rail last-mile connections within and outside the node areas | North Macedonia, Serbia | Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT | OEM | 3 | 6 | 9 |
| RA | Infrastructure improvement or expansion of the rail last-mile connections within and outside the logistic node areas | North Macedonia, Serbia | Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT | OEM | 3 | 3 | 5 |
| RO | Infrastructure improvement or expansion of the road last-mile connections within and outside the logistic node areas | North Macedonia, Serbia | Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT | OEM | 3 | 3 | 4 |
| I | New construction or modernisation of existing infrastructure aiming to | North Macedonia, Serbia | Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT | OEM | 3 | 3 | 6 |



| ID Code | Measure | Involved countries | Involved nodes | Involved TEN-T Corridors | Nodes marking at least one measure as relevant | Number of measures indicated as relevant | Assigned priority score |
|---------|---|---------------------------------|---|--------------------------|--|--|-------------------------|
| | remove physical and technical barriers or to increase the actual capacity | | | | | | |
| CF | Realisation of alternative clean fuels supply facilities | Kosovo, North Macedonia, Serbia | Kuhne+Nagel Macedonia, Fersped AD Skopje, Logistics centre ŽIT, Terminal Pristine | OEM | 4 | 4 | 5 |

Source: own elaboration based on DT1.2.4 update contribution