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## Logistics Processes and Motorways of the Sea II

in Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Moldova,  
Tajikistan, Turkmenistan, Ukraine, Uzbekistan

*LOGMOS Master Plan*

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## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>4</b>
<b>1 INTRODUCTION .....</b>	<b>6</b>
1.1 DEFINITION AND REFERENCE MODELS .....	9
1.1.1 <i>Master Plan: Definition and Meanings</i> .....	9
1.1.2 <i>Regional and National Perspectives</i> .....	10
1.1.3 <i>Trends and Challenges in International Transport</i> .....	11
1.1.4 <i>Comparable Reference Models and Experience</i> .....	18
1.1.5 <i>Principles for the LOGMOS Master Plan</i> .....	21
1.2 TARGET GROUPS AND OBJECTIVES OF THE MASTER PLAN .....	21
1.3 METHODOLOGY USED TO PREPARE THE MASTER PLAN .....	22
<b>2 GUIDELINES AND HIGH-LEVEL RECOMMENDATIONS .....</b>	<b>24</b>
2.1 GENERAL GUIDELINES AND PRINCIPLES .....	24
2.2 DEFINITION OF STRATEGIC PERSPECTIVE AND PRIORITIES .....	29
2.3 HIGH LEVEL RECOMMENDATIONS .....	33
2.3.1 <i>High Level Recommendations for Legal and Institutional Layer</i> .....	34
2.3.2 <i>High Level Recommendations for Infrastructure and Network Layer</i> .....	36
2.3.3 <i>High Level Recommendations for Market and Operations Layer</i> .....	37
2.3.4 <i>High Level Recommendations for the Role of the TRACECA Institutions</i> .....	39
<b>3 SECTORAL FINDINGS AND RESULTS .....</b>	<b>46</b>
3.1 STATE OF PLAY: THEMATIC SECTORAL REPORTS .....	46
3.1.1 <i>Institutional and Legal Barriers for Transport and International Trade</i> .....	46
3.1.2 <i>Traffic Flows</i> .....	49
3.1.3 <i>MoS, Rail-ferries and Maritime Links</i> .....	54
3.1.4 <i>Railway Sector</i> .....	61
3.1.5 <i>Road Sector</i> .....	67
3.1.6 <i>Inland Waterways</i> .....	70
3.1.7 <i>Hinterland Connections, Multimodal and Logistics Capabilities</i> .....	77
3.2 COMPREHENSIVE AND CORE TRACECA NETWORKS AND TRACECA CORRIDOR .....	85
3.3 SELECTION OF PROJECTS FOR THE MASTER PLAN .....	91
3.4 TECHNICAL RECOMMENDATIONS .....	95
3.4.1 <i>Institutional and Legal Barriers for Transport and International Trade</i> .....	95
3.4.2 <i>MoS, Rail-ferries and Maritime Links</i> .....	100
3.4.3 <i>Railway Sector</i> .....	107
3.4.4 <i>Road Sector</i> .....	112
3.4.5 <i>Inland Waterways</i> .....	117
3.4.6 <i>Hinterland Connections, Multimodal and Logistics Capabilities</i> .....	124
3.5 TRACECA AND EU LINKAGE .....	128
3.6 LOGMOS PILOT PROJECTS STATUS AND NEXT STEPS .....	134
3.6.1 <i>Motorways of the Sea Pilot Projects</i> .....	134
3.6.2 <i>Pilot Projects: International Logistics Centres</i> .....	138
<b>4 LOGMOS ROAD MAP .....</b>	<b>146</b>
<b>APPENDIX A: LIST OF ABBREVIATIONS AND ACRONYMS .....</b>	<b>178</b>
<b>APPENDIX B: MAPS .....</b>	<b>191</b>
<b>APPENDIX C: TABLES .....</b>	<b>208</b>



**APPENDIX D: FIGURES AND DIAGRAMS .....211**

**LIST OF TEXT BOXES**

Text box 1: Containerization and Globalisation .....	13
Text box 2: EU White Paper .....	17
Text box 3: TEN-T Policy Review .....	18
Text box 4: TEN-T Extensions .....	19
Text box 5: Keeping Freight Moving – A European Strategy .....	20
Text box 6: Summarised Functions of TRACECA Institutions.....	40
Text box 7: South-East Europe Transport Observatory (SEETO).....	44
Text box 8: Central Asia Regional Economic Cooperation (CAREC) Initiatives .....	45
Text box 9: Logistics Platforms and TRACECA Challenges .....	84
Text box 10: Single Window Concept.....	99
Text box 11: Motorways of the Sea and Short-Sea Shipping in the EU .....	102
Text box 12: Reporting Formalities in the EU .....	104
Text box 13: Ecoports in the EU .....	130

**LIST OF MAPS**

Map 1: TRACECA Network.....	192
Map 2: TRACECA Road Routes.....	193
Map 3: TRACECA Road Routes, incl. IFI projects .....	194
Map 4: TRACECA Rail Routes .....	195
Map 5: TRACECA Rail Routes, incl. IFI projects.....	196
Map 6: Maritime Links - Black Sea .....	197
Map 7: Maritime Links - Caspian Sea.....	198
Map 8: LOGMOS Pilot Projects .....	199
Map 9: TRACECA Core Network Implementation Status.....	200
Map 10: EaP Transport Network Roads Armenia, Azerbaijan, Georgia (endorsed on political level on 9 October 2013) .....	201
Map 11: EaP Transport Network Roads Moldova, Ukraine (endorsed on political level on 9 October 2013) .....	202
Map 12: EaP Transport Network Railways Armenia, Azerbaijan, Georgia (endorsed on political level on 9 October 2013) .....	203
Map 13: EaP Transport Network Railways Moldova, Ukraine (endorsed on political level on 9 October 2013) .....	204
Map 14: UN ESCAP Dry Ports in Caucasus and Central Asia.....	205
Map 15: Eastern Stretches of the Danube.....	206
Map 16: Maritime Danube.....	207

**LIST OF TABLES**

Table 1: Potential Trade Flows Through Black Sea – Caucasus – Caspian Sea ('000t) .....	52
Table 2: Recommendations for Lead Action: Levels of Ministries of Transport .....	151
Table 3: Possible Areas for Supporting Interventions: Level of the IFIs.....	159
Table 4: Possible Areas for Supporting Interventions: Level of the EU.....	165
Table 5: LPI Rankings for TRACECA Countries in 2007-12 .....	208
Table 6: LPI Scores for TRACECA Countries for 2007, 2010 and 2012.....	209
Table 7: LPI Rankings per Subcategories for TRACECA Countries for 2012.....	210



## LIST OF FIGURES AND DIAGRAMS

Figure 1: Logic Diagram: Realisation of EU Goals in the Transport Sector .....	211
Figure 2: Evolution of TRACECA Countries' LPI Rankings, 2007-12.....	212
Figure 3: LPI Rankings, 2012 per component .....	213
Figure 4: Core Transport Network for the LOGMOS Master Plan.....	216
Figure 5: Comprehensive Network of TRACECA .....	216



## EXECUTIVE SUMMARY

This Master Plan has been developed within the EU-Funded Logistics Processes and Motorways of the Seas II – [LOGMOS project](#) operating in the TRACECA countries from 2011 till 2014. The Master Plan document follows the outline and approach defined by the concept paper approved by the European Commission in December 2012. The Master Plan comprises four chapters:

- **Introduction** which explains the background, principles, objectives and methodology of the Master Plan.
- **Guidelines and High Level Recommendations** which presents an assessment of TRACECA's strengths and weaknesses; and identifies in general terms the measures that should be taken to capitalize on the former and overcome the latter. A Road Map for their implementation in accordance with the reporting schedule will be published in the draft final version by February 2014.
- **Findings and Results** which summarizes the situation in each sector as it relates to the objectives of the Master Plan; defines Comprehensive and Core TRACECA Networks; explains the means by which projects have been assessed and selected; and offers technical recommendations at the sectoral level. This chapter also provides information on the implementation status and next steps for development of the LOGMOS pilot projects and discusses relevant policy linkages between TRACECA and the EU.
- **LOGMOS Road Map for Corridor Level Interventions** which provides an overview of measures to be taken on the level of network and infrastructure, legal and institutional and market and operations relevant to multimodal logistics and motorways of the sea solutions.

A list of abbreviations used in the master plan document is provided in Appendix A. The maps are enclosed in Appendix B. Major statistical tables referred to within the text are presented in Appendix C. Figures and diagrams form the contents of the Appendix D.

While the Master Plan is meant to be read as a standalone document, it draws heavily on two sets of much more detailed documents: sectoral reports and country profiles. They are:

[Annex 1: Proposals for Improvement of Legal Environment for MoS and Logistics](#)

[Annex 2: TRACECA Regional Trade Flow Potential](#)

[Annex 3 - Part I: Maritime Sector Overview](#)

[Annex 3 - Part II: Shipping Lines Information](#)

[Annex 4: Railway Sector Overview](#)

[Annex 5: Road Sector Overview](#)

[Annex 6: Part I: TRACECA Inland Waterways – Dnepr Case Study](#)

[Annex 6: Part II: TRACECA Inland Waterways – Danube Case Study](#)

[Annex 7: Hinterland Connections, Multimodal and Logistics Capabilities](#)

[Annex 8: Pilot Project MCA Runs 2011-2013](#)

Annex 9.1: Country Profiles for the Direct Beneficiary Countries ([Armenia](#), [Azerbaijan](#), [Georgia](#), [Kyrgyzstan](#), [Kazakhstan](#), [Moldova](#), [Tajikistan](#), [Turkmenistan](#), [Ukraine](#), [Uzbekistan](#))

Annex 9.2: Project Fiches of the Pilot Projects in Beneficiary Countries ([Armenia](#), [Azerbaijan](#), [Georgia](#), [Kyrgyzstan](#), [Kazakhstan](#), [Moldova](#), [Tajikistan](#), [Turkmenistan](#), [Ukraine](#), [Uzbekistan](#))



## Logistics Processes and Motorways of the Sea II

Links to these documents are embedded in the text where appropriate. There are also embedded links to maps intended to aid the reader's understanding of the Master Plan and the reasons for its recommendations.

The Master Plan is the culmination of substantial body of work that has involved data gathering, continuous consultation with stakeholders and analysis over almost three years. This allowed an exceptional degree of comprehensiveness, coherence and, through the processes of consultation and regular feedback, unanimity among stakeholders about the future course for TRACECA.



## 1 INTRODUCTION

This Master Plan has been prepared in accordance with the framework of the EU-Funded LOGMOS - Logistics Processes and Motorways of the Sea II Technical Assistance Project. Its broad aim is the development of MoS and Logistics concepts in TRACECA in order to support corridor functioning and market integration of member countries in Central Asia, Caucasus and the Caspian and Black Sea basins.

The objective of the LOGMOS Master Plan is to provide a comprehensive vision of strategic directions, guiding TRACECA beneficiaries and EU stakeholders to enhance operational logistics and MoS dimensions of TRACECA. The Master Plan is also a comprehensive framework for action to streamline the agenda of external aid interventions in TRACECA.

The Master Plan has been developed from a corridor perspective and targets the core network of TRACECA countries. The methodology of EU TEN-T Extensions, ENP Transport Cooperation and the TEN-T policy review has been taken carefully into account and adapted to TRACECA conditions. This methodology is used to define the core network and criteria for determination of priority actions.

The Master Plan sets out recommendations for three functional layers of the TRACECA corridor:

- Infrastructure and networks;
- Institutional and legal; and
- Market approach and operations.

High-level guidelines for strategic action are supported by technical recommendations and a Road Map for short-, medium and long-term development.

The work is based on comprehensive analysis of the transport sector throughout the region, documented in country profiles, thematic sectoral reports and case studies annexed to the Master Plan.

All recommendations defined during the project represent the practical outcome of intensive stakeholder dialogue at national, regional and international levels. Keeping its innovation target in focus, the Master Plan capitalises on existing TRACECA projects, experience, tools and instruments of regional importance.

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***Globalization calls for TRACECA-wide integrated transport systems***

In the light of increasing globalization, TRACECA countries have recognised the necessity for functional transport connection. They seek integration into global supply chains to the EU countries in the West through the TEN-T and to the emerging markets in the Far East. Their transport policies and projects should therefore address not only national requirements but also regional and international trends.

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***Changing global and regional circumstances require the ability to respond flexibly***

Coordinating efforts to achieve synergies calls for a global plan for TRACECA member states reflecting international supply chain factors.



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***Master Plan must evolve over time***

In a modern dynamic environment, this Master Plan should not be regarded as a final, conclusive or unchangeable document. Rather, it should be a living tool whose shape and contents must evolve over the course of time under the monitoring of the TRACECA Permanent Secretariat.

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***Strong commitment by public and private stakeholders is a prerequisite...***

It is assumed that implementation of the Master Plan will be underpinned by the political will of the countries and that stakeholders will remain committed to making regular contributions to improving and updating it.

***...together with market-responsiveness, pragmatism and willingness to learn from others' experience***

The LOGMOS Master Plan concept rests upon:

- a market-oriented approach;
- a focus on pragmatic issues for which solutions often exist and have been successfully implemented elsewhere in TRACECA or in other former socialist countries; and
- constant dialogue with a wide range of institutional, public and private stakeholders thus enabling identification of their requirements.

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***Competitiveness depends on cost, time and reliability***

The key target is corridor competitiveness in terms of financial cost, transit times and reliability. The Master Plan aims to support a functional multimodal supply chain, with sufficient operational flexibility to respond to changing circumstances.

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***Landlocked countries need access to the sea. All countries need efficient land-and-sea corridors that allow optimum use of all transport modes***

Five out of ten direct beneficiary countries (Kyrgyzstan, Tajikistan, Uzbekistan, Armenia and Moldova) have no coast line and therefore no direct access to the open seas. Three (Kazakhstan, Turkmenistan and Azerbaijan) have access only to the closed Caspian Sea. These eight countries, to a greater or lesser extent, depend on their neighbours' transport networks and associated rules of use when carrying out a significant part, if not all, of their foreign trade.

Therefore allowing TRACECA to function as a continuous corridor with integrated and interoperable logistics conditions helps to overcome the disadvantages suffered by landlocked countries and exposes them to common international trade benefits.

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***International supply chains depend on intermodal and logistics facilities***

For this reason, as well as to minimize costs and environmental impacts, the Master Plan has at its core the need to develop TRACECA as a reliable multimodal corridor. This requires efficient intermodal and logistics facilities and services, located and designed to support the development of international supply chains and seamless flow of goods across borders.



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***The Master Plan builds on three earlier EU projects...***

Preparation of the Master Plan has been guided by the following factors:

- Capitalization on the achievements and proposals of the three previous EU-funded projects:
  1. [International Logistics Centres in Western NIS and the Caucasus;](#)
  2. [International Logistics Centres in Central Asia;](#)
  3. [Motorways of the Seas in Black and Caspian Seas.](#)

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***...and has been guided by principles that enhance efficiency and sustainability***

- Screening and refining of pilot projects selected under these EU-funded projects;
- Concentration on pilots that hold the potential to be merged or linked or to enhance the performance of existing activities;
- Integration of new pilot projects that strengthen the corridor function of TRACECA as a whole;
- Systematic transfer of experience and best practices between TRACECA countries and from other regions;
- Focus on soft measures to remove bottlenecks, facilitate border and sea crossings, and improve public and private asset management;
- Emphasis on the allocation of human, financial and other resources only to investments that are justified by actual and projected demand;
- Capacity building, including human resource development, relevant to the LOGMOS dimension of TRACECA;
- Integration of relevant components of national transport policies, provisions of the TRACECA IGC strategy and the achievements of other TRACECA and 'foreign'/non-EU supported projects.



## 1.1 Definition and Reference Models

### 1.1.1 Master Plan: Definition and Meanings

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**Components: vision, mission, values and strategy**

Master Plans are defined as the strategic planning of an entity, i.e. the process of determining its strategy and making decisions on how to allocate its resources to achieve the goals set out in the strategy.

The key components pertaining to strategic planning include:

- A Vision, which is a long-term view of what an entity wants to be;
- A Mission, i.e. what crucial target the organization pursues and thus why it exists and what it does to implement its vision;
- Values, which are views and beliefs shared by all stakeholders in the organization. They drive the priorities and represent the cultural cradle which frames the decision-making process;
- Strategy, which names and combines the principal long-term goals that the organization wants to reach and the means it will use to do so. It may also be called a Road Map (in this Master Plan such goals are included in the Section 4-LOGMOS Road Map).

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**Process: evaluation, definition and selection**

The strategic planning process unfolds in the following stages:

- Evaluation of the current situation, to assess relevant economic trends, the market (supply, demand and competition) and existing regulatory environment.
- Definition of the desired goals and objectives.
- Selection of the most suitable route towards the goals and objectives, considering the means available and possible constraints now and in the future.

This standard approach has been adopted for the LOGMOS Master Plan. The situation analysis covers the alternative modes and routes in competition with TRACECA; and a review of infrastructure, missing links and bottlenecks of all kinds that prevent the seamless flow of goods along the Corridor.

This review relies on the corridor performance index ([TRAX](#)), developed by the EU-funded 'Transport dialogue and interoperability between the EU and its neighbouring countries and Central Asian countries – [IDEA I' project](#), and other available assessments.



### 1.1.2 Regional and National Perspectives

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***The Master Plan has a regional perspective, but allows for national needs, interests and plans***

The Master Plan has been prepared from a regional perspective, but with a national dimension achieved by:

- focusing on provisions of the existing national transport plans that are relevant to the development of the corridor;
- applying country-wide recommendations that are relevant for improved TRACECA performance.

In the TRACECA region the progress of implementation of transport plans and policies depends on specific national and regional political and socio-economic parameters. Therefore, the Master Plan's recommendations and approaches are compatible with conditions and national priorities in all TRACECA countries.

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***The Master Plan is practical and realistic; rationalizes overlapping plans; and includes management and monitoring mechanisms***

The Master Plan is set in a challenging environment where it will target national level recommendations in order to:

- address practical economic issues in transport;
- set realistic objectives in terms of impact of the proposed actions, involving comprehensive dialogue with all stakeholders, including key players from the private sector;
- coordinate national plans that may overlap or contradict one another;
- establish organizational and monitoring mechanisms to follow up and measure implementation.

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***Regional cooperation initiatives that are already under way are taken into account by TRACECA***

Regional cooperation is based on specific projects that are limited in their scope and not always well coordinated. Recommendations are made in relation to existing regional transport cooperation initiatives.

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***Needs of the transport industry must define a development path for TRACECA***

Meeting the needs of the transport industry requires:

- a shared global vision;
- a clearly defined approach to improving corridor performance;
- harnessing the potential of the TRACECA IGC; and
- implementation and monitoring of projects and policies by the TRACECA Permanent Secretariat.



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***Globalization is likely to provoke change, as countries recognize the need for regional cooperation to achieve national goals***

The fast-growing internationalization of the global economy may be the catalyst for change in the TRACECA Region: countries will recognize that individually decided policies can prove inefficient and counter-productive and there is a need for bilateral, multilateral and regional cooperation to access world markets.

Most countries are also aware of the benefits they can reap from attracting transit cargo flows through their territories, in terms of investments, employment and revenues. Such flows need to be supported by easier border-crossing and customs procedures – in other words, by trade facilitation measures which can be achieved only through international cooperation.

It is clear that progress towards TRACECA's goals depends to a large extent on the development of multi-modal transport systems, supported by modern logistics facilities and services, and strongly focused on containerized cargoes.

### ***1.1.3 Trends and Challenges in International Transport***

As a multimodal corridor running across the Eurasian landmass, TRACECA competes with other all-land rail and road routes via Russia. TRACECA corridor consists of three major routes:

- the central route which, from the EU crosses the Black Sea then Caucasus and finally across the Caspian Sea runs to Central Asia;
- the southern branch which from the EU joins the Turkish branch of TRACECA and runs along the Northern shore of Turkey on the Black Sea into Caucasus and further;
- and the historical Silk Road which from and to Turkey runs through Iran into and out of Central Asia. Despite Iran is formally a part of the TRACECA MLA, at the moment, a number of constraints prevent full use of this route. It can be reasonably assumed that the on-going improvements in rail and road connections in Central Asia and the Caucasus and those planned for the Caspian shipping links will bring about a natural decrease in the East-West and West-East transit flows of TRACECA internal and EU-bound trade via Iran. All the more this route is much longer – and therefore less cost-effective - than the ones mentioned above<sup>1</sup>.

However, the cargo which TRACECA and other corridors are trying to attract is moving overwhelmingly by sea and in containers between Asian and European ports, including those in the Mediterranean and the Black Sea. The statistics below shows the growth of sea-borne trade since 1970 and the rapidly increasing share of containerized cargo.

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<sup>1</sup> Iran could however play an increased transit role for the sea-borne trade between Far-East, SEA, the Indian subcontinent, East Africa and the TRACECA region via the Persian Gulf when the North-South corridor new rail, road and port infrastructure will become fully operational. These developments are beyond the scope of the present Master Plan.



Development in International Seaborne Trade in Million Tonnes Loaded						
Year	Oil and gas	Main bulks	Other dry cargo	Out of which container	Total (all cargoes)	% of container in total
<b>1970</b>	1,44	448	717		2,605	-
<b>1980</b>	1,871	608	1,225	<b>102</b>	3,704	<b>2.75%</b>
<b>1990</b>	1,755	988	1,265	<b>234</b>	4,008	<b>5.84%</b>
<b>2000</b>	2,163	1,295	2,526	<b>598</b>	5,984	<b>9.99%</b>
<b>2010</b>	2,772	2,335	3,302	<b>1 275</b>	8,409	<b>15.16%</b>

Source: UNCTAD



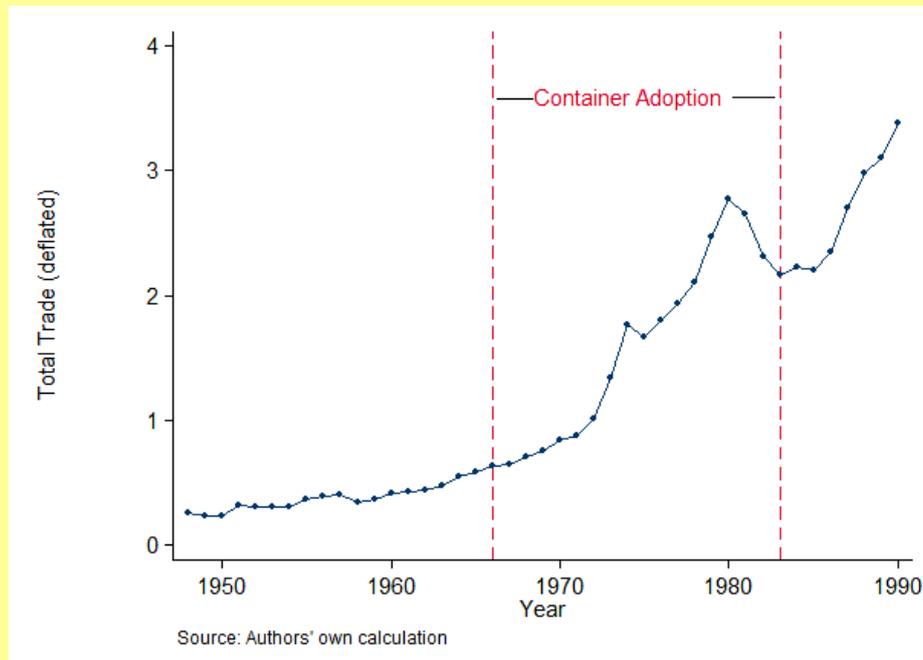
**Text box 1: Containerization and Globalisation**

The first successful industrial container venture dates back to 1956, when American trucking entrepreneur Malcolm McLean had the idea of using large containers that were never opened in transit and were transferable intermodally, between trucks, ships and railway wagons.

The first effect of containerization was to reduce considerably handling and stevedoring expenses: goods could be sorted and packed (and vice-versa) outside of ports, and once only. Handling and transfers of containers in ports were increasingly mechanized and did not require the traditional numerous gangs of workers on the wharves and inside the vessels' holds. The standardization of container characteristics by the ISO at the end of the 1960s and the building of always bigger, specialized ships which could be handled much quicker than break-bulk conventional vessels increased the efficiency of this safer transport mode even further, allowing significantly reduced transport costs per unit and shortened delivery times. (For example, it is estimated that the door-to-door transit-time from UK to Australia was cut from 70 to 34 days.)

Containerization spread around the globe triggering changes in other transport modes (rail, road and inland waterways) which strengthened the intermodal dimension of this new freight transport technology. In some countries shift to containerization was very rapid. In the UK the proportion of containerizable goods that were actually containerized went from 0% to 80% between 1966 and 1984; in Japan the same transformation took place even faster, between 1969 and 1976.

International trade benefited from much lower transport costs and speedier deliveries and started growing at a pace never registered before. Thanks to containerization the technical conditions for the globalization of the world economy were met.



**Development of World Trade**

Source: Estimating the Effects of the Container Revolution on World Trade  
Lund University Feb. 2013

**Million Tonnes loaded**



This trend is persistent and accelerating over time. Therefore it is important to understand the strengths and weaknesses of containerized maritime transport, and how it may evolve in the future. This will help to identify where and how land corridors can find their place in the overall inter-continental transport network, increase their market share and become an indispensable complement to sea-borne traffic.

The following factors should be considered in defining land-bridge corridor strategies to maximize their competitive advantage:

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***Overcapacity in the shipping industry causes low prices***

Demand for shipping reached record heights just before the GFC and shipping lines were competing for increasing shares of a market that was expected to continue growing fast. At the end of 2007 the tonnage of new ships on order was equivalent to 50% of the existing global fleet. There have been cancelations and deferrals, but the industry is still burdened by over-capacity and consequently by very low freight rates.

In particular, there are now 5,970 container ships with a total capacity of 17.2 million TEU. This is 82% more capacity than in 2007. Moreover a new wave of ordering occurred in 2010-11 as shipping lines took advantage of lower shipyard prices to build new-generation vessels of 10,000+ TEU capacity. Serious overcapacity seems certain to persist; and it will not be confined to the high-capacity liner routes, as vessels displaced by the large new vessels are transferred to other routes.

The shipping lines have responded to the overcapacity problem by ordering still larger vessels, with inherently lower operating costs per slot; introducing guaranteed fixed-schedule services such as the 'Daily Maersk' service; and slow-steaming (SS) to reduce fuel consumption.

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***Slow steaming as a means of reducing vessel operating costs***

Slow steaming has now been improved by extra slow steaming (ESS) and super slow steaming (SSS). It has been found that a 15% reduction in speed reduces fuel consumption by 35% per day and 24% per nautical mile.

This represents a large financial saving to the shipping lines, partly offset by the need to run extra vessels to provide the same capacity, as well as a large reduction in CO<sub>2</sub> and other harmful emissions.

Other technical solutions are also being employed. These include engine retro-fits, more efficient propeller designs and improved hull designs for future vessels.



---

***Piracy: a risk and a cost to the shipping industry***

Acts of piracy – boarding a ship to commit theft or another crime – increased by 68% between 2000 and 2006 totalling 2,463 actual or attempted incidents. But researchers believe that nearly half of all piracy attacks are not reported, usually because of fears about subsequent investigation costs and increased insurance premiums.

Since 2005 the Horn of Africa has been the primary High Risk Area (HRA). 42 vessels were seized in that area in 2008, and 117 in 2009 as Somali pirates extended their range of operation. But since 2009 the joint efforts of the international community have borne fruit: in 2012 only 14 vessels were seized off the Somalian coast. On the other hand the pirates are becoming more sophisticated and better organized. Piracy is likely to be a persistent problem and a significant cost to the shipping industry.

The World Bank has estimated the annual cost of piracy at US\$18 billion, of which ransoms constitute no more than 2%. More costly are security measures (public and private) and the diversion of vessels to avoid the most dangerous waters.

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***Environmental issues: ballast water contamination***

Ships' ballast water poses serious ecological, economic and health problems due to its being a medium for transporting a multitude of marine species (including bacteria, microbes and small invertebrates) around the world. These species may establish reproductive populations and assume pest proportions. The IMO estimates that ships carry 3-10 billion tonnes of ballast water annually.

Consequently the International Convention for the Control and Management of Ships' Ballast Water and Sediments 2004 has been negotiated and is likely to come into effect soon; enough countries have ratified the convention but they represent 29% of the world's merchant fleet instead of the required 35%<sup>2</sup>.

The cost to ship-owners of complying with the convention will be high. Older vessels may have to be scrapped prematurely. Water treatment systems will have to be retro-fitted to newer vessels at a cost of up to USD 4 M plus lost revenue during the 30-45 days required for retro-fitting.

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<sup>2</sup> Iran is the only TRACECA country to have ratified the convention to date; Russia is the only other country in the Black Sea / Caspian Sea region.



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***Environmental issues:  
atmospheric emissions  
from bunker fuel***

According to the EC, air pollutants from maritime shipping contribute increasingly to air quality problems in many European cities and, without any action, sulphur emissions from shipping in EU sea areas would exceed those from all land-based sources by 2020.

Accordingly EU member states are committed to reducing the sulphur content of marine fuels from the current 3.5% to 0.5% by 2020; and to 0.1% within fragile ecosystems. Other jurisdictions have introduced or are about to introduce similar restrictions.

Ship-owners are faced with using lighter, cleaner, costlier fuels; installing exhaust scrubbers; or prematurely scrapping vessels after as few as 15 years of service.

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***Environmental issues:  
energy efficient design***

In 2011 the IMO amended the International Convention for the Prevention of Pollution from Ships (MARPOL) to include energy efficiency standards for new ships, through the designation of an Energy Efficiency Design Index (EEDI). The aim is to improve fuel efficiency by 30% for vessels delivered after 2015.

Studies carried out for the IMO suggest that compliance costs will be more than offset by fuel cost savings to the shipping lines. Fuel now represents 60% of total vessel operating costs (capital amortisation), compared with 30% before 2000, and this proportion is expected to rise. So it is likely that energy efficient design will make commercial as well as environmental sense.

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***New fuels***

Because of the recent upward pressure on marine fuel prices, and tightening emission standards, the industry is exploring alternative fuels. The exploitation of shale gas in many parts of the world may be a game-changer, making available a cleaner, cheaper alternative for the first time.

Recognising this, the EU has budgeted EUR 1.25 M from the TEN-T programme to identify and address barriers to the introduction of LNG-fuelled vessels. There is also a proposal under the EC's Transport 2050 Strategy to install LNG refuelling stations at 139 EU ports. There are similar initiatives in worldwide.

It has been estimated that the cost of switching to alternative fuels could exceed USD 40 bn per year over the next 12 years.



**Implications for  
TRACECA and response  
options**

For competing land routes, the present situation of overcapacity and keen competition among shipping lines is negative. This is true because of the pressure on tariffs and also because the shipping lines have responded by improving their services, in particular through regular, reliable shipping schedules; it has often been pointed out that assured delivery dates are at least as important as short transit times.

On the other hand, slow-steaming enhances the land routes' advantage with respect to speed and distance; piracy remains a threat to shipping and imposes substantial costs on the industry; and increasingly stringent environmental protection measures will impose even bigger costs.

But it is possible that the shipping industry will become more cost-competitive, not less, by bearing the initial costs of improving fuel-efficiency and switching to cleaner fuels.

Moreover land-based transport modes are also dependent on fossil fuels (directly in the form of diesel oil or gasoline or indirectly through use of electricity generated in coal-, oil- or gas-fired power stations) and subject to environmental protection laws and international agreements. And the TRACECA routes that cross the Black and Caspian Seas will be subject to similar cost pressures to those faced by the long-haul shipping lines.

**Text box 2: EU White Paper**

The European Commission adopted a White Paper 2011: Road Map to a Single European Transport Area - Towards a competitive and resource efficient transport system covering 40 concrete initiatives for the next decade to build a competitive transport system that will increase mobility, remove major barriers in key areas and fuel growth and employment. At the same time, the proposals will dramatically reduce Europe's dependence on imported oil and cut carbon emissions in transport by 60% by 2050.

The White Paper lays down a long-term strategy that would allow the transport sector to meet its goals with a 2050 horizon. Those goals are:

- No more conventionally-fuelled cars in cities.
- 40% use of sustainable low carbon fuels in aviation; at least 40% cut in shipping emissions.
- A 50% shift of medium distance intercity passenger and freight journeys from road to rail and waterborne transport.
- All of which will contribute to a 60% cut in transport emissions by the middle of the century.

More information on the White Paper and the Impact Assessment Report are available [here](#).



### 1.1.4 Comparable Reference Models and Experience

#### ***The TEN-T methodology has been an important input to Master Plan formulation...***

Presentation of the strategic vision and the practical framework of action requires an approach that links the Western Transport Network and corridors and the Eastern axes. The EU's TEN-T methodology has been adopted as the starting point. The following documents have been consulted specifically:

#### ***White Papers***

- EU 1996 White Paper: A Strategy for Revitalizing the Community's Railways and three 'Railway packages' that are described later in this document.
- White paper 2011: Road Map to a Single European Transport Area - Towards a Competitive and Resource Efficient Transport System.

#### ***TEN-T Policy Review***

Guidelines for the development of the Trans-European Transport Network (TEN-T) of October 2011 (adjusting guidelines of July 2010), which were approved by the Council of Transport Ministers in March 2012.

#### **Text box 3: TEN-T Policy Review**

The Green Paper 'Towards a better integrated trans-European transport network at the service of the common transport policy' published in February 2009 opened the **TEN-T policy review**. Stakeholders and European Institutions and consultative bodies broadly welcomed the review and the approach proposed (Option 3 - dual layer planning approach with a 'core network' as the top layer).

The new core network will connect: 94 main European ports with rail and road links, 38 key airports with rail connections into major cities, 15,000 km of railway line upgraded to high speed, 35 cross border projects to reduce bottlenecks.

A major innovation on the new TEN-T guidelines is the introduction of 9 implementing corridors on the core network. Each corridor must include at least three modes of transport, three member-states and two cross-border sections.

In order to support the analysis of specific issues identified or reconfirmed in the Green Paper process, six expert groups have been set up consisting of experts from various fields for the future TEN-T planning and implementation approaches.

The document 'Consultation on the Future Trans-European Transport Networks', adopted on 4 May 2010, covers the three planning options of the Green Paper, but based on the strong support for option 3, focuses on the latter. It includes a description of the methodology to elaborate the **core network** and is also accompanied by an ex-post analysis of the past TEN-T policy, within a separate Staff Working Document.

Based on these intermediate steps, the major legislative proposal resulting from the Green Paper process was a Commission proposal for the review of the TEN-T Guidelines. The new/revised Guidelines were adopted by the Commission in mid-2011.

More information on the TEN-T Policy Review, as well as the detailed reports of working groups are available [here](#).



#### Text box 4: TEN-T Extensions

In January 2007, the European Commission adopted a Communication on Guidelines for Transport in Europe and Neighbouring Regions, which outlines EU policy in view of creating an effective transport market involving the EU and its neighbours. The Communication identifies the **five most important transport axes** for international trade between the EU and the neighbouring countries and beyond.

The extension of networks to neighbouring countries is one of the objectives set out in the Communication on the Strengthening of the European Neighbourhood Policy. The proposed Neighbourhood Investment Fund also provides a suitable mechanism to encourage investment in the transport sector and, therefore, to support the actions included in these guidelines.

The Guidelines outline the first steps of a comprehensive policy for closer integration of the EU transport system with neighbouring countries. This policy focuses on the main infrastructure for international transport and the legislation governing the use of these routes by different transport modes. Over time, it should lead to common rules and regulations for the transport sector as a whole and thus create an effective transport market involving the EU and its neighbours.

The five transnational axes identified are:

- **Motorways of the Seas:** to link the Baltic, Barents, Atlantic (including Outermost Regions of Canary Islands, Azores and Madeira), Mediterranean, Black and the Caspian Sea areas as well as the littoral countries within the sea areas and with an extension through the Suez Canal towards the Red Sea;
- **Northern axis:** to connect the northern EU with Norway to the north and with Belarus and Russia to the east. A connection to the Barents region linking Norway through Sweden and Finland with Russia is also foreseen;
- **Central axis:** to link the centre of the EU to Ukraine and the Black Sea and through an inland waterway connection to the Caspian Sea. A direct connection from Ukraine to the Trans-Siberian railway and a link from the Don/Volga inland waterway to the Baltic Sea are also included;
- **South Eastern axis:** to link the EU with the Balkans and Turkey and further with the Southern Caucasus and the Caspian Sea as well as with the Middle East up to Egypt and the Red Sea;
- **South Western axis:** to connect the south-western EU with Switzerland and Morocco, including the trans-Maghrebin link connecting Morocco, Algeria and Tunisia and its extension to Egypt.

The Guidelines are available [here](#).



### Text box 5: Keeping Freight Moving – A European Strategy

The European Commission put forward a series of measures to promote freight transport logistics in the EU, to make rail freight more competitive, establish a framework for European ports to attract investment, enhance maritime freight transport capacities and review progress made in developing Motorways of the Sea.

A package of measures was adopted in 2007 under the Communication of the European Commission 'The EU's freight transport agenda: Boosting the efficiency, integration and sustainability of freight transport in Europe {SEC(2007) 1351} {SEC(2007) 1367}'

The Communication underlined the importance of freight transport for European competitiveness. A number of policy issues were addressed to secure its efficiency and sustainability:

- Congestion affecting costs and time of transport and increasing fuel consumption.
- Freight transport footprint matters.
- Freight transport dependency on imported fossil fuels.
- Transport safety and security.
- Qualified staff deficits in the transport and logistics-related industry sectors
- Swift application of best practices in logistics across the enlarged European Union.
- Securing leading position of the European actors at the Global markets.
- Enhancing trade relations with countries outside the EU and efficiency of transport operations especially with the neighbouring countries.
- Accelerated progress in Information and Communication Technologies (ICT) in logistics.

The communication proposed a policy response based on intensive stakeholder consultations in line the objectives of the White Paper on Transport. It aimed at improvement of efficiency of the different modes of transport, whether used on their own or in combination (co-modality) and included:

- **The Freight Logistics Action Plan** suggesting a series of actions to promote freight and traffic management, sustainability, simplification of administrative processes; review loading standards; and review Directive 96/53/EC on vehicle dimensions.
- **The Communication on a freight-oriented rail network** will make rail freight more competitive, in particular by ensuring lower transit times and increasing rail's reliability and responsiveness to customer requirements.
- **The Communication on a European Ports Policy** to provide a vision and a toolbox for enhancing the performance of ports as essential hubs in Europe's transport system, helping them to attract new investment, creating a dialogue between all stakeholders and improving their image This Communication implements the recently adopted Communication on an Integrated Maritime Policy for the European Union which set out a cross-sectoral approach to maritime affairs.
- The Commission staff working paper "**Towards a European maritime transport space without barriers**" to make short-sea shipping fully benefit from the Internal Market through facilitation and simplification of administrative and documentary procedures.
- The staff working paper on **Motorways of the Sea** to describe progress made in developing Motorways of the Sea and suggests further quality elements.

The policy initiatives outlined above reinforce each other and constitute a policy agenda to improve the efficiency of freight transport in Europe. A common approach is characterised by:

- a focus on corridors, connecting to neighbouring countries and overseas; and
- promotion of innovative technologies and practices in infrastructure, transport fleet and freight management.

The policy initiatives introduced in these documents point the way to a European freight transport policy constructed on the principles of co-modality, Intelligent Transport Systems (ITS), green corridors and user orientation. These principles will guide the implementation of the actions and initiatives proposed by the European Commission. More information could be found [here](#).



### 1.1.5 Principles for the LOGMOS Master Plan

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***Five principles underlie the Master Plan: a supranational perspective; utilization of existing experience; universal applicability; adoption of best practices; and recognition of the wider goals of solidarity and peace***

The following principles are fundamental to preparation of the Master Plan:

- Regional and corridor perspective.
- Utilization of TRACECA's tools and experience, including (a) the [5-pillar IGC strategy to 2015](#) which aims to develop multimodal chains; and (b) guidelines for [pre-feasibility studies](#), an [investment manual](#) developed in the process of project prioritization by the EU-funded [IDEA I](#) and [IDEA II](#) technical assistance projects. These demonstrate a substantial body of work already undertaken on the TRACECA level with the object to improve the multimodal dimension of the corridor's functions and to support it with a best-practice approach aimed at enabling targeted investments.
- Applicability to all TRACECA countries, whether ENPI, Central Asian, IPA or indirect beneficiaries, recognizing their lack of homogeneity.
- Adoption of best practices.
- Recognition of the EU's role in promoting the Master Plan not only as an economic tool but also as an instrument to strengthen global cooperation and contribute to maintaining solidarity and peace in the Region.

### 1.2 Target Groups and Objectives of the Master Plan

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***Target groups: public, private and external***

The Master Plan is targeted at the national governments, users of the corridors, the EU, IFIs and the TRACECA institutional structures. The Master Plan provides them with a new vision and agenda for the future.

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### **Main objectives**

The main objectives of the LOGMOS Master Plan can be described as follows:

- To define the growing role and function of the TRACECA Corridor in international trade beyond the Region, as a needed alternative to other corridors.
- Accordingly, to encourage stakeholders to assess systematically the regional and international impact of national policies when addressing transport and logistics issues, which should facilitate negotiations with donors and IFIs.
- To propose a methodology to ensure the widest possible dissemination of best practices existing in the region and abroad between and among all TRACECA stakeholders.
- To prepare a set of principles, recommendations and guidelines for decision-makers in line with the strategy commonly agreed at IGC level.
- To prepare a Road Map to assist potential partners to set standards and KPIs, thus enabling them to assess potential pilot projects and determine immediate and future courses of action for the implementation and sustainable development of these projects.
- To facilitate development of global supply chain logistics and transport processes based on international practice.
- To define the best conditions for the involvement of private actors to build on MoS, ILCs and combined projects.
- To support prioritization of infrastructure and other investment domains and funding schemes.
- To identify areas of responsibility in the public and private sectors where capacity building is needed, including training; and to make recommendations.

### **1.3 Methodology Used to Prepare the Master Plan**

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#### **Three methodological layers:**

The Master Plan methodology is based on three layers, determined in close and continuous consultation with public and private stakeholders:

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#### ***Institutional and Legal***

*Institutional and legal environment (national and regional).* This includes trade facilitation aspects for both domestic, import/export and transit cargo-flows. The emphasis is on actual implementation of existing national laws and international conventions; identification of remaining legal bottlenecks, inconsistencies and vacuums; and benchmarking in terms of LPI (Logistics Performance Index), ETI (Enabling Trade Index), doing business/investment climate and ease of international transit.

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### **Transport Infrastructure**

*Transport and logistics infrastructure and networks.* Each transport mode under review has been assessed with a view to highlighting weak or missing links, interoperability problems and interconnectivity gaps. Inland waterway transport is covered by Dnepr and Danube studies. The Master Plan analyses core transport infrastructure and makes recommendations to optimise its performance.

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### **Market and Operations**

*Context of global TRACECA market and operations* takes into account:

- existing and potential traffic flows;
- demand and supply;
- ease of access to infrastructure and facilities;
- role of the private sector;
- old and new monopolies;
- systems of collection, exchange and access to information;
- competitiveness and attractiveness of TRACECA versus other corridors.

The main sources for this layer are the traffic flow data base of the LOGMOS project (compiled with UN COMTRADE data), the TRAX model developed by the IDEA 1 project, [country profiles](#) and the findings from interviews and meetings with public and private sector representatives and business associations.

The findings are synthesised in thematic reports covering each mode of transport, multimodal capabilities, the logistics sector and the legal framework in a corridor perspective.

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### **Action plans for pilot projects are reflected in technical recommendation and in the Road Map**

The Master Plan contains technical recommendations derived from the action plans for LOGMOS pilot projects:

- MoS, rail ferry and container connections over the Black and Caspian Seas;
- the land bridge between the Black and Caspian Sea;
- transit solutions throughout the whole corridor between its Eastern and Western boundaries; and
- logistics centres close to main nodes and feeder nodes for the core network.

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### **Consultation and Dialogue -the Master Plan has grown out of a long, intensive consultation process**

The Master Plan was discussed with major stakeholders through regular contact between the LOGMOS Expert Team and the TRACECA PS, national coordinators, public and private project stakeholders.

The advice of international transport organizations and agencies, donors and IFIs (EU, UNDP, World Bank, ADB, EBRD, EIB) has been sought and taken into account.

The result has been the incorporation of stakeholders' expectations and priorities into the Master Plan, enabling them to endorse it as a means of furthering their own interests.



## 2 GUIDELINES AND HIGH-LEVEL RECOMMENDATIONS

This chapter focuses on the broad picture, addressing such questions as:

- What are TRACECA’s strengths and weaknesses?
- What are the specific obstacles to increased trade and traffic along TRACECA?
- What lessons can be learned from TRACECA’s activities and their outcomes to date?
- What are the most feasible and cost-effective interventions that can be made in the future?
- How can those interventions be combined in a coherent Master Plan?
- What Road Map can be used to overcome the current weaknesses, capitalise on the strengths and take full advantage of the existing potentials?

### 2.1 General Guidelines and Principles

The Global Enabling Trade Report, presented to the World Economic Forum in 2012, is an objective basis for assessing the performance of all but two of the TRACECA direct and indirect beneficiary countries<sup>3</sup>. It also contains enough detail to allow it to be used as a diagnostic tool, in combination with the analyses and consultations that have taken place since 2009.

***The Enabling Trade Index shows below-average performance by most TRACECA beneficiaries***

The Global Enabling Trade Report ranked 132 countries according to the Enabling Trade Index (ETI) based on 4 ‘issue areas’ and 9 ‘pillars’:

Issue area	Pillar
Market access	Domestic & foreign market access
Border administration	Customs administration efficiency
	Import-export procedures efficiency
	Transparency of border administration
Transport and communications infrastructure	Availability and quality of infrastructure
	Availability and quality of transport services
	Availability and use of ICTs
Business environment	Regulatory environment
	Physical security

<sup>3</sup> Turkmenistan and Uzbekistan are not among the assessed countries.



**Logistics Processes and Motorways of the Sea II**

TRACECA beneficiary countries' ranks and scores<sup>4</sup> are as follows, with indirect beneficiaries shown in grey italics:

Country	Rank	Score
Georgia	38	4.58
Armenia	59	4.19
<i>Turkey</i>	<i>62</i>	<i>4.13</i>
<i>Romania</i>	<i>69</i>	<i>4.02</i>
<i>Bulgaria</i>	<i>74</i>	<i>3.93</i>
Moldova	76	3.93
Azerbaijan	81	3.85
Ukraine	86	3.79
Kazakhstan	105	3.50
Tajikistan	110	3.45
Kyrgyz Republic	111	3.45

Excluding Georgia, which is the clear leader, the TRACECA beneficiaries' scores fall within ±10% of their mean (3.82)

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***There has been little or no improvement in the beneficiaries' rankings***

In most cases these countries' rankings have deteriorated since 2010, when the index was last compiled. Bulgaria improved by 4 places; Turkey remained unchanged; Moldova was a new addition to the list of assessed countries. Romania, Kazakhstan and Kyrgyz Republic saw their rankings fall by more than 10 places.

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***Burdensome procedures, border corruption and the general regulatory environment are the main obstacles to trade***

A pillar-wise analysis of the rankings shows the main problem areas to be:

- Burdensome export/import procedures.
- The regulatory environment for business generally.
- Corruption at the border.

***An enhanced role for the private sector is essential***

In all but 1 of the 11 countries import procedures and/ or corruption are among the top 3 problems nominated by importers. Costs and delays associated with international transport are the next most significant problem.

Procedures and corruption are apparently less burdensome for exporters. On average their biggest problem is to identify potential markets and buyers.

Information from the private sector has been the main input to the ETI. The private sector must also play a part in solving the problems and exploiting the opportunities. In part this requires governments to allow space for the private sector to grow, in particular in sectors that are dominated by the state either directly or through state-owned enterprises, It also requires proactive engagement by the private sector.

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<sup>4</sup> The scores for all the assessed countries range from 6.14 (Singapore) to 2.63 (Chad).



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***The Logistics Performance Index (LPI) tells a similar story***

There are other indices, such as the World Bank's Ease of Doing Business Index and Logistics Performance Index (LPI), which broadly tell the same story.

The LPI is a recent indicator created by the World Bank in 2007. Two editions followed in 2010 and 2012. Aimed specifically to assess the logistics sector, it helps countries to identify their challenges and improve their performance in trade logistics. The LPI is composed of six key areas:

- Efficiency of customs clearance process.
- Quality of trade and transport-related infrastructure.
- Ease of arranging competitively priced shipments.
- Competence and quality of logistics service.
- Ability to track and trace consignments.
- Frequency with which shipments reach the consignee within the scheduled and expected time.

A seventh criterion 'domestic logistics costs' was included in the first LPI edition in 2007, but was eventually withdrawn.

As for the Ease of Doing Business Index, the methodology used to gather data is empirical and uses field data collection by the users. The LPI is *'based on a worldwide survey of operators on the ground (global freight forwarders and express carriers), providing feedback on the logistics 'friendliness' of the countries in which they operate and those with which they trade. They combine in-depth knowledge of the countries in which they operate with informed qualitative assessments of other countries with which they trade, and experience of global logistics environment'*.

The LPI overall score is the result of the evaluation of logistics performances by categories, which are rated on a scale from 1 (worst score) to 5 (best score). Rankings are made on the basis of these scores: see Table 5 and Figure 2 appended to this document.



Observations from the Table 5:

- Turkey is the most advanced of the TRACECA countries, in logistics performance. Then follow Bulgaria, Romania, Ukraine and Georgia.
- These figures show a gap between Black Sea countries and Central Asian countries. It confirms that Black Sea countries have more experience in logistics trade and are more integrated into World trade than are the Central Asian economies (with the exception of Kazakhstan).
- To some extent this disparity may arise from the inherent disadvantage suffered by landlocked countries (and those having access only to the Caspian Sea).
- Only Armenia showed constant improvement in the rankings.
- Kazakhstan, Uzbekistan and, to a lesser extent, Azerbaijan improved greatly between 2007 and 2010, but slipped down the rankings in 2012.

Evolution in rankings does not necessarily reflect evolution of scores in the same direction or to the same degree. That is why scores should also be analyzed in order to draw proper conclusions; see Table 6.

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***Global competition means that performance must increase continually to maintain a position in the rankings***

A comparison of scores and rankings in the three years (2007, 2010 and 2012) shows that a country can increase its score considerably while its ranking remains about the same. One must conclude that the average score is increasing, presumably due to competitive pressures, and simply maintaining the status quo is a recipe for failure.

Several TRACECA countries made impressive gains in both scores and rankings, and for identifiable reasons. For example:

- Armenia has benefited from a complete overhaul and simplification of border crossing procedures.
- Bulgarian and Romanian Customs authorities have shortened checking procedures, especially for containers, with the placement of scanners to reduce the need to move containers back and forth.
- These two countries have also reduced the percentage of containers undergoing physical inspections, and the corruption that normally accompanies them.
- Training of Customs officers has also had an effect in several countries, and in Georgia there was also a radical overhaul of the Customs service which reportedly eliminated corruption.
- Georgia has also benefited from institutionalized cooperation between forwarders and Customs authorities, involving the training of forwarders' staff to reduce paperwork errors.



## Logistics Processes and Motorways of the Sea II

- Improvements in Kazakhstan may be attributable largely to its membership of the Customs Union with Russia and Belarus, which has naturally led to increased trade and reduced formalities on the Russian border.
- Turkey has seen the results of heavy investment in railway infrastructure and container terminals.
- Ukraine has introduced a new Customs Code and simplified customs procedures; and in Odessa port there is now a 'single window' with electronic pre-declarations and digital signatures.

It should also be acknowledged that any index has a subjective component and should be regarded as only indicative. There are some anomalies, for example:

Azerbaijan is known to have instituted substantial reform of the Customs system, and to have fully implemented single-window border control. It is surprising, therefore, that the LPI indicates consistent deterioration in Customs.

The hexagonal cobweb diagrams in Figure 3 enclosed in the appendix show the TRACECA countries' most recent scores graphically, in a way that highlights particular strengths and weaknesses. The outer hexagon corresponds to the maximum possible score (5.00). The inner hexagon corresponds to a score of 2.50.

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***Stronger efforts are needed to liberalize trade, and facilitate transport***

The conclusion must be that there should be no relaxation of TRACECA's past and ongoing efforts to remove obstacles to trade and transport, with emphasis on making procedures and regulations more business-friendly; tackling corruption; and eliminating the causes of excessive cost and delay associated with international transport.

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***It must be recognised that countries' problems and needs are not uniform, and may call for different modes of implementation***

While there are common themes there are also significant differences between countries with regard to their problems, their needs and the solutions that will be appropriate.

There is also a need for different, country-specific approaches to implementation. These include:

- Levels of intervention (macro or micro).
- The degree of private sector involvement.
- The need for new legislation as opposed to more effective implementation of existing laws and regulations.
- The extent to which institutional reforms are necessary and feasible.
- The extent to which external technical assistance is required.

Means by which progress towards TRACECA goals are to be monitored at national level, including application of key performance indicators (KPIs).



## 2.2 Definition of Strategic Perspective and Priorities

SWOT<sup>5</sup> analysis is a useful starting point for formulating strategy and identifying priorities. The following SWOT matrix proposes the main strengths, weaknesses, opportunities and threats that are relevant to TRACECA's medium-term future. It suggests where the strategy should capitalise on strengths, address weaknesses, take advantage of opportunities and counter threats. Together with the above discussion of General Guidelines and Principles and the linkage between TRACECA and EU/TEN-T policies, the SWOT analysis points to a strategy that combines:

- Concentration on the provision of competitive long-haul transport services along the TRACECA corridor, considering emerging trade between Central Asia, including western and central PRC, and the west (Europe and Turkey, including routes extending to Middle-East and Mediterranean region).
- Investment in infrastructure and technology that recognises the inherent cost and environmental advantages of rail and sea over road and air modes; and the need for upgraded border crossings and logistics and intermodal facilities.
- Complementary reforms with respect to policies, laws, regulations, institutions and procedures aimed at a) removing obstacles to the free flow of goods, vehicles and people and b) promoting mutually beneficial trade.
- Efforts to engage private actors more fully in all aspects of the transport and logistics sector. This should include investment, operation of facilities and provision of services; and entail shrinkage of the state sector to make room for the private sector.
- More proactive use of TRACECA as a platform for cooperation between national entities, both public and private, in an effort to reduce the frictional effects of borders between states and between operating systems.
- In particular, the removal of barriers to trade among the member countries where complementarities exist.

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<sup>5</sup> Strengths, Weaknesses, Opportunities, Threats.



**Logistics Processes and Motorways of the Sea II**

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Coherent strategy.</li> <li>• Support from EU (incl. <a href="#">NIF – EU Neighbourhood Investment Facility</a>) and other donors/IFIs.</li> <li>• Appreciation of mutual self-interest.</li> <li>• Oil/gas wealth to support investment.</li> <li>• Evidence of success in specific areas.</li> <li>• For former Soviet republics, a common political, legal, economic, social and linguistic legacy that facilitates cooperation.</li> </ul>	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Domination of rail, sea and air modes by state institutions including state-owned enterprises.</li> <li>• Underdeveloped private sector.</li> <li>• Inadequate logistics and intermodal facilities and services.</li> <li>• Political and legal systems that are often inimical to necessary reforms.</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Mutual interest in trade between the EU and its eastern neighbours.</li> <li>• TRACECA members' economic growth rates above the global average, combined with a) policies favouring economic diversification; and b) sectoral complementarities offering opportunities for trade.</li> <li>• Orientation of EU leading economic actors toward manufacturing in the Far East region, and subsequent trend to reshape patterns of external supply chains to and from Europe</li> <li>• Continuing PRC economic growth and stated policy to a) shift the centre of economic gravity westward, enhancing TRACECA's competitive position against sea routes to Europe etc.; and b) move to higher-value production, promoting the importance of speed and reliability over that of transport cost.</li> <li>• Proven success of container block train services such as Viking.</li> <li>• Impending rail connection through Georgia and Turkey to Europe.</li> <li>• On-going upgrading of Caspian Sea port facilities (Aktau, Baku/Alyat and Turkmenbashi).</li> <li>• Promotion of commerce by reducing barriers to trade.</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Competition from sea routes between Far East and Europe, with larger and more-fuel efficient vessels.</li> <li>• Competition from the Trans-Siberian Railway, with heavy investment in improved services and commercial marketing.</li> <li>• Slow pace of reform across all sectors.</li> <li>• Obstruction of reform by vested interests.</li> <li>• Railway gauge differences and other barriers to interoperability.</li> <li>• Monopolisation of Caspian Sea services, with consequent poor quality and high prices.</li> </ul>

**Long-haul transport between PRC and Europe**

Kazakhstan, Azerbaijan, Georgia and Turkey are already engaged in an ambitious programme of investment to provide a continuous railway link between the Far East and Turkey, Europe and the Mediterranean region. This entails new railway construction; upgrading of Aktau Port; new construction of Baku Port at Alyat; rail-ferry fleet renewal; and completion of the Marmaray Tunnel under the Bosphorus.



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Alternative access to this route for Central Asian states exists via Uzbekistan and Turkmenistan, with upgraded port and ferry services at Turkmenbashi.

The most significant outcome of the investment is expected to be the establishment of a fast, regular, reliable and competitive container block train service (the 'Silk Wind').

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***Investment in infrastructure and technology***

The 'Silk Wind' initiative described above may be regarded as TRACECA's flagship project at present. But there are other initiatives that may have as great a long-term impact, and will not necessarily be about constructing or improving roads and railways. They are as likely to involve ports, airports, maintenance facilities, border crossings, logistics centres and intermodal hubs. And they may require the upgrading of technology rather than additions to physical infrastructure – for example to support the development of the 'port community' concept, whereby information is shared among all relevant parties within a port.

The potential benefits of improved long-haul transport routes to the member countries would be enhanced by the construction and equipment of a) intermodal interchange facilities and b) strategically located logistics centres of a size and standard to attract value-adding commercial and industrial activities. The ultimate aim would be to develop value chains that will generate employment and opportunities for economic diversification, in addition to the simple collection of transit fees.

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***Complementary reforms***

One of the lessons of past experience is that building or improving infrastructure does not guarantee that the projected benefits will flow. In most cases complementary 'soft' measures are necessary. Such measures may entail little or no financial cost. Where technical assistance is required, this is often available to governments at no cost to themselves.

However, there may be costs in the form of disruption arising from institutional reorganization, introduction of new systems and re-training or replacement of staff to meet demands for new skills.

These costs are likely to be high, and politically difficult to impose. In the case of railway restructuring for example, which is an essential element of the Master Plan, state-owned railways tend to have large workforces with a legacy of extensive social entitlements.

There may also be significant costs borne by individuals or groups with vested interests in the status quo. This applies particularly where automated systems replace labour-intensive ones; or where anti-corruption measures are introduced. The scale and incidence of such costs should be taken into account when innovation is planned and implemented.

It is easier to introduce improved procedures for planning, project selection/appraisal and asset maintenance, all of which are



necessary to improving the overall efficiency of the transport sector throughout the TRACECA region. As far as possible such improvements should be made in accordance with international norms and best practice.

### **Private sector engagement**

The strengths of the private sector vis-à-vis the public sector as a source of investment capital may be summarised as follows:

#### *Strengths*

- Access to capital depends on profit expectations rather than fiscal considerations.
- Risk is acceptable if it is balanced by a commensurate expected rate of return.
- Private investment is often accompanied by technological innovation.
- Where foreign partners are involved, private investment may also be a means to introduce skills and managerial models that are not available in-country.
- Private investors are subject to competition and must be market responsive to survive. They incentivize managers to learn about their customers' needs and preferences, and find ways to meet them; and to seek new markets constantly.
- Management can more easily up-size, down-size or otherwise adapt to changing market conditions.
- In the event of failure, a private enterprise can declare bankruptcy and release its assets to be taken over by others who will manage them better or put them to different uses. This is more difficult for a public entity.

### *Public sector role in PPP cooperation*

However, there are often grounds for retaining a degree of public control, by such means as:

- Retention of public ownership of assets that are operated by a private entity (such as a port, airport, railway network or logistics centre). Build-operate-transfer (BOT) schemes allow this.
- Reversion of ownerships a public agency after an agreed period in private hands. Build-own-operate-transfer (BOOT) schemes are designed for this.
- Regulation to ensure that public service obligations are met.
- Regulation of a natural monopoly to protect consumers.

### *Possibilities for private sector involvement other than through investment*

There are many ways to achieve the benefits of private management, competition and efficiency, other than through private ownership or operation of capital assets. They include:

- Maintenance under a contract, subject to competitive bidding and defined performance criteria. (Tajikistan is testing performance-based contract maintenance of a 300km stretch of highway.)
- Provision of services. (The private sector already provides the majority of road-based transport services throughout the region.)



The approach to private sector engagement should be broad and imaginative; and there should be a willingness to confront vested interests in sectors where public sector shrinkage is necessary to make room for private sector growth.

An important step is to bring private sector representation into the decision-making process. The CAREC<sup>6</sup> Federation of Carrier and Forwarder Associations (CFCFA) represents an attempt to build a regional public-private partnership with the aim of developing efficient, integrated transport corridors.

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### **Cooperation**

A generation ago most TRACECA member-states were constituents of a single political entity – the Soviet Union. This means that they still have some common (or similar) institutions, laws and systems. However, it does not mean that cooperation may be taken for granted.

Being owned and operated by its member-states, TRACECA is well placed to be an effective forum for negotiating cooperative arrangements among its members. These may include:

- Elimination of duplicative border control processes.
- Harmonization of documentation for cross-border movements of goods and vehicles.
- Mutual recognition of vehicle standards (weight, dimensions, axle-load etc.), registration, insurance cover, drivers' licences and the like.
- Interoperability between railway systems.
- Coordination of national policies.
- Introduction of through-tariffs, across different transport systems and modes.
- Collective adoption of international norms and practices.
- Collective collaboration between TRACECA and other international groupings with similar aims.

## **2.3 High Level Recommendations**

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### **Purpose**

The purpose of this section is to summarise the general recommendations for development of MoS and Logistics Dimensions of the TRACECA corridor, which support its main objectives. The major directions of action are detailed further in the Chapter 3, which provides sectoral overview and recommendations on technical level.

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<sup>6</sup> Central Asia Regional Economic Cooperation – a grouping of ten Asian countries, from Azerbaijan in the west to China in the east and including Afghanistan and Pakistan. Secretariat services are provided by the Asian Development Bank.



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### Layers

The high level recommendations are presented for each Master Plan layer:

- Legal and Institutional
- Infrastructure Network
- Market and Operations

In addition, the high-level recommendations for the TRACECA institutions (IGC and the PS) are pointed out.

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### Contents

These recommendations start with pointing out the major directions for matters to be addressed at the high-level for the purpose of corridor integrity and attractiveness. The recommendations focus on aspects relevant to promotion of intermodal logistics and MoS concepts. The major directions are interlinked and cluster for all layers around the following topics:

- Enhancement of interstate cooperation;
- Transparency of applied regulatory basis and market settings;
- Closer involvement of the private sector;
- Application of best international practice; and
- Improvement of capacities of sectoral organisation and needed skills of the sectoral actors in TRACECA.

For each particular layer these major aspects of high-level recommendations are presented with an objective to emphasise their relevance.

The section concludes with high-level recommendations for the role of TRACECA institutions in promotion and facilitation to implementation of this master plan.

### **2.3.1 High Level Recommendations for Legal and Institutional Layer**

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#### ***Main directions for legal and institutional improvements***

The following interlinked dimensions of improvement in the legal and institutional domain are most crucial:

- Interstate cooperation in legal and institutional harmonisation.
- Transparent transport sector laws, regulations and rules.
- Application of best international practice.
- Private sector consultations.
- Improvement of professional capabilities of public and private sector in logistics.

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#### ***Cooperation and harmonisation***

The chief objective of interstate cooperation is to implement trade facilitation measures. These include implementation of Single Window mechanisms, improved and standardized information exchange, coordinated border management and joint border crossing control.

As far as possible all transport- and trade-related policies should be harmonised throughout the TRACECA countries.



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***Laws, regulations and rules***

Laws, regulations and rules, and the procedures by which they are enforced, should be supportive of trade between TRACECA member countries and in transit through them.

This principle can be applied very widely, but in the present context it relates particularly to monitoring mechanisms; regulation of natural monopolies; implementation of port community systems; and enabling private sector involvement.

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***International best practice***

Adoption and application of international best practice has been a recurrent theme in TRACECA. Broadly stated, priority should be given to:

- Signing, ratifying and implementing international conventions.
- Accepting the standards and methods of well-established platforms such as EIP, WTO, UNECE, UNESCAP and OSCE.
- Universal membership of FIATA.
- Adoption of standardised electronic information systems such as Unified UN EDIFACT (compatible with the TRACECA system) and associated documentation.

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***Consulting the private sector***

Involving the private sector is another recurrent theme. With regard to the institutional and legal layer of the Master Plan, the key requirement is to bring the private sector into a process of dialogue and consultation about policy.

In particular, there should be early private sector involvement in decision-making about developing an advanced logistics capability along the TRACECA corridor.

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***Professional capabilities***

Professional development and skill acquisition are required in both the public and the private sector. A three-pronged approach is advocated:

- Professional training for the public sector.
- Development of educational capacity in logistics, primarily aimed at the private sector.
- Partnerships with Western universities for these and other initiatives.



### 2.3.2 High Level Recommendations for Infrastructure and Network Layer

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#### ***Main directions for infrastructure development along the corridors***

Infrastructure development is important to enhance the attractiveness of the TRACECA corridor, whether by building new infrastructure or improving existing infrastructure. Focused development of infrastructural networks and nodes for the purposes of the TRACECA corridor integrity mainly needs:

- interstate cooperation and coordination;
- involvement of the private sector;
- consideration of environmental concerns; and
- enhancement of management capabilities in the transport sector.

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#### ***Interstate cooperation and coordination of national efforts***

Cooperation between the TRACECA countries can be achieved using existing TRACECA mechanisms such as case-specific MOUs or steering committees.

Development plans should be discussed and coordinated with neighbouring countries at an early stage, to avoid creating overcapacity and hence underutilization of infrastructure.

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#### ***Involvement of the private sector***

Involvement of the private sector is crucial for development of the corridor infrastructure. This can be achieved by a combination of direct measures (promoting PPP, creating favourable investment conditions, involving stakeholders in consultation processes, etc.) and indirect measures (raising awareness of infrastructural plans, learning from best practice of private sector participation, etc.)

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#### ***Promoting PPP, creating investment conducive environment and ... consultations with private sector***

Infrastructure investment is essential to economic growth. But it is important to ensure that investment is efficient and investment responsibilities are optimally allocated between the public and the private sectors. To this end TRACECA countries need to ensure attractive and fair PPP schemes promoting participation of the private sector, and the necessary degree of public support. In its 2011 [report](#) on transport infrastructure investments the OECD pointed out the widespread recognition around the world of the need for greater recourse to private sector finance.

Justification of investments based on economic sustainability, marketplace demand and CBA is recommended in development of the investment plans. Asset management mechanisms and monitoring of investment effectiveness should be integrated in infrastructure development policies.

The private sector should be encouraged to be involved in defining infrastructure investment projects from the appraisal stage to implementation.



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***Raising awareness and applying best practices***

Improving the competitiveness of TRACECA, includes raising awareness of the private sector about new services and current and planned infrastructure development projects in the region, notably in the area of new logistics hubs, railway lines, road and port infrastructure.

International best practices in infrastructure development should be identified, considered and applied in all aspects of infrastructure development. This applies to the process of planning, financing and operating the infrastructure projects.

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***Consideration of environmental concerns***

It is highly recommended to prioritize investments and support environmentally friendly modes of transport; and in particular projects that contribute to reducing harmful externalities and promoting economies of scale (e.g. ILCs and ports that contribute to reduction of congestion and emissions). In addition, all infrastructure projects should include a sound environmental assessment.

---

***Enhancement of capabilities in the transport sector management – educational system and vocational training***

Improved public sector capabilities are essential for adherence to the principles of good governance. Two domains need to be addressed in this respect: the quality of higher education, and vocational training and capacity building.

The TRACECA institutions of higher education should continue cooperation and building partnerships with leading global educational institutions specializing in transport economics, engineering, planning or public policy.

The participating countries should capitalize on technical assistance of the EU and other donors in transport sector management. Other mechanisms, such as [EU twinning](#) and [TAIEX](#) Instruments, have proven their efficiency in delivery of targeted support and sustainable capacity building in public sector management.

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### ***2.3.3 High Level Recommendations for Market and Operations Layer***

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***Main directions for market and operations layer improvements***

With regard to the market component of this layer, the most crucial needs are:

- Free access to the TRACECA corridor and its active promotion as a realistic, competitive option for east-west trade flows.
- Involvement of the private sector in all aspects of improving and managing the corridor, and proving business-friendly environment.
- Interoperability, between transport systems and modes.
- Sustainability, in terms of asset management and environmental-friendliness.
- Corridor performance monitoring.
- Enhanced skills, especially in the logistics sector



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**Policy framework**

Enhancement and maintenance of the corridor should be at the core of member countries' long-term strategic plans. More particularly, these plans should also give high priority to developing multimodal transport systems that support supply chains; and promoting environmentally friendly solutions and 'green logistics'.

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**Free access to the corridor**

Impediments to corridor access should be removed to the extent that is compatible with individual countries' legitimate security concerns. There are both physical and legal/regulatory impediments, which often exist for protectionist reasons and are sustained by vested interests. Both types have been dealt with in the sections above.

In practical terms, the necessary remedies include:

- Deregulation.
- Through tariffs (that override national boundaries and intermodal changes).
- Railway restructuring.
- Creation of port communities.
- An advanced logistics sector with a business culture.

A prerequisite to removing impediments is a culture of cooperation – between neighbours, among TRACECA members and between TRACECA members as a group and the EU.

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**Corridor performance monitoring**

The effect of impeded access may not be fully appreciated without some form of monitoring, which should have four elements:

- An understanding of global and regional trends, which present TRACECA with changing opportunities and competitive threats.
- A formal system for collecting and analysing data on transport costs and times.
- Formulation of key performance indicators (KPIs) against which observed performance may be assessed.
- A mechanism for responding to deficiencies that are revealed by the process of performance monitoring.

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**Skills**

There is a general need for skill enhancement in the transport sector, both public and private. But this need is strongest in the logistics industry because this industry a) exists in TRACECA member countries only at a low level and b) is crucial to success in the fields that dominate the Master Plan: intermodal transport, supply chains and value chains.

Accordingly it is necessary to establish standards of knowledge and skill, and training leading to internationally accepted qualifications.

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**Promotion**

TRACECA is not a widely recognised 'brand'. If it is to compete successfully with other land and sea corridors, it requires promotion supported by the reality of seamless transport across borders and between modes. To achieve this the member countries will need to exercise an elevated level of cooperation and mandate its institutions to take on a promotional role.

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**2.3.4 High Level Recommendations for the Role of the TRACECA Institutions**

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**Role of TRACECA Institutions for master plan – strategic policy and implementation**

The high-level recommendations are mainly directed at policy makers in the TRACECA countries, and TRACECA institutions – the Intergovernmental Commission (IGC) and the Permanent Secretariat (PS), whose functions are described in the text box below.

The recommendations fall into two categories:

- Policy directions for each of the Master Plan's three layers.
- Implementation mechanisms pointing out the contributions of the TRACECA institutions.

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**Recommendations are based on the existing mandates of TRACECA bodies, focus on logistics and MoS targeting the approach towards implementation**

The recommendations are dealt with in the following two sections and guided by the following general principles:

- They are based on existing settings and functions and therefore require no changes to the Basic Multilateral Agreement on International Transport for Development of the Corridor Europe – the Caucasus – Asia (MLA), the Statute of the Permanent Secretariat of the Intergovernmental Commission on TRACECA or the TRACECA Strategy.
- They focus on logistics and motorways of the sea.
- They target the approach that the TRACECA institutions should take to promoting and implementing the provisions of the Master Plan.



### Text box 6: Summarised Functions of TRACECA Institutions

#### Intergovernmental Commission (IGC) TRACECA

Established in 2000, IGC aims to supervise and monitor the implementation of the TRACECA Basic Multilateral Agreement (MLA). IGC functions, role and responsibilities are stipulated in its Rules of Procedure.

IGC consists of key public authorities in the field of transport and their high level representatives, e.g. ministers and deputy ministers of transport. The Chairman of the IGC is rotated among the MLA parties on the annual basis, and usually hosts IGC annual conferences. IGC meets regularly and holds ad hoc sessions, when necessary.

Key functions of IGC are as follows:

- Directing, guiding and deciding upon annual action plans, amendments to the MLA, working group tasks and recommendations, etc.
- Electing the Secretary General of the PS IGC TRACECA
- Adopting decisions on a basis of consensus among all its parties.

More information on the IGC TRACECA is available on the TRACECA webpage:

<http://www.traceca-org.org/en/traceca/intergovernmental-commission/>

#### Permanent Secretariat (PS) of IGC TRACECA

PS was created in 2001 as an executive body accountable to the IGC. The PS headquarters are located in Baku, Azerbaijan. PS is managed by the Secretary General elected annually by the IGC from candidates proposed by the chairing country.

Key functions of PS are as follows:

- Providing administrative and technical support to the IGC and its structures, e.g. organization and preparation of IGC and working group meetings
- Maintaining TRACECA traffic and project databases, and archive
- Providing technical advisory services, dissemination information on the TRACECA objectives, activities and outputs
- Follow-up of TRACECA projects
- Following-up, advancing and promoting the MLA objectives and IGC decisions

PS keeps a permanent representation in each MLA party.

More information on the PS IGC TRACECA is available on the TRACECA webpage:

<http://www.traceca-org.org/en/traceca/permanent-secretariat/>

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#### **Strategic Decisions and Policy – IGC Level**

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It is recommended that the Master Plan should be adopted by the IGC in its entirety, including the Road Map.



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***Master Plan is in-line with TRACECA policies, aligns them to modern trends – containerisation and integrity of supply chains***

This is not considered to be contentious since care has been taken to align all aspects of the Master Plan with stated TRACECA strategy; with all relevant statements of EU strategy; with individual member countries' official policies on transport and trade; and with emerging trends and demands, especially with respect to containerisation and the integration of supply chains.

This alignment has been confirmed not only by studying available documents but also through extensive consultations throughout the project with public and private sector stakeholders.

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***Execution – PS Level***

With respect to the proposed Master Plan, the PS's most significant functions are those which involve:

- The collection, compilation and dissemination of information.
- Facilitating cooperation, coordination and harmonisation among member countries.
- Project implementation and monitoring.

To date, these functions have been carried out largely through TA projects financed by the EC, in collaboration with the PS and, through the NSs, the member countries. But the proposed Master Plan calls for a more sustained and proactive approach than should be expected from TA projects which, by definition, have a limited life.

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***Specific tasks – corridor baseline data monitoring and analysis, raising awareness of TRACECA corridor, promoting best practices***

The following specific tasks are envisaged:

- Establishing baseline data on infrastructure condition, traffic flows, transit times, tariffs, regulatory regimes and other performance indicators for the TRACECA corridor and, to the extent possible, for competing corridors.
- Updating these data annually from published sources, stakeholders and, where necessary, regular and special surveys.
- Compiling data on trade volumes and patterns that affect demand for freight transport.
- Making forecasts of demand for freight transport, as a basis for strategic decision-making and investment planning.
- Setting performance benchmarks.
- Analysing data in order to identify existing or future problems and bottlenecks, as a basis for initiating dialogue between member countries and stakeholders to find solutions.
- Disseminating all data and results of analyses.
- Organising the sharing of knowledge and expertise among member countries, as a means of promoting 'best practice' throughout the region in such fields as customs administration, asset maintenance and engaging with the private sector.
- Initiating efforts to move towards common technical standards and harmonised systems.
- Monitoring implementation of the Master Plan's recommendations.
- Monitoring the relevant activities of other organisations with overlapping interests in facilitating transport and trade in the region, and seeking opportunities for collaboration. Such organisations include CAREC, ECO, EurAsEC and SCO.

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***PS as transport observatory***

The baseline recommendation for the enhancement of the roles of the PS focuses on changing the approach towards implementation of functions entrusted to this institution. Modern management techniques need to be integrated into daily work of the PS, comprising of corridor observations and management tools.

In expanding its activities thus, within its existing mandate, the PS would assume the characteristics of a 'transport observatory', exemplified by the South-East Europe Transport Observatory (SEETO) which is described in the following text box. It would therefore be useful for the PS to establish contact and cooperation with SEETO in order to benefit from its experience since its formation in 2004.



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***PS as a corridor management unit***

But the PS's role is wider and more proactive than that of a transport observatory. Implementation of the Master Plan will require the PS's involvement in identifying problems and needs, and working with member countries and other stakeholders to address them. In this respect its role is closer to that of a corridor management unit (CMU), which is a concept recently adopted by CAREC for a pilot project to test its applicability to its Central Asian corridor network. CAREC also has an established Corridor Performance Measurement and Monitoring (CPMM) system, for which private operators continuously collect data. Both aspects of CAREC's work are described in a text box below.

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***Multimodal Working Group – centre of excellence***

The principal focus of the Master Plan is multimodal transport supported by high-quality logistics facilities and services. This is more than a technical issue requiring investment: there are multiple legal, regulatory, administrative and operational issues to be addressed too. It is recommended that a Multimodal Working Group is set up and operates within the TRACECA-structures. The present and future work of the EU-funded IDEA project can contribute to reach this objective. Likewise the network of country experts, currently promoted under the IDEA-project, can support this working group.

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***Management at national level***

Proactive management will be necessary at national level, necessitating the appointment of a focal point with responsibility to:

- Explain the Master Plan to stakeholders and agencies whose cooperation will be required for successful implementation.
- Promote and coordinate legislative, regulatory and policy changes.
- Initiate and maintain the flow of information for effective management by the PS.
- Monitor implementation of the Master Plan's recommended actions and intervene as necessary where performance falls short of expectations.



### Text box 7: South-East Europe Transport Observatory (SEETO)

#### South-East Europe Transport Observatory (SEETO)

SEETO is regional transport organization established by the Memorandum of Understanding for the development of the Core Regional Transport Network (MoU) signed on 11<sup>th</sup> June 2004 by the Governments of Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Montenegro and Serbia and the United Nations Mission in Kosovo and the European Commission.

The aim of the SEETO is to promote cooperation on the development of the main and ancillary infrastructure on the multimodal SEETO Comprehensive Network and to enhance local capacity for the implementation of investment programmes, as well as data collection and analysis on the SEETO Comprehensive Network.

The main objectives of the SEETO cooperation:

- Develop the SEETO Comprehensive Network;
- Improve and harmonise regional transport policies and technical standards for the SEETO Comprehensive Network development;
- Maintain an effective coordination and communication network; and
- Integrate the SEETO Comprehensive Network in the framework of the wider Trans European Network.

SEETO network institutions include:

- The Annual Meeting of Ministers as the highest political forum where the progress of the SEETO Comprehensive Network in respect to the MoU is confirmed, SEETO Comprehensive Network's Multi-Annual Plan is accepted and future strategies are agreed upon.
- The Steering Committee, which is main responsible structure for guiding SEETO's activities and coordinating the transport infrastructure planning, as well as promoting and conducting national reforms in line with the agreed EU and regional driven approach.
- The SEETO Secretariat providing technical support to the Steering Committee and facilitates the coordination of the Regional Participants, EC and IFI's. It also liaises with other actors directly involved in the implementation of the MoU, such as Working Groups and National Co-ordinators, and with International Financial Institutions, regional bodies and Donors active in the region.
- National Co-ordinators appointed by each Regional Participant with the role to act as technical support to SEETO cooperation and as interface between the respective Regional Participant and the SEETO Secretariat.
- Working Groups formed by experts delegated by the respectable national authorities and including representatives of each Regional Participant and of the European Commission, (DG MOVE), and reporting to the Steering Committee.

To read more about SEETO structures and activities, please, visit a SEETO website:

<http://www.seetoint.org/>



### Text box 8: Central Asia Regional Economic Cooperation (CAREC) Initiatives

#### **Corridor Management Units (CMUs)**

A CMU is responsible for the long-term sustainability of a corridor by:

- Coordinating national efforts to develop corridor infrastructure (expansion, rehabilitation, upgrading).
- Harmonising regulations and enforcement procedures affecting trade and transport.
- Introducing technology to monitor movement of transport units and their cargo through the corridor.
- Promoting policies that enable transport and trade.
- Monitoring corridor performance.
- Identifying specific problems that impose costs or cause delays, and working with stakeholders to find solutions.
- Promoting the corridor to potential users.

To this end a CMU would have an office and staff located in one country along the corridor, and would be overseen by a committee whose members represent all the countries along the respective corridor. Continuous liaison with stakeholders is essential.

#### **Corridor Performance Measurement and Monitoring (CPMM)**

Since 2009 national road freight carriers in the CAREC member countries have collected data, through their drivers, on the cost and time taken to travel on stretches of road and to cross borders. Informal as well as formal transactions are included.

Except in Kazakhstan, the system covers only road traffic. But a planned upgrading of CPMM will expand its coverage progressively to include rail traffic.

These data are compiled and analysed by the CAREC Secretariat (ADB), which also pays for data collection. The results are published quarterly and, in greater detail, annually. They can be viewed at the website of the CAREC Federation of Carriers' and Forwarders' Associations (CFCFA): <http://cfcfa.net>.



### 3 SECTORAL FINDINGS AND RESULTS

#### 3.1 State of Play: Thematic Sectoral Reports

There follow seven sectoral reports, summarizing the project's findings as to the situation and issues in the TRACECA region and in individual countries. The following aspects of the TRACECA corridor are addressed by the Master Plan:

- Institutional and Legal Barriers for Transport and International Trade
- MoS, Rail-Ferries and Maritime Links
- Railway Sector
- Road Sector
- Inland Waterways
- Hinterland Connections, Multimodal and Logistics Capabilities

Each sectoral summary starts with a schematic overview explaining its purpose, responsiveness to the master plan level and outlining technical contents. Detailed sectoral reports are annexed to this report as follows:

- Annex 1: Proposals for Improvement of Legal Environment for MoS and Logistics
- Annex 2: TRACECA Regional Trade Flow Potential
- Annex 3 - Part I: Maritime Sector Overview
- Annex 3 - Part II: Shipping Lines Information
- Annex 4: Railway Sector Overview
- Annex 5: Findings and Results – Road Sector Overview
- Annex 6: Part I: TRACECA Inland Waterways – Dnepr Case Study
- Annex 6: Part II: TRACECA Inland Waterways – Danube Case Study
- Annex 7: Hinterland Connections, Multimodal and Logistics Capabilities

The sectoral summaries of the state of play are presented as background to the technical recommendations that are outlined in the Section 3.4.

##### 3.1.1 *Institutional and Legal Barriers for Transport and International Trade*

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###### **Purpose**

The purpose of this section is to summarize the main barriers to the realisation of TRACECA's objectives that are attributable to institutional and legal factors. This summary forms the basis for framing realistic recommendations in Section 3.4.1.

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###### **Three layers of the Master Plan**

All the issues raised in this section relate to the second of the three layers of the Master Plan: Institutional and legal settings.

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## Contents

It is recognised at the outset that the TRACECA member countries are diverse in their historic, cultural and ethnic backgrounds, and therefore have legal regimes that differ in important respects. The main differences arise from their proximity to the EU, both geographically and politically, and the degree of Soviet influence.

Gap analysis has been undertaken, the benchmark being international best practice. TRACECA member countries fall into three classes:

- Those that are well advanced in their alignment with EU, WTO and other international practices.
- Those that have updated their primary legislation but have not completed amending their sub-normative legislation.
- Those that are still updating their primary legislation.

Consequently the Master Plan cannot provide a uniform set of solutions. Nevertheless there are some problems that apply widely and could be tackled jointly at the subregional level – in each of the two maritime subregions (Caspian and Black Sea) and in Central Asia.

There is scope for countries that are more advanced in updating their legislation to give bilateral assistance to others.

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***The Master Plan is based on a thorough assessment of the legal situation relevant to improving trade connections, MoS links and logistics processes***

The identified barriers along the TRACECA corridors differ somewhat within regions and according to the recent history of the jurisdictions concerned. The challenge for any TRACECA related activity, cross-border or cross-region, is therefore the common addressing of joint problems and the identification of solutions that can be adapted, merged and/or transposed into the different countries concerned.

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***Detailed Legal Assessment Report is enclosed to the Master Plan as the [Annex 1](#)***

***TRACECA countries' different legal systems are attributable to their background***

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There are countries on the fringes of the EU, countries within the EU and countries attempting to enter the EU, legally and institutionally. There are also different custom unions and regimes overlapping with TRACECA's coverage, most notably the Eurasian Customs Union with Kazakhstan as a member-state and Armenia as an aspiring member. Other countries have associations with the EU, or policies that are influenced by those of the EU.



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***Multiple factors influence proposed interventions in the legal and institutional areas conducive to trade facilitation***

Implementation of the actions, measures and interventions identified and proposed in this Master Plan should be designed to take into account multiple factors, such as:

- The above-mentioned different contextual and juridical backgrounds and systems.
- Institutional and financial capacities.
- Recent policy developments, such as the GUAM countries decision to share custom relevant information from May 2013 and the EU Blue Belt regime.
- Action plans developed by TRACECA and various technical assistance projects in the member countries.

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***EU Best Practice and TRACECA best practice were considered***

All recommendations and proposed interventions are a result of a gap analysis, where the TRACECA jurisdictions were matched against best international practice. This methodology was developed by establishing the currently applicable EU and international status quo, also taking into account policy and recent efforts by international organizations and institutions such as the WTO and TRACECA.

Since this is a legal benchmarking exercise, the identified criteria and thresholds to be met by the jurisdictions were legal in nature; additional criteria were discussed if and when legally relevant (such as border delineation).

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***Overall status in the legal domain is characterised by***

***1. Different levels of Compliance;***

***2. Different national approaches to bridge gaps;***

***3. High level of need for further coordination of measures***

Overall, the assessment shows different categories and levels of compliance with the defined best international practice criteria.

Three countries are beyond the remit of the legal assessment: Turkey, Romania and Bulgaria. However, these three together with Georgia can be seen as the most advanced in most aspects.

Then there are countries with updated primary legislation, some of which are drafting and implementing secondary (sub-normative) legislation.

Some other countries are still updating their primary legislation and therefore have considerable gaps with regard to legislative compliance.

There are many initiatives on the ground, planned or being implemented. Some are financed by state sources, others by IFIs or bilateral sources.

The analysis has shown that a number of similar problems can be found in more than one country, and many times; and across regions. This opens the opportunity to address similar issues jointly and to coordinate measures across borders.

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***Situation Differs Between Black Sea, Caucasus and Central Asia:***

Despite the cultural, historical and ethnic diversity of the TRACECA countries some common patterns can be found in the Black Sea region, in the Caucasus and in Central Asia.



**Black Sea** Around the Black Sea we find countries on the fringes of the EU. The necessity to implement EU acquis and related other international requirements is in general well understood and seen as a top priority by public stakeholders. The way of transposing relevant acquis or international principles into the applicable legislation differs with the size of the countries and the specific circumstances these countries find themselves in.

**Caucasus** The situation in the Caucasus is different. Armenia and Azerbaijan have closed borders with each other. Azerbaijan is Turkish influenced, Armenia more EU / Russian (recently a decision was made by Armenia to seek entry to the Eurasian Customs Union). Georgia is mainly western orientated. Nevertheless there are a few common issues concerning the physical border crossings in the region.

**Central Asia** The Central Asian countries have the most obvious regional similarities. They are all former Soviet Union republics, with old but nevertheless uniform laws and legal systems which are currently being overhauled. These countries could learn a great deal from each other. Some are quite advanced in some aspects and there is now a cross-border understanding that most issues can only be tackled if addressed jointly and in at least a compatible manner.

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**Recommendations therefore take into account backgrounds, status quo and development plans**

The Master Plan's recommendations for interventions, actions and measures are therefore issued on three levels:

- Cross-regional and TRACECA-wide level, where issues that concern all parties can be addressed most efficiently.
- Regional level (Black Sea, Caucasus and Central Asia) where issues that affect more than one jurisdiction are addressed.
- National and in some cases bilateral level (when a neighbouring country could lend a helping hand).

---

**Mutual assistance among TRACECA countries is to be encouraged**

As far as possible the TRACECA countries should help one another to achieve the necessary legal and related reforms. The countries which are generally most advanced in the reform process are the two EU members Bulgaria and Romania, Turkey, Georgia, Azerbaijan and Tajikistan.

### 3.1.2 Traffic Flows

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**Purpose**

This section addresses existing and potential patterns of east-west cargo movement through the TRACECA corridor, and the implications for future strategy, investment priorities and 'soft' measures.

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### *Three layers of the Master Plan*

Cargo flows are influenced by the quality of infrastructure and network conditions (the first of the Master Plan's layers). But the main determinants relate to institutional and legal obstacles (the second layer), especially those affecting cross-border movements; and the operation of services that strengthen the TRACECA corridor's attractiveness in a competitive market (the third layer).

---

### *Contents*

Throughout the TRACECA region (except in Turkey) rail traffic exceeds road traffic. This is attributable partly to the railway network that forms part of the Soviet legacy, and partly to the nature of long-haul cargo traffic within and through the region, which is dominated by bulk commodities.

There is increasing interest in containerization, which favours an intermodal transport system in which road plays a supportive role to long-haul rail and sea transport. Accordingly the Master Plan focuses on containerized and containerizable cargoes; and to the expansion and upgrading of intermodal and logistics facilities and services.

Three-quarters of cargo crossing the region is in transit between Europe and the Far East; and virtually all cargo that crosses either the Caspian or the Black Sea crosses both. Therefore, the goal must be seamless cross-border and intermodal transport throughout the region.

The TRACECA corridor competes for such traffic with a) regular, reliable liner services using larger and more fuel-efficient vessels, with the likelihood that global warming will soon make possible year-round Arctic shipping routes; and b) an aggressively commercial Trans-Siberian Railway. TRACECA must offer short and utterly reliable transit times to capture a meaningful proportion of available traffic. This requires close cooperation between all the TRACECA member countries.

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### *TRACECA Freight Traffic Flows on the Regional Transport Network have been modelled*

TRACECA owns a freight model developed in the framework of the EU – funded [Transport Dialogue and Interoperability \(IDEA\) Project](#), which allows analysis of corridor freight flows up to 2020 in one of three development scenarios:

- The Reference Scenario 2020 accommodates projected transport demand of 2020 onto the current network.
- The Border Crossing Scenario 2020 assumes improvement in border crossing points, and shows how the current network would cope with future transport demand.
- The Infrastructure Scenario 2020 shows how demand for freight transport and modal shares in the TRACECA corridor would be affected by the provision of missing links and other infrastructure developments.



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***Rail is the dominant freight mode (except in Turkey) because of its suitability for long-haul bulk cargoes***

All scenarios demonstrate a future concentration of traffic on the rail mode in all TRACECA countries except Turkey, where road also carries substantial traffic volumes. This can be explained by TRACECA's relatively well developed railway network.

The situation today is the same, with most goods within TRACECA being transported by rail. This is because the main traded commodities have affinity with rail and are carried over long distances. The main goods currently traded are oil and petroleum products, followed by crude and manufactured ores, building materials, metal products and agricultural goods. At international level the main commodities are crude oil, ores and metal waste, and solid mineral fuels.

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***Containers are carrying an increasing share of non-bulk cargoes, and offer benefits to TRACECA***

Containerization is becoming more common for non-bulk cargoes. Containerization is of great importance to TRACECA because:

- It allows efficient and secure transfer between modes, thus promoting the use of rail and sea routes for long-haul freight movements.
- Sealed containers can be transported across multiple borders more readily than loose cargoes, since there is minimal risk of abuse of transit arrangements.
- Intermediate manufactured goods are usually carried in containers, giving intermodal hubs a natural advantage as sites for assembly, break-bulk, packaging or other activities along a value chain.
- Specialized containers are available, in particular refrigerated units (reefers) that preserve perishable agricultural products over long distances. (Spoilage of such products has been identified as a significant economic cost in many countries and a barrier to developing export industries.)
- The benefits of lower costs, reduced risk of damage and enhanced reliability accrue to consumers, producers and exporters; and indirectly to governments in the form of revenues attributable to increased economic activity.

Therefore the LOGMOS analysis paid particular attention to containerizable goods, being equally relevant to:

- development of logistics facilities and services; and
- implementing the Motorways of the Seas concept.



**The LOGMOS traffic flow report accompanies this Master Plan as [Annex 2](#).**

Potential trade flows within and through the TRACECA region have been estimated and projected using several data sources. Chief among these are Eurostat, UN Comtrade, available national statistics and the TRACECA database.

For the purposes of the analysis the market was segmented into three types of trade flow:

- direct trade between neighbours;
- transit trade between TRACECA member countries, passing through at least one other member country; and
- long-distance trade between non-member countries, transiting TRACECA member countries.

The results differentiate between:

- origin-destination pairs (regional);
- direction (eastward or westward); and
- potential for containerization (full or part potential).

The table below extends projections of potential containerized trade flow through the Black Sea, the South Caucasus and the Caspian Sea, with the addition of the following processes:

- Aggregation of flows that cross each of the seas and the South Caucasus landmass.
- Application of a percentage to flows that were judged to be only partly containerizable.
- Projection from the base year to which the original trade data refer (2010) to 2020, considered to be a reasonable planning horizon for policy and investment decisions.

**Table 1: Potential Trade Flows Through Black Sea – Caucasus – Caspian Sea ('000t)**

Passing through	Fully containerizable 2010		Partly containerizable 2010		Total potential containerized trade flow, 2020 [a,b]	
	Eastward	Westward	Eastward	Westward	Eastward	Westward
Black Sea only	217	121	1,840	1,871	1,377	1,222
Caucasus and both seas	9,944	33,622	33,397	28,919	35,751	75,749
Caspian Sea only	24	19	35	1,541	62	862

[a] Percentage applied to 'partly containerizable'..... **30%**

[b] Projected annual average growth rate, 2010-20 ..... **6%**

A number of relevant conclusions may be drawn from this, and are discussed below.

**Seamless multimodal transport services are essential across both seas and the land between**

There are sufficient traffic volumes to support commercial shipping services across either the Black Sea or the Caspian Sea. But the overwhelming majority (97%) of traffic crosses both the seas and the land between them.

It seems unarguable, therefore, that the whole route between the East Caspian ports and the Black Sea ports of Ukraine, Romania, Bulgaria and Turkey should be integrated in terms of transport services and government procedures.



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***Seamlessness is needed well beyond the region, since most cargo crossing the region will be moving between Europe and the Far East***

At least three-quarters of the cargo crossing the region will be on its way between Europe and the Far East. Therefore there is an equally strong reason to achieve seamlessness across all intervening jurisdictions and necessary modal interchanges, not just those in the immediate vicinity of the two seas.

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***Competition from sea routes and the Trans-Siberian Railway constrains the realistic share of potential trade that the TRACECA trans-Caucasus route can expect to win***

It is not reasonable to assume that all potential transit cargoes can be captured by the providers of transport and logistics services in the Black Sea – Caucasus – Caspian Sea region. For lower-value, less time-sensitive goods the long-haul sea routes will be preferred because of their inherently lower costs. Moreover, with global warming, the overland routes will be competing with sea routes via the Arctic Ocean as well as via the Indian Ocean.

And the Trans-Siberian Railway has proved itself to be a formidable competitor, with an aggressively commercial outlook; a USD 6 bn investment programme; and minimal border formalities between members of the Customs Union<sup>7</sup>.

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***The situation calls for maximum cooperation and harmonization; and targeted marketing***

TRACECA can exploit several actual and potential competitive advantages:

- China's declared policy of moving the country's economic centre of gravity westward, where access to the east coast ports incurs additional cost, inconvenience and the risk of delay arising from congestion on China's own transport network.
- China's policy of moving up the value chain, shedding the low-value, labour-intensive operations. This implies scope for value-added activities at the proposed logistics centres along the TRACECA routes.
- As pointed out in Section 1.1.3 above (page 11) the shipping industry faces challenges that may increase its costs in the medium term.

To find and exploit a market niche the TRACECA governments, state agencies and private providers of transport and logistics services must cooperate fully and harmonize their operations.

There must also be a serious effort to identify and target specific market opportunities where the trans-Caucasus route can meet clients' needs with respect to cost, transit time and reliability.

It may be possible to capture only a few percent of the total potential trade flow shown in Table 1, but this may generate benefits that amply justify the necessary effort and investments. The targeted initial tonnage for the Silk Wind container block train is only 1Mt per year, equivalent to 1% of the projected potential containerized trade flow in 2020.

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<sup>7</sup> Comprising Russia, Belarus and Kazakhstan at present, with Armenia committed to membership and both Kyrgyzstan and Tajikistan likely to join soon.



### 3.1.3 MoS, Rail-ferries and Maritime Links

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#### **Purpose**

This section summarises the situation in the maritime transport sector, highlighting the issues that should be addressed in the Master Plan. Technical recommendations regarding these issues are offered in Section 3.4.2.

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#### **Three layers of the Master Plan**

With respect to the first layer of the Master Plan, Infrastructure, this section describes the situation at each of the maritime countries' ports and highlights deficiencies. Institutional/legal issues mainly concern the need for improved communication between countries and stakeholders, and more involvement of the private sector. Operational issues focus on services and procedures to support containerization and efficient operation of the ferries.

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#### **Contents**

The TRACECA corridor is unique in that it links two regions via two seas. Maritime issues are therefore central to TRACECA's success. Accordingly the section begins with a review of each country's ports, including those of the indirect beneficiaries. Efforts are being made to upgrade ports but necessary further improvements are identified, especially at Poti and Aktau and including rail connectivity with the ports' hinterlands. There is substantial overcapacity at some ports, notably in Romania and Ukraine.

In all sectors the study has emphasised the need for harmonized systems and procedures, improved communications, stakeholder dialogue and private sector involvement. The maritime sector is no different.

Fleet capacity is sufficient at present but there may be a shortfall in container feeder capacity if containerization grows as expected and desired. There is an immediate need for improved operations and procedures that effect the efficiency and hence competitiveness of the ferry services.

Finally, the section points out that many technical and organizational problems that confront TRACECA have already been addressed successfully in other regions, notably the EU and ASEAN, which therefore offer a model of 'best practice' which TRACECA can follow.

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#### **Importance of maritime links in intermodal transport solutions in TRACECA**

*Map 6 and Map 7 show maritime links in the Black Sea and Caspian Sea respectively*

There are some 20 international transport corridors in the World, some having a single mode and a single route, some multiple routes and modes. Most of them evolved from existing land transport networks. Very few are based on direct coastal or short-sea links. And one only, TRACECA, is connecting two regions through two seas separated by the 885 km-long Caucasus mountain range.

This unique feature highlights the crucial importance of maritime links, ports and their hinterland connections.



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**The Maritime Sector Overview accompanies this Master Plan as the [Annex 3, part I](#) and the actual maritime TRACECA maritime links are presented in the [Annex 3, part II](#)**

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The Master Plan capitalises on in-depth analysis of manifold components of the maritime sector in TRACECA beneficiary countries, the way they interact between themselves and with the other transport modes. It also considers the role of the ports on the Black Sea shores of Romania, Bulgaria and Turkey and the activities they perform in relation with the TRACECA Corridor.

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**Best practices help define, plan and monitor maritime initiatives**

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The experiments carried out elsewhere in the world, and the relevant best practices, are quoted as references to help public and private stakeholders define, plan and monitor the development of their maritime transport industry in the smoothest and most efficient way in the context of the global economy.

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**Assessment of Port systems in TRACECA Region is considered in the Master Plan**

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As border-crossing points and core nodes for intermodal operations, ports are critical interfaces in the transport chain. A number of key administrative and trade procedures take place there.

Port facilities in the Caspian Sea and in the Black Sea on the TRACECA routes, their infrastructure and organization, their operations and traffic and, where relevant, the evolution of the legal and institutional frameworks are considered for the Master Plan findings.

Each port is assessed in terms of its appropriateness to handle the types of goods considered relevant for the LOGMOS Project. These include liquid and solid bulk cargoes stuffed in rail wagons, trucks, containers or on mafi-trailers, cars and other rolling equipment. Oil and gas as well as commodities and raw materials carried in tankers or other means of bulk transport, requiring specialized ports and terminals, are out of the scope of the analysis.

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**State of Affairs in the Port Sector in:**

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The following sections describe and discuss the port sector in each of TRACECA's maritime member countries (including the LOGMOS indirect beneficiaries).

**Bulgaria**

There is no significant deficiency in the Bulgarian port system. The on-going privatization process will allow modernizing and expanding container and other terminals in Burgas and Varna. The pending matter of the rehabilitation of the Varna Ferry Complex (VFC) could become a problem for TRACECA routes in a mid-term perspective if the rail-ferry and Ro-Ro traffic between Bulgaria and Russia keeps on growing. In all likelihood no decision will be taken until the government decides on the privatization of the Freight Services of BDZh (owner of VFC), the heavily-indebted Bulgarian National Railway Company, a difficult process and a highly sensitive issue which has remained unresolved for years.



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**Georgia** Georgian ports are fully privatized, container and rail-ferry operations being handled by APM at Poti and ICTS at Batumi. APM, when they took operations over at Poti in 2011, promised to develop container yards next to berths (at the moment full and empty containers have to be stored on off-dock depots outside the port area), enhance the existing port railway network and improve the draft at berth to receive bigger feeders. To-date there is no sign of implementation of these plans. A priority issue is the extension and reinforcement of the breakwater followed by the dredging of the access channel and port aquatorium. During stormy weather the port may remain closed while sand drifts accumulate reducing the navigability of the channel. This entails frequent disruptions of liner schedules and makes Poti a less predictable port of call.

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**Romania** Constanza in Romania is the biggest Black Sea port with all possible facilities, all of them privately operated. However, owing to the GFC the volumes handled represent only half of its design capacity. EU-financed infrastructure investments are directed towards improving internal and external connectivity, both road and rail. The biggest challenge for Constanza is to modernise direct rail connections (block container trains, Ro-La) with Central and Western Europe, enabling the port to play a greater role as a transit and international logistics platform.

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**Turkey** Port infrastructure in Turkey is already well-developed. Being mostly privatized its further development will be based on market demand and its expected evolution. The Marmara sea ports are taking the lead as hubs for Black Sea containerized trades relayed by feeders.

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**Ukraine** Ukrainian port infrastructure is not underdeveloped but oversized. Traffic has reduced substantially due to a) the GFC and subsequent plummeting trade volumes; and b) the reassignment to Russian ports of cargo in transit from and to Russia and other CIS countries. Container terminals' utilization fell below 1/3 in 2012. The situation is however evolving in the right direction as long-expected laws were passed in 2012-2013 addressing the issues of privatization, concessions and specialization of ports. Decisions to allocate limited State-budget resources to infrastructure projects designed for handling not more vessels but bigger ones also represent a positive sign.

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**Azerbaijan** Pending the opening of Alyat, and in spite of reduced space and time-limitations for access, the 'old' port of Baku keeps on working at full capacity. Reportedly there are no significant operational difficulties.

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**Kazakhstan** Of all the ports considered, Aktau is certainly the one facing the biggest infrastructure challenges. The facilities for rail-ferry operations (rail ramp and rail tracks) are barely enough to handle the present trade volume and insufficient to attract extra cargo flows. There is no Ro-Ro berth so these vessels wait unduly long and cannot be operated to a fixed schedule.

This lack of proper / dedicated infrastructure prevents Caspian Shipping Company of Azerbaijan from exploiting fully the massive potential of TIR trucks which would otherwise cross the Caspian and drive into and out of Kazakhstan via Aktau. The problem will become even more acute if and when KazMorTransFlot's vessels enter into service. Unfortunately neither the rail-ferry nor the Ro-Ro trade appears to be in the priority list of AISCP management.

Postponing a decision, which will have to be taken anyway, may put at risk the smooth development of other Kazakh infrastructure projects. The socio-political target of the Government of Kazakhstan with the new Zhezkazgan-Beyneu road and railway links is to bring Eastern and Western Kazakhstan closer to each other. From an economic standpoint it is meant to boost the development of the Western provinces, partly relying on an increased role for Aktau as Kazakhstan's only commercial sea port. The plan includes the Silk Wind Project which clearly relies on the attraction of cargo flows to and from Western China via AISCP. However, these heavy investments may be partly wasted if trucks and wagons cannot be handled at Aktau. The port infrastructure therefore becomes a strategic issue.

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**Turkmenistan** The Government of Turkmenistan has clearly and repeatedly stated its intention to make of the country a transport hub in Central Asia; and to develop maritime transport to better integrate the country into the global economy. Rehabilitating, modernizing and expanding the facilities of Turkmenbashi port are among the priorities of national transport policy. The role that rail-ferry, Ro-Ro and containerized transport will play in the development of the country's sea-borne trade has been fully recognized. Although the Consultant could not yet obtain from the competent authorities any first-hand up-dated information on the evolution of works carried out at Turkmenbashi, reports and talks with other involved stakeholders, particularly Caspian Shipping Company of Azerbaijan (the main TRACECA user of the port) suggest that the process is gathering momentum.

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**Meeting needs of operators and users is key to success**

Considering the existing port facilities, on-going and future development plans, the infrastructure of TRACECA's main ports – with the notable exceptions of Aktau and to a lesser extent Poti – does not represent an obstacle to operating regular liner services. It should be able to meet the future needs of operators and users.



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***Nodal function of ports should be strengthened***

The several public and private projects to construct logistics centres, implemented or planned at all ports, are evidence that the key logistics dimension of a port complex has been fully understood. Strengthening the nodal function of TRACECA ports will contribute to the enhancement of the Corridor.

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***Maritime links need proper hinterland access***

Hinterland rail and road connections in Central Asia and Caucasus are currently being rehabilitated and extended. Turkish Railways are implementing a very ambitious plan of modernization and upgrading, running until 2023, making up for years of public and political disregard for railway transport.

A lot has still to be done on the Western shore of the Black Sea where TRACECA joins the TEN-T, with the notable exception of Moldova. The railway organization there is being reformed completely on the basis of the most modern concepts in the rail transport industry. At the same time the network is being overhauled to support both the Moldova's own international trade through its single port of Giurgiulesti and the country's South-North transit function.

The Viking rail operation from Lithuania to Ukraine via Belarus is picking up commercially. However Odessa, the main Ukrainian container port, faces a severe shortage of marshalling facilities and a lack of speedy, reliable and competitive rail connections both with the rest of the country and with foreign neighbours. Constanza and Bulgarian sea ports also suffer from deficient and missing domestic and international rail freight links. Besides, in Romania and Bulgaria the Danube plays practically no role in inland waterway transport of containers.

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***Fleets and market coverage in the Black and the Caspian Sea areas:***

***...Ro-Ro and Ro-Pax***

***...rail-ferries***

There is no gap in either the Black Sea or the Caspian Sea with regard to the fleets deployed and services offered. All three modes under review (rail, container and Ro-Ro) are fully covered in the Black Sea by national and foreign companies while the existing rail-ferries and Ro-Ro in the Caspian Sea could carry much more cargo than they do today. The addition of further rail-ferry, Ro-Ro and Ro-Pax vessels by KazMorTransFlot and Turkmenistan may even result in overcapacity if operating conditions are not improved.

***...container feeders***

The absence of container feeders in the Caspian does not constitute a serious barrier at this stage. It will still be some time until the container trade builds up and block container trains like the Poti-Baku and Silk Wind operate at full capacity. Even in such cases, and before considering the acquisition or building of adequate modern tonnage, the shipping companies in the Caspian may well resort to chartering sea-river container vessels from the existing Russian and Ukrainian fleets.



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**Port operations and liner services**

Leaving aside the pure Ro-Ro and container services which are operated satisfactorily by mostly foreign carriers in the Black Sea and globally, the services presently delivered by the three TRACECA combined rail-ferry / Ro-Ro national carriers (NaviBulgar, UkrFerry and Caspian Shipping Company of Azerbaijan) remain of an overall poor quality on both seas.

The reasons for this pertain more to external factors than to the management of the lines, and are discussed below.

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**Black Sea:**

The antiquated operational procedures applied by UZ in the management of the rolling stock moving between Ukraine and Caucasus cause delays at ports. But the 'privatization' by UZ of its rolling stock, resulting in a higher cost of the wagon-lease and land transport, drove shippers to use other modes than the Black Sea rail-ferries, which are only now recovering market share.

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**Scope of the rail-ferry trade is limited**

Besides, owing to the loss of Russian cargo from the Ilychevsk – Poti route (it used to represent about 30% of the volume loaded on the rail-ferries at Ilychevsk) 90% of the cargo volume now carried by the ferries moves between Ukraine and Georgia only, the remainder being exports from Bulgaria to Georgia. Exports from Ukraine constitute most of the traffic. Transit cargo to/from Ukraine's immediate neighbours (Hungary, Slovakia, Poland, Russia) constitutes another 16%.

This means the geographical scope of the rail-ferry trade is very limited and there is no visible potential for growth.

The prospects for the rail-ferry traffic from Derince, near Istanbul, to Poti are poor. Once the modernization of the Turkish railway network is completed, in about 10 years' time, the need for such a service will disappear.

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**Competition of trucking industry**

A substantial amount of consumer goods shipped in railcars could be containerized or sent in trucks – and probably will be in future, in response to the irregularity of the rail-ferry service. Even bulk traffic in wagons has partially shifted to bulk vessels. In fact the competitive advantage of the rail-ferry mode in the Black Sea is questionable, since the sea leg is at best equal to and in the worst case longer than the sum of rail legs both ends.

The loading of trucks in combination with rolling stock is not an optimal solution. The two modes should be separated as soon as this becomes economically viable, which implies that a number of sailings should already be dedicated to Ro-Ro transports to attract trucking companies and build up the market. This would also allow deploying gradually more modern and cheaper Ro-Ro tonnage.



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**Caspian Sea** Aktau port management is implementing more efficient procedures with a view to shortening the storage and handling time of cargo and stay of vessels. This should help to remove at least some of the obstacles which today hinder regular operations. It should also allow measures similar to those advocated for the Black Sea before the deployment by Kazakhstan and Turkmenistan of their to-be-built rail-Ro-Pax tonnage.

Still, it is clear that the improvement in the rail-ferry and Ro-Ro services in the Caspian Sea depends in the first place upon the on-going enhancement of the port infrastructure and hinterland connections in the whole region.

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**Main findings:**

***Supply chain orientation needs to be addressed at the policy level***

In spite of the considerable amount invested, operation of the ports and fleets remains generally sub-standard and hampers the development of sea-borne transport. National regulatory policies need be reviewed in the light of economic globalization and the spread of the supply-chain concept. The respective roles of the State – acting through public companies and public monopolies – and of the private sector have to be redefined.

---

***Common actions and business dialogue are needed***

To overcome the numerous non-physical barriers hindering the sustainable development of the maritime sector, TRACECA countries have the primary duty to foster dialogue at national and regional levels enabling their stakeholders to address and solve together issues of common interest. IT-based modern communication networks need be implemented at national and regional levels.

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***Expose operations to international trends***

Shipping in the Black Sea and Caspian Sea regions in the mid-term will be impacted by long-term trends in the world shipping industry resulting from climatic, political, economic, technological and regulatory changes.

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***Trustful business relations***

Cooperation across natural borders and linguistic and cultural boundaries is the hallmark of shipping. As such, it is also a great, silent contributor to world peace and friendship between people.

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***Searching for win-win options***

Also, difficulties in maritime transport are never solved single-handedly or through authoritarian decisions. Fair, sustainable achievements result from cooperation and open-mindedness.

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**Best practices help achieve success**

ASEAN and the EU are good examples of groups of countries which, for centuries, used to make a battlefield of their common seascape, but now share it peacefully for their mutual benefit. Their accumulated experience and the efforts they jointly made have produced efficient solutions and practices acknowledged as the best by the world shipping community. This wealth of successful initiatives and projects, implemented over a long process of trial and error, should be used in TRACECA countries to save time and resources and avoid repeating the mistakes that others already made elsewhere.

### 3.1.4 Railway Sector

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**Purpose**

The purpose of this section is to demonstrate the current state of affairs in the railway sector in TRACECA, and its readiness to a) participate fully in the development of logistics supply chains and b) contribute to the motorways of the sea concept. It forms the basis for technical recommendations presented in Section 3.4.3.

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**Three layers of the Master Plan**

The three layers of the master plan are addressed as follows:

- **Infrastructural:** Infrastructural parameters are discussed; the main railway routes of TRACECA are presented; missing links are highlighted; and issues such as asset maintenance and private sector access to infrastructure are raised.
- **Institutional/legal:** The main issues are the pace and nature of different countries' railway sector reforms, unharmonized procedures and discrepancies between the CIM/OTIF and SMGS/ OSJD systems.
- **Market/operational:** Railway operators have not been responsive to market opportunities, especially in the related fields of containerization, logistics and intermodal transport. The Silk Wind container block train is a welcome innovation in the region.

---

**Contents**

The section starts with a discussion of the role of railways in the TRACECA corridor; the sector's ability to contribute to development of supply chains; and the use of railway links in sea transportation.

Ongoing reforms and liberalization are acknowledged, together with problems of rolling stock shortages due in part to erosion of the system (a Soviet legacy) whereby wagons were free to move between railway jurisdictions on payment of a fixed daily rental.

The soft factors hindering the development of railway logistics capabilities and seamless cross-border rail services are addressed. There is discussion of the opportunities afforded by the Silk Wind pilot project, subject to political constraints in the Caucasus.



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***Participation of railways in modern logistics processes constitutes a new market opportunity in the sector***

Currently the railways of TRACECA countries do not fully exploit logistics business solutions or provide door-to-door and just-in-time services as demanded by customers. Capturing this segment of the market represents a challenge to TRACECA railway businesses.

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***A railway sector report accompanies this Master Plan as [Annex 4](#)***

The rail sector has been analysed in all TRACECA countries. The findings are presented in the railway sector report that is enclosed to this Master Plan. This analysis provides a solid ground for Master Plan considerations in regard to: existing railway companies, infrastructure networks and rolling stock, performance of rail corridors, physical and soft barriers, applied tariff policies as well as ongoing plans and projects in the railway.

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***TRACECA railways use the sea links***

The TRACECA Corridor originates in Eastern Europe (Bulgaria, Romania, Moldova and Ukraine) and from Turkey. The route then heads through the Black Sea to the ports of Poti and Batumi in Georgia and follows the transport networks of the South Caucasus countries.

From Azerbaijan, using the Caspian Sea rail-ferries (Baku - Turkmenbashi, Baku - Aktau) the TRACECA route connects to the railway systems of Turkmenistan and Kazakhstan, whose transport networks are connected to Uzbekistan, Kyrgyzstan and Tajikistan and extend to the borders of China and Afghanistan.

The railway network of Turkey will soon join CIS network in the East, when the railway line Kars-Tbilisi opens and provides uninterrupted access by sea to the European network via the Marmaray Tunnel.

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***Scattered reforms, liberalization and privatisation process***

Although all TRACECA member states are taking steps towards reforming their railway sector, the pace and scope of reform vary between countries. Some countries focus on restructuring and partial privatisation of infrastructure (such as container terminals in Armenia, Georgia and Kazakhstan); others concentrate on rolling stock (as in Kazakhstan and Ukraine).

The liberalization of access to railway infrastructure is progressing slowly.

Most countries plan or just have started reforms aiming at the separation between infrastructure and freight and passenger operations within the national railway companies.

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***Diversified approaches to operations and management***

Currently, there is no unified approach to management of rail infrastructure and operations within the '1520 space'<sup>8</sup>, despite majority of physical infrastructure assets were inherited from the Soviet railway system. Each state now develops its own approach based on external and internal factors.

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<sup>8</sup> Referring to the area where the normal gauge is 1520mm.



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***Lost cargos and deteriorated assets***

Despite possessing a rather comprehensive railway network, the region's rail freight traffic declined with the fall of the USSR due to a dramatic decrease in rail-based industrial production, and strong competition from the road sector.

In the majority of countries railway infrastructure has deteriorated considerably. In the last 20 years the level of investment in railways was generally low. Additionally, in some countries rolling stock has not been renewed as necessary. This has hindered railway performance in terms of cost, travel times, reliability and safety. Freight train speeds vary from 60 to 80 km/h, with restrictions of 20-40 km/h on some sections within particular countries. Moreover, there are long hold-ups, especially at border crossings.

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***Natural monopolies prevent from optimisation of logistics networks***

National railway operators determine train services; location and access to terminals; and charges for using their infrastructure. Typically there is no railway regulatory body. Safety functions still rest fully with the national operator. In almost all cases this is a state-owned monopoly which owns and manages all railway infrastructures and operates all services. However, some countries recently have announced their readiness to allow private freight and passenger operations.

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***Rolling stock shortages and unsuitability for logistics processes***

Common-use wagon stock is no longer available in the most important railways of the CIS countries. Public inventory wagon fleets are now operated as privately owned wagons fleets presumably in an uncoordinated manner. This is proving an artificial barrier to efficient deployment of rolling stock, hindering the development of reliable supply chains on the corridor level.

This together with general fleet wear and tear, contributes to serious shortage of railway wagons and container platforms.

Nevertheless, TRACECA countries are taking steps towards rolling stock renewal as well as upgrading and repair of the existing fleet. These developments are taking however different pace.

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***Soviet legacy networks vs. corridors driven by new political dimension factors***

The majority of the national rail networks in the TRACECA region date back to the railway system of the Soviet Union (1520 gauge), centred on Russia and Moscow. New lines are now being constructed, sometimes aimed at bypassing a neighbouring country due to political reasons.



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***Missing links for efficient logistics along TRACECA***

A number of rail connections are missing on major TRACECA routes. An example is a limited connectivity of one of the major TRACECA ports, Aktau, to eastern and southern Kazakhstan. The Kazakh rail network still keeps the pattern inherited from the Soviet times with a general orientation towards Russia with no one track really stretching across the country from west to east.

However, this subject is being currently addressed in the National Logistics Strategy of Kazakhstan that aims at increased and competitive participation of Kazakhstan in global supply chains, and improvement of transport network connectivity and interoperability.

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***Soft factors hindering development***

The rail logistics bottlenecks, are also rooted in sub-optimal asset management; severe shortcomings in procedures or operations that generate undue delays; and dignity issues (especially at border crossing points in relation to border-crossing procedures).

These factors are considered by market players as more severe shortcomings of the sector, than physical condition and availability of infrastructure or rolling stock. In short, TRACECA railway services are insufficiently responsive to market requirements.

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***Efficient Railway System may provide capacities and attract some of seaborne trade flows from international corridors***

Three main International east-west railway corridors connect Europe and Asia:

- **The Northern Corridor** links Eastern Europe and the PRC, Korean Peninsula and Japan via Russia and Kazakhstan (the Northern corridor and the Russian national Trans-Siberian Railway corridor partly overlap),
- **The Central Corridor** (partially including TRACECA network) runs from Eastern Europe to the PRC via the Black Sea, Caucasus, the Caspian Sea and Central Asia,
- **The Southern Corridor** joins South-Eastern Europe and the PRC via Turkey, Iran and Central Asia.

TRACECA member states are a part of these international rail corridors. However, as TRACECA includes both overland and sea links, its competitiveness within the Eurasian railway corridor family depends also on the efficiency of sea transport, the intermodal facilities in the ports, and their hinterland connections.



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***Silk Wind Project – a railway land bridge – needs establishment of vital links in TRACECA countries***

A new Silk Wind block train service is planned to operate through Kazakhstan (from the Chinese border) to Turkey and the Black Sea region via the Caspian Sea and the Caucasus. This project is aimed at a significant reduction in transit time and a much improved quality of service. The following network links are vital for the smooth operation of the Silk Wind:

- Construction of new railway line between Georgia and Turkey (Baku-Tbilisi-Kars). The line should be fully operational in 2015.
- Construction of 988 km new railway line between Zhezkazgan and Beyneu in Kazakhstan: this will shorten the distance from PRC to the Caspian Sea by about 1,000 km. Construction has already started and the line should be operational in 2016.
- Construction of the new Baku International Sea port in Alyat: The first phase is due for completion in 2015-2016. Modernisation and extension of the port of Aktau, Kazakhstan.

With opening and further development of the Marmaray project a single rail transport corridor connecting PRC to Europe will emerge.

In terms of attraction of additional cargoes to the route, there is little hope of an opening of the Armenian-Turkish border soon. Rail transit via Armenia is also not prospective, as long as the border with Azerbaijan remains closed and the political situation with Iran does not improve.

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***High tariffs and non-transparent pricing of services***

Rail tariffs are high and not market oriented. Travel and delivery times are not fixed having been determined by several transport operators with little or no coordination. Shippers' perceptions of rail services in the TRACECA region are negatively affected by poor reliability and low safety and security of cargoes. The transport costs are altogether higher than on other corridors.

Despite the unified tariff policy being applied across the CIS, variations in the funding of railways and the different methods used to calculate freight tariffs have resulted in significant fluctuations in transport costs. Obtaining quotations is a difficult and time-consuming process and illegal payments are unpredictable.



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***CIM vs. SMGS -different liability regimes on TRACECA-TRACECA and PRC -TRACECA-EU routes***

Development of railway transport between Central and Western Europe, and Eastern Europe and PRC, is restrained by the existence of two different systems of international transport law: SMGS/OSJD and CIM/OTIF. Contracts for international railway freight transportation are being regulated by CIM for the states of Western and Central Europe and by SMGS in Eastern Europe and PRC.

These statutory acts are based on different legal systems. Although they are used in the same way with regard to Customs clearance, they have quite different regimes of liability.

In mid-2011, following the decisions of the CIT General Assembly in 2010, the CIT General Secretariat together with the OSJD and OTIF and with the support of SNCF, DB AG, LG and RZD launched a project to make the CIM/SMGS legally interoperable.

The primary objective of the common CIM/SMGS railway consignment note is to simplify and shorten transit and border-crossing procedures by applying a single transport document recognised by all Customs services throughout the journey from origin to destination through, from and to countries using either SMGS or CIM.

Another objective of the joint CIT/OSJD project is to extend the application of the common CIM/SMGS consignment note to cover transcontinental transportation between Europe and PRC in transit through Kazakhstan on the West-East and East-West axis.

The most recent developments in the implementation of the common CIM/SMGS consignment note have confirmed the important role of the joint CIT/OSJD project on 'CIM/SMGS Legal Interoperability'. The growing interest in the use of the common CIM/SMGS consignment note on the land bridge from China to Europe – there has been a 20-30% increase in its current use compared with last year, confirmed by DB, UZ and RZD – and its imminent implementation on the Black Sea are examples that underline the necessity of continuing the work on the CIM/ SMGS Consignment Note Manual.

In September 2011, China already adopted in its railway transport system the provisions of the CIM/SMGS consignment note. Therefore the routes to Kazakhstan, Mongolia and Russia are open to the CIM/SMGS consignment note.



### 3.1.5 Road Sector

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#### *Purpose*

This section summarises the current situation in the road sector in TRACECA countries, highlighting the problems that need to be addressed in the Master Plan. It forms the basis for technical recommendations presented in Section 3.4.4.

#### *Three layers of the Master Plan*

The main points relate to the three layers of the master plan as follows:

- **Infrastructural:** Road density is low in km/km<sup>2</sup> terms, but not in relation to population. Traffic volumes are moderate on most of the TRACECA network but growing rapidly. Maintenance is generally insufficient to sustain quality of service. There are deficiencies at key nodes, especially at the Caspian and Black Sea ports.
- **Institutional/legal:** There is a need for institutional capacity building in both the public and the private sector. The TRACECA Road Safety Action Plan should be implemented fully.
- **Market/operational:** Market penetration is constrained by an ageing fleet of freight vehicles, and by poor intermodal and nodal facilities and services.

#### *Contents*

The section deals with the sectoral situation with regard TRACECA roads; the extent and infrastructural parameters of the main road network; maintenance; the road interface with ports and other border crossing points; institutional capacity; road safety; and traffic volume and growth.

#### *The road sector report accompanies this Master Plan as Draft [Annex 5](#) and outlines of the state of logistics infrastructures, institutional settings and traffic figures*

Road sector performance in TRACECA countries has been assessed with respect to its contribution to overall attractiveness of the TRACECA corridor for global logistics chains and efficient connections to maritime links. The assessment was based on the three Master Plan layers: Infrastructure, Market and operations, Institutional settings. The first two layers are addressed in the detailed assessment of the road sector and analysis of the logistics and multimodal capabilities of the corridor. Institutional dimension of road transport functioning is outlined to provide summary information on organisational settings of the sector in the TRACECA countries. The pilot projects also consider capabilities of the road sector in door-to-door logistics concepts and multimodal supply chains.

#### *Established [TRACECA road routes](#)*

The TRACECA corridor includes established and approved road links, crossing international borders and contributing to an integrated interstate transportation system. The routes are defined by means of interstate agreements between at least two signatories to the MLA. This process evolved throughout the history of TRACECA, resulting in recognition of about thirty international road links comprising the network of TRACECA road routes.



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**Road Infrastructure in TRACECA:**

*Map 2 and Map 3 show TRACECA road routes, including information on IFI projects.*

**Main network density in km / km<sup>2</sup> is lower than in Western Europe, but comparable per 1,000 inhabitants**

The total length of the road network in the primary beneficiary countries is about 425,300 km of which only 10% constitute the network of international or main highways. Less than 20% of the main network is dual carriageway, mainly in Central Asia.

The total length of the established TRACECA road routes in Central Asia and ENPI is about 19,860 km representing 43% of the main road network in these countries.

The average road density per thousand square kilometres is significantly lower than in Western Europe. However, if only the main network km per thousand inhabitants is considered the regional density is comparable to that in developed countries.

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**Condition of the road networks in the project area –regional connectivity improves since late 90s due to recovery in investments in the road sector**

A decade after the collapse of the Soviet Union the region suffers from a lack of appropriate maintenance of the road networks, leaving a significant portion in poor condition. The situation differs between the countries, but in general efforts to gradually improve the quality of the main network have been made within the past ten years.

Currently, about 40% of road sector improvement projects are dedicated to infrastructure development in TRACECA Central Asia and ENPI countries.

According to various surveys about 20% of the main corridors in Kazakhstan, Tajikistan and Moldova, 60% in Uzbekistan, 100% in Azerbaijan and Georgia, about 30% in Kyrgyzstan and 40% in Ukraine are considered to be in good condition.

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**46 border crossing points in ENPI and Central Asia**

There are 46 inland Border Crossing Points along the established TRACECA road routes. Some of these BCPs are closed whilst some have restrictions to transit traffic and are limited to bilateral traffic.

**Major international corridors coincide with TRACECA routes**

More than two thirds of established TRACECA road routes in Central Asia and ENPI are also Asian Highways or main corridors leading to European Networks via Ukraine and Moldova. In the EaP process on transport the corridors leading to core border crossings of the EU are also endorsed on the technical and political levels.

**Traffic volumes in the project area**

The volume of road freight transport in Central Asia and ENPI is moderate, in particular when compared with volumes in developed countries. Nevertheless, these volumes have been increasing rapidly in 2005-2010. Although the modal share of road is significant, from 30% to 45% in TRACECA countries, freight transport activity of the corridor is dominated by rail.



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***Institutional settings are discussed in the Country Profiles:***

[Azerbaijan](#), [Armenia](#),  
[Georgia](#), [Kyrgyzstan](#),  
[Kazakhstan](#), [Moldova](#),  
[Tajikistan](#), [Turkmenistan](#),  
[Ukraine](#), [Uzbekistan](#)

The capabilities of road sector institutions in transport sector governance vary between countries. Road haulage performance and understanding of the logistics function also differ from country to country, ranging from world leadership in the provision of full logistics services in the road haulage industry at one end of the corridor to individual trucking companies offering basic services at the other.

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***The road safety issue has been analysed in greater detail by the [EU-funded TRACECA Land Transport Safety and Security Project](#), and is further supported by the EU in follow-up technical assistance projects to come***

In 2009-2011, the [EU-funded Land Transport Safety and Security Project in TRACECA](#) has worked towards improvement of transport safety and security environments in the EU neighbouring and Central Asian countries. European standards are the benchmark.

The project focused on strengthening administrative capacities of the national authorities charged with regulating transport safety and security environments, and improving their knowledge and skills. The project also raised awareness of transport safety and security standards and regulations amongst the wider public. The [Action Plan](#) for road safety and security for 2012-2016 has been defined and adopted. The LOGMOS Master Plan relies on the analyses and recommendations of this [Action Plan](#) when it comes to interfaces with logistics processes and Motorways of the Sea.

---

***Multimodal function and connectivity of roads with hubs – links to seven TRACECA ports in Central Asia and ENPI Countries***

Established TRACECA road routes in the Central Asian and ENPI countries connect to seven TRACECA ports with ferry crossings:

- Aktau (Kazakhstan) and Turkmenbashi (Turkmenistan) on the eastern side of the Caspian Sea;
- Baku (Azerbaijan) on its western side (plus the new port of Alyat under construction);
- Poti and Batumi (Georgia) on the eastern side of the Black Sea; and
- Ilyichevsk and Odessa in Ukraine on its western side.



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### **Road Freight Potential along the TRACECA corridor**

Within the framework of the [EU-Funded IDEA project](#) (2009-2011), a Transport Model has been developed for establishing projections of future road freight volumes on the main transport corridors in TRACECA countries.

The total volume of freight transport projected to be carried in 2020 on TRACECA corridors is estimated to about 22 bn t-km. This is equivalent to 14% of the total volume of freight transported in the countries of the project area in 2010, but reaching this level depends not only on infrastructural improvements but also on the elimination of intangible bottlenecks and the application of modern logistics concepts.

Such improvements will also make possible the attraction of transit traffic which currently avoids the TRACECA corridor. Transit traffic is now only a small proportion of the total freight carried on the most loaded sections of TRACECA routes.

### **3.1.6 Inland Waterways**

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#### **Purpose**

Inland waterways (IWWs) play a minor role in the TRACECA region at present, and are excluded from the official TRACECA corridor network. Nevertheless, it is important to understand their role; whether it could usefully be expanded to the benefit of TRACECA and what obstacles would have to be removed. This section addresses these questions as a basis for the Section 3.4.5 which makes technical recommendations for the sector.

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#### **Three layers of the Master Plan**

The three layers of the Master Plan are addressed as follows:

- **Infrastructural:** Both of the region's major IWWs (the Dnepr and the Danube) suffer to different extent from seasonal navigability and obsolete shore facilities. In addition the Dnepr suffers from poor maintenance and lack of investment to modernise the river fleet. The lack of cooperation between riparian states has prevented necessary dredging of the Danube's fairway.
- **Institutional/legal:** Substantial institutional reform is needed if the IWWs are to play an important role in TRACECA. In Bulgaria and Romania there are excessively bureaucratic attitudes and processes. In Ukraine the responsible state agencies need skills development to become more proactive and effective.
- **Market/operational:** IWW traffic volumes are well below those recorded in Soviet times. While there is some traffic growth now on the Danube, there is stagnation on the Dnepr. A low level of market penetration is attributable to ageing fleets, poor onshore intermodal and nodal facilities and politically-driven market distortions.



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## Contents

The section outlines the situation on each of the IWWs separately: first the Danube, then the Dnepr. For each waterway the section describes infrastructural conditions, maintenance, operation of onshore facilities and vessels and constraints recovering to their market share in the long-haul transport sector where IWWs enjoy an inherent cost advantage.

These constraints include the need for cooperation and coordination among riparian state (10 in the case of the Danube); the decline of industries that historically used IWWs; privatisation policies that did not achieve optimum allocation of responsibilities between the private and public sectors; and orientation of services and onshore facilities towards bulk rather than non-bulk (especially containerized) cargoes.

Attention is paid to the importance of complementary intermodal and border control facilities and processes; the IWW components of existing national and EU transport strategies; and EU-funded projects that could support necessary improvements in the IWW sector.

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## References

Reference materials supporting the presentation this section is included into [Annex 6, part I \(Dnepr\)](#), [and Annex 6, part II \(Danube\)](#).

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### ***Master plan capitalises on the thorough investigations of the status quo and developments in the inland waterways sector***

The Danube and the Dnepr are currently not officially included into the physical network of the TRACECA routes. Both are rivers of international importance, however, and represent the core of TRACECA's inland waterway system. Besides, the Danube, the 10th TEN-T core corridor since October 2011, is directly linked to the Black Sea MoS.

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### ***Weak position in transportation market characterises the sector***

For economic and political reasons the freight volumes carried on the Dnepr and the Danube collapsed on average by one third after the fall of the Soviet Union and did not recover. The most severe loss occurred on the Dnepr. The share of inland waterway transport in the overall transport task in TRACECA is very low.

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### ***The inland waterway report on the Dnepr is enclosed to this report as [Annex 6, part I](#), the report on Danube is enclosed to this Master Plan as [Annex 6, part II](#)***

For the purpose of this Master Plan the Dnepr and the Danube were studied with regard to their potential to improve the linkage between TRACECA and the EU TEN-T network and to enhance the TRACECA corridor's competitiveness in terms of:

- Infrastructural capacity;
- Institutional and legal settings; and
- Markets and operations.

These components are presented for Danube and Dnepr respectively.



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**The Danube:  
Infrastructure**

The Danube is the second longest river in Europe, with 2,414 km of navigable length. It plays a major role in connecting together:

- Western, Central and Eastern European regions and all of them to the Black and North Sea,
- Riparian countries between themselves,
- At national level, the various regions of the riparian countries.

The Danube crosses four TRACECA countries: Ukraine, Moldova, Romania and Bulgaria. The river ports in these countries have a potential to play a role in logistics chains between the ENP region and Europe.

The part of the Danube crossing TRACECA states corresponds to three different segments with the following infrastructural characteristics (Map 15):

- Danube – Black Sea Canal;
- Maritime Danube; and
- Lower Danube.

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**The Lower Danube**

The Lower Danube is the natural border between Romania and Bulgaria. The major ports on this segment are Giurgiu in Romania, Ruse and Lom in Bulgaria. This is the part of the river where the navigation conditions are most difficult.

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**Maritime Danube**

Maritime Danube refers to the last stretch of the river, starting from the inland ports of Galati and Braila down to Tulcea at the river's mouth in the Black Sea in Romania. This part of the Danube is characterised by stable navigation conditions, so the above-mentioned ports serve both river and sea going vessels.

---

**Danube – Black Sea  
Canal**

The canal has a total length of 64.4 km. It is entered from the Black Sea at Constanza Port through the locks at Agigea. Then it turns to the northwest and joins the Danube at Cernavoda. The canal shortens the distance from the Black Sea to Upper and Lower Danube river ports by approximately 400km.

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**Institutional, Legal and  
Policy Dimension**

The basic challenges for implementing a global Danube development policy include:

- the need to coordinate efforts on the level of 10 countries, 3 of which (Serbia, Moldova and Ukraine) are not EU members;
- the participation of Russia in the Danube Commission whose role and tasks need to be redefined in compliance with modern requirements; and
- the existence of only one funding source, the EU.



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***EU Strategy of the Danube region***

In 2010 the EU adopted the [“European Union Strategy for the Danube Region” \(EUSDR\)](#). The targets of this strategy are the improvement and stabilization of navigation conditions and modernization of river infrastructure. Economic topics such as the river fleet and ports are not in focus of this policy. To date the major achievements relate to the River Information System (RIS) and ecological matters (ship waste management).

The settlement of core issues on the TRACECA part of the Danube remains hampered by the fluctuating political situation in Romania and Bulgaria. Changing political and socio-economic priorities, imbalance between environmental concerns and other societal expectations, centralized bureaucratic processes and inability to involve the private sector in both countries slow down the development of a sustainable transport corridor on the Danube.

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***Market and operations***

The main patterns of current market and operational challenges are presented below.

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***Supply chain patterns constitute challenges on Danube development***

Since the opening of the Danube-Black Sea Canal 30 years ago, a considerable amount of traffic (especially to and from landlocked Central European riparian countries) has been re-directed from the Maritime Danube to Constanza. This reduced the function of the ports in the delta (Reni, Izmail) as transshipment hubs from sea to river vessels. The trend accelerated after the collapse of the Soviet Union.

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***Industrial crisis***

Traditional industries located in the Maritime Danube region (steel factories, shipyards, etc. in Braila and Galati, fisheries in the delta) are suffering from serial crises which further impact the tonnage of cargo handled.

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***Weak connections with economic zones***

Both in Romania and in Ukraine the Maritime Danube regions are not situated on key economic routes. They are located far from the main industrial, logistics and trading centres. This disadvantage is exacerbated by poor land transport connections to the hinterland, especially in Ukraine.

---

***Port privatisation policies were not linked to economic commitments***

An inadequate privatization policy in Romania gave many river port facilities to investors without imposing any obligation to restore or augment traffic. Laws and regulations however evolved and privatization processes (now more active in Bulgaria) follow the usual compromise practice.



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***Unattractive tariff conditions***

The rigidly centralized stevedoring tariff policy followed until very recently by the Ukrainian authorities has led to the loss of key traffics by Izmail and Reni. The newly increased flexibility has now given birth to competition between both ports which could lead to the closure of Reni as a port.

The unreasonable tariffs quoted by trucking companies from the Odessa region finally spurred Moldovans to open their own port at Giurgiulesti and develop their own shipping services to Constanza and Istanbul, thus bypassing Ukraine and saving additionally on sea-freight costs. Reni lost the handling of Moldovan grain exports.

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***Cooperation and mutual addressing of challenges is essential***

The level of cooperation between the four TRACECA Danube countries can be rated from low (Romania-Bulgaria, Romania-Moldova) to very low (Romania-Ukraine). States regard each other as competitors. Their cooperation is mostly limited to technical matters of fairway maintenance. According to stakeholders, joint projects under the umbrella of the EU Regional Policy need improved monitoring and coordination of actions.

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***The Dnepr***

Infrastructural, policy and institutions, and market and operation conditions are discussed below.

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***Infrastructure – Navigation***

The longest and best part of the Dnepr flows through Ukraine. The navigation length from Kiev to Kherson, at the mouth of the river, is about 825 km.

There are six consecutive reservoirs and 5 locks on the Dnepr allowing navigation along almost the entire basin. The guaranteed depth between Kiev and Kherson is of 3.65 metres. This is enough for the vessels' draft at the presently available volume of traffic and facilitates potential navigation between the Dnepr river ports and the Black and Mediterranean seaports.

Navigation conditions, river infrastructure and the fleet need to be improved urgently. Locks are reportedly worn out at a level of 55%. The fleet is in need of renewal with a wear and tear level said to reach 89%. The condition of infrastructure on the Dnepr does not represent the same physical barrier to river transport as on the Danube.

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***Ports***

The major ports are Kiev, Dnepropetrovsk, Zaporozhye and Kherson. Ports are mainly equipped for handling bulk cargo. Container handing facilities are few and have limited lifting and storage capacity. Kherson has various plans to become a major container hub.

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***Institutional, Legal and Policy Dimension***

The core problems here are of macro-economic and institutional nature, since there are no known ecological issues. The transition from a fully-planned to a free-market economy is not complete in Ukraine. Social issues linked with this process still play a driving role in determining development priorities.



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**Customs reforms**

Tangible reforms in the transport sector started only very recently with the implementation of a new Customs Code and a set of laws defining modern rules of management and operation of sea ports.

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**Railway reform**

Railway reform has begun at a much slower pace. River transport on the Dnepr offers an alternative for the carriage of bulk commodities, and therefore competes with rail transport performed by the national railway company.

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**Regulation and management of the sector – lack of coordination**

The State Sea and River Transport Policy Department of the Ministry of Infrastructure of Ukraine is the main regulatory body for the river transport in Ukraine.

The Ukrainian Government undertook privatization of river shipping companies and port facilities. This process did not make provision for continuing maintenance and management of the river itself.

Although state agencies and institutions monitoring the river remained in place, they operate in a legal vacuum and carry out their duties in an increasingly disorganized manner.

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**Ukrvodshliakh**

The state-owned ‘Waterways Enterprise’ (Ukrvodshliakh) is responsible for the development of the public inland waterways and aims to create the conditions required to guarantee safe navigation. This enterprise is also responsible for the implementation of policies relating to transport, technical requirements and the environment in the operation of the waterways and navigable locks in Ukraine.

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**RIS - Administration of Sea Ports of Ukraine**

[River Information Service of Ukraine \(RIS\)](#): RIS services the Dnepr basin from Kizomyts to Vyshgorod and Danube section of waterways and has operated since 2012. This organization is a branch of the state enterprise ‘Delta-Lotsman’ which has the monopoly of all sea and river pilotage operations. ‘Delta-Lotsman’ is in turn a daughter company of the state enterprise ‘Administration of Sea Ports of Ukraine’ (ASPU) created in 2013.

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**Transport Strategy of Ukraine supports development of the inland waterways**

The [‘Transport Strategy of Ukraine till Year 2020’](#) document, the State programme for the development of inland waterways for the years of 2014-2021 and the EU funded project [‘Support of Integration of Ukraine in Trans-European Transport Network TEN-T’](#) define a package of system reforms and measures that include:

- legislative reforms;
- administrative reforms;
- operational reforms; and
- infrastructural reforms and human resourcing.

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**Market and operations**

The main market considerations are discussed below.



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***Bulk cargo dominance on the river transport***

The economic crisis continues to affect inland water transportation. The river fleet is mainly used for the transportation of low-tariff cargo: local construction materials such as sand (the main commodity), crushed rock, stones, slag, etc. Global trends did not change cargo patterns on the Dnepr.

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***Containerization and modal shift***

The IWW sector's potential to participate in advanced logistics chains and motorways of the sea projects will depend largely on its capacity to provide efficient conditions for shipping standard transport units.

A potential market niche for container traffic on the Dnepr is associated with regional cargo flows to/from the major industrial parts in Ukraine.

This traffic could be partly shifted in the future from road to river transport during the navigation period. The EU funded project '[Support of Integration of Ukraine in Trans-European Transport Network TEN-T](#)' assessed that river traffic could reach 411,800 TEU (188,800 TEU imports and 223,000 TEU exports), mainly via Dnepropetrovsk and Zaporozhe river ports by 2020.

The potential volume of the container traffic via Kiev River Port could reach 347,600 TEU (177,400 TEU upstream and 170,000 TEU downstream) which would ensure a balanced trade.

The total volume of containers transported on the river could therefore amount to 759,400 TEU, of which 366,300 TEU upstream and 393,100 TEU downstream, with a potential annual growth of 5 to 10%, which is in line with the global container traffic growth trend observed at the time of the study.

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***Forecasts need adjustments to economic conditions***

According to stakeholders, however, this forecast should be reduced by 15-20% because of the on-going economic crisis. This would be a more reliable basis for planning of container service investment on the Dnepr.

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***Market players Ukrrichflot***

The former Soviet monopoly [Ukrrichflot](#), now a private company, remains the main river carrier on the Dnepr (40% of the total freight volume carried on the River) and port owner. It offers a range of transportation services on the inland waterways of Ukraine. In addition, the company maintains shipbuilding and ship-repairing entities.

A number of other, smaller, carriers operate on the Dnepr and the Danube. They include the state-owned Ukrainian Danube Shipping Company.

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***Industrial integrated logistics***

However the trend is for large industrial companies (among them agro-industrial and mining companies which are also big users of river transport, such as Nibulon or Ferrexpo) to develop their own



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transport facilities (wharves, ports, open storage and silos, barges, tugs, vessels, hoppers and other types of rail cars, shore cranes and floating river-mouth transshipment facilities, etc.).

The overall supply of services currently does not correspond to user requirements in terms of regularity, route and delivery concepts, and offered schedules, safety and reliability.

### **3.1.7 Hinterland Connections, Multimodal and Logistics Capabilities**

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#### **Purpose**

This section summarises the situation in the TRACECA region with respect to logistics, multimodal transport and connectivity between the corridor network and its hinterland. It forms the basis for technical recommendations presented in Section 3.4.6.

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#### **Three layers of the Master Plan**

All three layers of the master plan are involved, as follows:

- **Infrastructural:** The purpose, specifications and locations of major logistics centres that will promote the development of logistics chains and the attractiveness of the TRACECA corridor.
  - **Institutional/legal:** The institutional and legal settings necessary to support private sector investment and operation of logistics and multimodal facilities.
  - **Market/operational:** Integration of TRACECA member countries into the global economy; and the development of a specialised logistics sector offering world-class services that will contribute to the regional economy.
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## Contents

Since world-class logistics and multimodal facilities do not yet exist in the region, the section begins by defining such facilities (logistics centres and dry ports) and explaining their role in promoting economic efficiency, diversification and development of value chains.

It goes on to describe systems of ownership, management and operation that have proved successful in Europe and elsewhere, in particular stressing the need for a) free and equal access to logistics centres; b) diversity of services and industrial activities that go beyond warehousing, distribution and transshipment; and c) 3PL (third-party logistics) service providers.

Independent, private operation of logistics facilities is essential, whereas the existing freight terminals are mostly run by state-owned railway operators. Therefore significant institutional reform is a prerequisite.

The output of two earlier EU-funded technical assistance projects is acknowledged and used. They identified and analysed the feasibility of proposed international logistics centres in each direct beneficiary country.

---

***Intermodal freight transport involves the use of intermodal containers or vehicle/swap bodies (Intermodal Transport Units ITU), using multiple modes of transportation (rail, ship, barge and truck), without any handling of the freight itself when changing modes***

Logistics centres are connected to at least two transport modes, which usually are road and rail although other modes (air, sea and inland waterways) can also be integrated. The method reduces cargo handling, and thus improves security, reduces damage and losses, and allows freight to be transported faster. The key benefit is the reduced cost of a multimodal transport chain (rail, inland waterway and short-sea shipping) compared with exclusively road trucking.

The intermodal transport chain involves:

- **direct connections** between one terminal / logistics centre (origin) and another (destination) using either rail transport, barge transport or short sea shipping, without any transshipment of the goods; and
- **intermodal terminals / logistics centres** where handling and collection/delivery operations of the ITU are organized.

---

***Inland intermodal terminals (partly or completely) serve as Dry Ports as far as border crossing procedures for international freight transport in ITUs are concerned***

A dry port is 'a common user facility with public authority status, equipped with fixed installations and offering services for handling and temporary storage of any kind of goods (including containers) carried under customs transit by any applicable mode of transport, placed under customs control and with customs and other agencies competent to clear goods for home use, warehousing, temporary admissions, re-export, temporary storage for onward transit and outright export' (ECE/ UNCTAD/CCC).

Thus the technical and organizational handling capacities of the inland intermodal terminals are vital, but equally important is the effective and seamless functioning of public authorities in connection with international intermodal transport chains.



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***Logistics operators, warehouse facilities and additional service providers settle on the same territory as the intermodal terminal facilities and the public authorities responsible for border crossing procedures***

Such an approach helps to avoid additional handling operations of the cargo and creates both an economy of scale and opportunities to bundle activities into their spheres of collection and/or final distribution of cargo.

The settlement of various logistics operators close to the terminal handling facilities creates the critical mass for bundling traffic for rail and/or inland waterway operations, where ITUs are shipped in large quantities (by block trains or barges).

At the same time, transportation and handling of ITUs is reduced or avoided for border crossing procedures and other checks by the respective authorities (through bonded warehousing on-site, physical inspections in the premises of the operator, etc.).

Additionally, the concentration of a significant share of import and export cargo flows on site significantly reduces the costs of border crossing procedures and customs clearance for the public sector.

This concentration also creates an attractive environment for service providers and specialised companies to settle within a logistics centre.

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***The establishment of an efficient inland terminal/Dry Port/Logistics Centre is a large-scale real estate project, with both private and public sectors involved***

Developing inland terminals / logistics centres should be primarily a business-related activity. However public authorities have a clear role to play in creating the **appropriate framework and conditions**, and in promoting the development of this kind of logistics infrastructure.

In particular, **public participation** is essential for the creation and the development of such large-scale infrastructure projects. As an example, in order to mitigate the pressure of land speculation around large cities, public authorities can promote land acquisition and prepare the areas for future private logistics operators.

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***Free and equal access to the terminal facilities and neutral operator of the logistics centre***

Equal and free access by all market players to the intermodal facilities (at least for those that have received public funding) is a fundamental principle of the operation and success of a logistics centre.

The operator of the handling facilities should be obliged to render its services to all on equal terms, and should not compete with the logistics operators attracted to the site.

A standalone facility of one company (public or private) does not qualify to be a logistics centre in the understanding of this Master Plan, even if two modes of transport are in place.



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***International multimodal logistics chains based on intermodal transport units depend on integration into the global or regional economy***

TRACECA beneficiary countries are largely dependent on the export of raw materials and semi-processed goods ranging from ore, metal and metal products, natural gas, oil and oil products to grain, cotton, vegetable oil and other agricultural products (see Section 3.1.2 'Traffic Flows' and Country profiles). The majority of imports (Fast Moving Consumer Goods [FMCG], machinery, construction materials etc.) move in containers and/or trucks.

Industrial production demanding sophisticated industrial logistics is relatively weak and concentrated in a limited number of industrial sites (the automotive industry in Uzbekistan and Ukraine, assembly of locomotives and railway rolling stock in Kazakhstan and Uzbekistan, etc.).

Although an increasing proportion of the exports named above is being containerized, the trade is not balanced and creates the problem of repositioning empty containers.

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***Outsourced logistics services and distribution of consumer goods concerned (3PL) is in its initial stages of development. Demand is growing***

Only in some countries (Kazakhstan, Ukraine) do international and/or national retail chains, requiring outsourced logistics operations (3PL) have a significant share of the retail market.

Some large industrial enterprises (such as the automotive industry in Ukraine) have started to use the services of specialised logistics companies.

In recent years there has been an increasing demand for high-quality 3PL services, A-class warehousing etc.

---

***The majority of intermodal hinterland terminals remain in the hands of state railways or affiliated companies***

The railway companies (or their specialized subsidiaries) directly own and operate the majority of terminals. In many cases they are in charge of final collection and delivery of containers by road.

Issues that remain to be resolved include:

- non-discriminatory access to terminals;
- rail-side access for all licensed railway undertakings;
- road-side access for all operators; and
- transparent capacity allocation and pricing.

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***The infrastructure of most of the hinterland railway container terminals needs to be upgraded***

The existing railway container terminals are mostly designed exclusively for container handling, with no area for logistics and value-added activities. Some offer the service of customs clearance and customs brokerage, but with limited warehousing space available.

The railway terminals are generally small, historically located close to city centres and with no modern handling equipment, little storage capacity and limited space for extension.

Most of them do not correspond to the requirements of efficient container block train operations.



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***Public investment into hinterland terminals has been relatively low***

Public investment in the past was directed mainly at the rehabilitation and upgrading of airports, railway lines and road infrastructure. See the overview of the road sector in [Annex 5](#) and the railways sector in [Annex 4](#) to this Master Plan.

Substantial investment is planned to develop intermodal facilities at the newly opened border crossing point at Khorgoz, Kazakhstan (Chinese border, corresponding to the growing transit container flow from China towards Russia and Europe) and at the Angren Logistics Centre, Uzbekistan (related to the traffic to/from Fergana Valley).

Several private logistics operators have successfully created their own terminals and warehousing facilities, including railway access with the ability to handle railway containers and railway cargo (Almaty and Astana, Kazakhstan, APAVEN, Armenia).



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***As a result of two EU funded TRACECA projects eleven feasibility studies were prepared***

***The projects were included into the scope of the LOGMOS project as Pilot Projects***

Feasibility studies for the following international logistics centres (ILC) were prepared:

- ILC at Zvartnots International Airport, Yerevan, Armenia;
- ILC at the New International Sea Trade Port at Alyat, Azerbaijan;
- ILC at TAM/Veli site, Tbilisi, Georgia;
- Aktau International Logistics Centre, Aktau, Kazakhstan;
- Osh International Logistics Centre, Osh, Kyrgyzstan;
- ILC at the Free International Airport Marculesti, Marculesti, Moldova;
- Nizhniy Pyandj International Logistics Centre, Nizhniy Pyandj, Tajikistan;
- Turkmenbashi Port International Logistics Centre, Turkmenbashi, Turkmenistan;
- ILC at Boryspil Airport Commerce Park, Kiev, Ukraine;
- ILC at Dry Port EuroTerminal Odessa, Ukraine; and
- Navoi Airport International Logistics Centre, Navoi, Uzbekistan.

The concept described above is new to most of the TRACECA countries of the region and most of these projects are still in their initial stages of development.

The support for logistics centres with the features mentioned above requires awareness-building within the public sector where new inland container handling terminals are widely perceived as a private sector activity with no public support required or as a task to be accomplished by the (public owned) railway companies.

The preparation process for implementation is complex and decision-making on several levels takes more time compared to a single mode rail or road public investment project.

For a complete overview of the proposed international logistics centres and their status of implementation refer to the Pilot Project Fiches<sup>9</sup>.

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<sup>9</sup> The Pilot Project Fiches per country can be downloaded here: [Azerbaijan](#), [Armenia](#), [Georgia](#), [Kyrgyzstan](#), [Kazakhstan](#), [Moldova](#), [Tajikistan](#), [Turkmenistan](#), [Ukraine](#), [Uzbekistan](#)



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***Some TRACECA countries included the proposed projects into their National transport strategies***

Armenia has decided to include the proposed project at Zvartnots International airport into the priority project list of the Government.

The Georgian Ministry of Economy and Sustainable Development is continuing efforts towards implementation of the project at the TAM/Veli site in Tbilisi.

Moldova has included the proposed logistics centre at the Free International Airport Marculesti as one of the intermodal hubs to be developed within the National Transport and Logistics Strategy.

Most of the proposed projects are included in a draft intergovernmental agreement under UN ESCAP to be developed as future Dry ports (see Map 14).



### Text box 9: Logistics Platforms and TRACECA Challenges

The era of globalisation witnessed a series of structural changes that impacted the logistics industry. World trade patterns involved new global players such as China and Turkey. Multimodal infrastructure became essential to trade integration and the operational efficiency of transport networks.

More than 80% of global foreign trade involves maritime traffic. Ports and logistic platforms have played a crucial role in facing up to the challenge of growing demand. . Proper access to hinterland has increasingly required integration between maritime, road and rail transport.

Consequently the very concept of logistics has been altered. Logistics is now a key factor in the industrial and commercial competitiveness of a country or region. Integrated logistics, i.e. synchronised multiple processes of a supply chain, requires the development of synergies of action and information exchange in transportation, processing and production across time and space. In this respect logistic platforms have been of great importance for enabling competitive production and reducing transport costs and negative externalities.

A logistic platform is described by the European Association of Freight Villages EUROPLATFORMS, as '*a **defined area** within which **all activities** relating to **transport, logistics and the distribution** of goods, both for **national** and **international** transit, are carried out by **various operators**. It is **run** by a single body, either public or private, and is **equipped with all the public facilities** to carry out the above mentioned operations*'.

This entails a specialised area with the infrastructure and services required for multimodal transportation and added-value services, where different or even competing market players coordinate their activities and benefit from economies of scale. It is important to distinguish between various types of entities, in particular:

- 1. Unimodal distribution centres** – involve infrastructures operating as storage facilities, mainly suitable for management of product flows and associated stocks. These infrastructures are primarily unimodal and are usually designed for road transport.
- 2. Logistic areas/parks** – involve more integrated operations, with stock consolidation and both local and regional distribution activities. Such spaces include at least two modes of transport. Typical examples are air or maritime freight centres.
- 3. Multimodal platforms** – include traffic consolidation and freight distribution points for transshipment between various modes of transport. Such infrastructures are also known as hubs and are usually linked to ports and international routes. Their nodal function includes transport-related activities and both national and international distribution. They are generally run by a neutral body and host various settlers on their territory, enabling distribution, manufacture and assembly functions.

A specific set of conditions is required for successful implementation of logistic programmes, including public sector support. A logistics platform' success depends on:

- Good access to its hinterland.
- High demand, in terms of market size and types of product.
- Well-structured financial arrangements, ensuring access to capital for development and a fair sharing of risk.
- Facilities that match the local economy's needs with regard to vertical integration, transport, handling, storage and high-level logistics services.
- Public sector support and involvement.



### 3.2 Comprehensive and Core TRACECA Networks and TRACECA Corridor

The Master Plan vision for proper integration of the TRACECA region into the TEN-T follows the logic of the EU definition of core and comprehensive networks and takes into account regional peculiarities.

The TRACECA corridor consists of approved routes that form an interstate transportation system, defined by means of official agreements between signatories to the MLA. This system evolved throughout the history of TRACECA. Map 1 shows these existing TRACECA routes. Therefore, for the purposes of the Master Plan the established and approved TRACECA routes are considered as a core network, with an emphasis on the main nodes of economic activity relevant for the TRACECA region.

TRACECA countries are recommended, however, in the medium run to start a review process of the corridor in order to enhance its ability to connect main nodes in the East-West dimension by determining a core network. Such a review should take into account existing processes of determining strategic corridors overlapping with TRACECA: EaP Transport Processes in the ENPI region, UN ESCAP and ABD CAREC Processes in Caucasus and Central Asia.

This Master Plan makes the distinction for the purposes of smooth MoS and logistics processes between a core network to be completed by 2030 and a comprehensive network feeding into it, to be completed by 2050. These time frames are challenging, but comply with the EU's own schedule for core and comprehensive network completion. Both layers are multimodal and include logistics platforms.

The purpose of the **core network** in the TRACECA region is similar to that of the EU's internal core network: to prioritize the most important links and nodes, to ensure interconnectivity within the region and integration into the TEN-T.

Due to policy factors the **comprehensive network** is not within the scope of this Master Plan. The comprehensive network may include any component of a TRACECA member-state's transport network that has the potential to feed the TRACECA routes in the long-run.

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**Consideration of the core network in the TRACECA region:**

The LOGMOS Master Plan provides the framework for development of the core transport network of the TRACECA region connecting it to the Trans-European Network – Transport (TEN-T) in order to facilitate trade and foster economic growth in the East-West dimension.

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**Existing TRACECA route**

This vision capitalises on achievements of the TRACECA states in definition of the corridor routes, ports and terminals that lie on the approved TRACECA route.

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**LOGMOS pilot projects on MoS and selected logistics projects**

Incorporation of MoS into the core network of TRACECA makes the corridor safer and more environmentally friendly.

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**TRACECA TIF**

It also takes into account the efforts of the countries to promote investment in physical infrastructure on the TRACECA corridor, especially those promoted at the TRACECA Investment Forum prepared with the support of the EU-funded Transport Dialogue and Network Interoperability Project.

The status of implementation showing the development in this core network of the TRACECA region is presented in Map 9).





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**EaP Transport Process**

*Maps 10-13 show EaP road and rail networks endorsed on the technical and political levels*

Considerable attention is paid to the EaP process on transport for Ukraine, Moldova, Armenia, Azerbaijan and Georgia; and defined routes, links and hubs under these initiatives for countries with a direct land or maritime border to the EU.

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**Core Network – main linkages and nodes**

The Core Network thus represents the region's strategic nodes and linkages, and is based on the approved TRACECA routes (Figure 4).

Projects to enhance the Core Network will be financed largely by TRACECA stakeholders, with possible contributions from IFIs and bilateral funding agencies interested in their regional significance. The aim is to ensure that the TRACECA corridor progressively becomes competitive, not only contributing to integration of its member-states with TEN-T but also becoming more viable as a route for global supply chains between EU, TRACECA, PRC and beyond.

---

**Since the Master Plan focuses on the TRACECA corridor, other routes and links existing or emerging form a Comprehensive Network from TRACECA perspective**

Any corridors and routes in the TRACECA countries may be included in the comprehensive network if they feed the core network at regional or national level (Figure 5).

---

**Requirement for core network – environment and settings**

TRACECA countries represent a variety of social, economic and political backgrounds. The size of their transport networks and economies cannot be compared directly. Countries are divided by national boundaries and customs regimes. Eight TRACECA countries are landlocked. So it would be unreasonable to apply quantitative criteria to the definition of core networks, as in the common market of the EU.

---

**Core network definition capitalises on EU experience and is line with on-going TRACECA development processes**

The core network vision stems from extensive consultations with TRACECA and EU stakeholders. It may be summarized as:

- Linking the major social and economic centres and gateways of TRACECA countries to the EU.
- Putting in place key infrastructure and supporting 'soft' measures to underpin development of the TRACECA region.
- Creating a competitive East-West transport corridor to promote trade among TRACECA countries; between TRACECA countries and others outside the region; and between external trading partners using TRACECA as a transit route.



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**Technical level element check – a node or a link**

Following the EU reference model, the core network was considered taking into account both technical, policy and legal parameters of TRACECA.

On the technical level network elements are nodes or links of the TRACECA route:

- Major nodes meeting certain statistical criteria with regard to international traffic; being capital cities or other important social/economic centres; or being major ports, airports, hubs or international border-crossing gateways.
- The links between these nodes by rail, inland waterways and road (both existing and missing links).
- Sections with major traffic flows or providing access to the land-locked countries, on which infrastructure needs upgrading or new construction to remove a bottleneck.

For specific interventions, policy criteria should be checked.

---

**Qualitative parameters to define core network components**

There are qualitative policy and legal requirements, which are also reflected in the LOGMOS pilot projects selected using multi-criteria analysis (MCA), described in section 3.3 of this document (page 91). They may be summarized as follows:

- Policy support and ownership providing clear incentives to keep the core network improvement on-track.
- Contribution to regional integration of TRACECA, enhancing international connectivity.
- Technical requirements (for infrastructure elements) such as affinity to MoS and multimodal logistics concepts, enhancing safety, or allowing for interoperability between modes.
- Potential for contributing to a modal shift away from road transport, or other environmentally friendly effects.

These requirements could be applied to a network element jointly.

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**Master Plan Core network elements:**

*existing TRACECA routes*

Existing and approved TRACECA rail, road and maritime routes and ports, as depicted on the [TRACECA map of 2011](#), are the basis of the **regional network** and represent transport elements for **committed support** by the countries.



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**... EaP routes on East – West Axis**

The ongoing process of the EaP Transport Panel in the sector-specific policy domain has been defining the regional transport network connected to the TEN-T, and identifying priority interconnections in terms of relevant hubs and links in the ENP countries.

Most of these projects lie on the TRACECA corridor but are not yet included into it. But they are relevant for East-West transportation and are considered as part of the TRACECA core network. The links included into the EaP maps in the wider North-South dimension are considered as parts of the comprehensive network feeding into the TRACECA corridor (for instance routes in Armenia).

In addition, some routes in Moldova, Armenia, or Azerbaijan that were depicted on the EaP Transport Panel's maps or on existing TRACECA routes are, for political reasons, not operational at the moment (see more details in the Section 3.5) of this Master Plan. However, they are considered as vital for regional development, and their operation by 2030 is deemed necessary to the improved functioning of the TRACECA corridor

---

**International border crossing on...:**

International main border-crossings for both sea and land modes are considered for three categories:

- TRACECA – TRACECA border crossings, including TRACECA – EU TRACECA category;
- TRACECA – EU border crossings;
- TRACECA – other third country borders.

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**...TRACECA-TRACECA...**

The core network incorporates TRACECA – TRACECA border crossings with the objective to improve these for seamless flows of goods through the route.

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**...TRACECA- EU and ...**

TRACECA – EU border crossings are included into the network in line with the EaP Transport Panel results, to ensure target improvement of the links heading to the EU by 2030.



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**TRACECA - Far East Dimension**

In terms of attraction of cargo from outside TRACECA and EU, the core network also includes major international border crossings on the East-West axis.

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**North-South dimension to be included into comprehensive network**

Border crossing points on the Northern and Southern Borders of the TRACECA region are outside the scope of this Master Plan. These nodes are relevant to the comprehensive network, however.

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**LOGMOS projects:**

Terminals, industrial centres and logistics nodes are essential elements of the Master Plan, supported by TRACECA. The routes between these nodes are seen as linking the major social and economic centres and gateways (ports, airports and land connections) and shortening economic distances between them by application of MoS or logistics chains.

---

**Capital cities**

Such nodes are shown both on TRACECA and EaP transport technical level maps. The capital cities are included into the core network of TRACECA countries. This applies to logistics centre facilities in all capital cities of the TRACECA corridor, including those of the landlocked countries (Yerevan, Tashkent, Bishkek, Chisinau and Dushanbe). The capital cities of Kiev and Astana are relevant for TRACECA as major centres of consumption and production.

---

**International Logistics Centres**

**Major intermodal hubs attracting and serving international traffic**

Major international logistics centre projects in the Western and Central Asian parts of TRACECA are already located on the existing TRACECA network, being main distribution or transshipment hubs as well as having high potential for contribution to international trade. Such centres in Odessa, Tbilisi, Baku, Aktau, Turkmenbashi or Osh are included in the core network.

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**Four identified logistics centres in landlocked countries help unlock trade potential in the future**

Four logistics centres, identified mainly in landlocked countries (Marculesti in Moldova, Navoi in Uzbekistan, Osh in Kyrgyzstan, Nijnyi Pjandj in Tajikistan) by the size of their possible operation cannot be treated as international multimodal logistics centres. However, these centres in the future can play a role in unlocking market potentials for these countries and improving attractiveness of the logistics infrastructure. Therefore they should be supported by TRACECA.



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***For non EaP countries initiatives of UNESCAP and CAREC define committed development framework for dry ports– East-West dimension contribute to the TRACECA network***

***Map 14 shows the Location of UN ESCAP dry ports***

For these countries development of the nodal function of their capital cities and major industrial clusters is supported by national or international initiatives. Such programmes as ABD CAREC or the UNESCAP initiative on development of dry ports under intergovernmental agreement (see more details in a draft of the [Annex 7: Findings and Results: Hinterland Connections, Multimodal and Logistics Capabilities](#)) are considered in the LOGMOS Master Plan. The nodes included into the dry port agreement on the East-West links already represent a commitment of the countries to remove such bottlenecks.

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***MoS links (maritime and block trains)***

The MoS projects defined for the Black Sea and the Caspian Sea are located on the TRACECA network, connect major ports and hubs and are essential elements of the core network. This implies also the Silk Wind Block Train, and Baku – Tbilisi – Poti block train services.

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***Inland Waterways***

Inland waterways of TRACECA, mainly the rivers Danube and Dnepr, are included into the core network.

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***TIF – projects***

TRACECA Investment Forum projects were selected by the countries as initiatives contributing to cohesion of the TRACECA network. These projects are considered as elements of the core network too. Some of them are identical to LOGMOS pilot projects.

---

***The core network improvement is addressed on infrastructure, market and institutional levels***

Development of the core network in TRACECA requires all three of the interrelated dimensions that are addressed by this Master Plan:

- Infrastructure and Physical Network;
- Market and Operations; and
- Institutional and Legal Levels.

These cover all relevant aspects of the current situation in the transport sector in the TRACECA region, as well as global trends towards the establishment of efficient international supply chains.



### 3.3 Selection of Projects for the Master Plan

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***LOGMOS pilot projects were selected by the EU-Technical Assistance to promote coherent TRACECA network development***

***Map 8 shows the locations of LOGMOS pilot projects***

This Master Plan benefits from the achievements and transport logistics development proposals of the EU-funded technical assistance projects from 2009-2014:

- International Logistics Centres in Western TRACECA and Caucasus.
- International Logistics Centres in Central Asia.
- Motorways of the Seas, in Black and Caspian Seas.
- Interoperability and Transport Dialogues between the EU and TRACECA.
- Logistics Processes and Motorways of the Sea II.

These proposals and pilot projects were defined through strong cooperation with the beneficiaries and project stakeholders.

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***By their nature, pilot projects for the Master Plan tackle infrastructural, legal and institutional, and market layers***

The pilot projects identified for improvement of Logistics and Motorways of the Sea Links in TRACECA are in the focus of the present Master Plan as they tackle all its dimensions, namely:

- Legal and Institutional;
- Infrastructure and Network;
- Transportation Market and Operations.

Projects vary in their scope and nature, since improved functioning and attractiveness of the TRACECA corridor depends on a blend of interrelated areas of application.

The projects involved in the TRACECA Investment Forum were duly analysed for their contribution to the Master Plan layers.

---

***Multicriteria Analysis (MCA) has been applied to these projects in order to demonstrate their relevance to the Master Plan***

MCA helped to introduce objectivity and transparency into the process of project definition by defining the selection criteria, assigning weights which reflect their importance and scoring each project with regard to each criterion.

Since the Master Plan covers both maritime and land transport networks in the TRACECA region, both universal and specific criteria are applied to define the projects and measure their impact on logistics development.



***In stakeholder consultations a set of main criteria was identified to describe the project contribution in order to improve network functioning***

The content of the MCA matrix was elaborated and adjusted jointly with the stakeholders of the TRACECA corridor whilst taking into account the following factors:

- EU best practices in network definition and developments in the networks
- MCA approach applicable for definition of MoS Projects and International Logistics Centre Projects
- Linking the MoS and Logistics Processes

These consultations revealed the following factors to be decisive in the launching or promotion of logistics and maritime link initiatives in the TRACECA region.

***The main criteria and their respective subcomponents have been weighted – weights correspond to international practice and the TRACECA local conditions***

***The CA matrix and results are presented in the [Annex 8](#)***

The analysis was undertaken on macro and micro levels, applying subgroups of criteria and individual parameters under the main five groups of decision factors, listed here and elaborated in subsequent sections:

- Policy and Political Support.
- Regional Integration.
- Technical Feasibility Parameters.
- Economic Viability.
- Environmental Impacts.

Macro analysis assessed the project’s significance with respect to integration to TEN-T and the TRACECA corridor.

Micro analysis addressed each project’s specific characteristics in greater detail and assessed their significance to the core TRACECA network.

***Policy and Political Support:***

- Ownership*
- Private sector*
- Competition*
- Mutual interest countries*
- TRACECA network priority*
- Connection to global trade*
- Linked to the EU policies*
- MOS and Logistics Nodes*

Alignment with stated EU and TRACECA policy objectives in transport, and the degree of support and ownership already evident, are factors to be considered in the assessment of a project’s viability.

Project significance at the strategic level depends on factors such as strong ownership, private sector involvement supporting competition, or support or interest of several countries, as well as location of the project on the TRACECA network, provision for connectivity between main industrial nodes or possibility to participate in the supply chain.

The projects also need to comply with MoS criteria or international logistics centres definitions as applied in the EU level.

***Regional Integration:***

This group addresses project locations and the degree to which they would enhance intermodal and international connectivity.



## Logistics Processes and Motorways of the Sea II

**Improving existing network** To this end each project is assessed as to the potential improvement of existing work or links, coverage of main transport nodes and hubs, or removing bottlenecks.

**Cross-border cooperation** The dimension of regional integration is addressed by assessing each project's inclusion into cross-border cooperation schemes, interoperability between the networks and its contribution to appropriate accessibility between the networks.

**Relevance to landlocked countries** For the TRACECA area it is very important to support projects that improve market access to the landlocked countries.

---

### **Technical Feasibility characteristics:**

This group of criteria addresses measures to develop transport and logistics technology, including information technology, with interoperability between modes, countries and agencies as a prime consideration.

#### **Involving seaways and services, logistics**

Projects scored well by contributing to innovation, improvement or maintenance of infrastructure, or modal integration. Projects supporting the combination of sea links, inland waterways and major logistics hubs are particularly important, as they follow the principle of core network formation.

#### **Trade facilitation and removing artificial barriers**

The Master Plan supports trade facilitation interventions aimed at the removal of artificial barriers, and promotion of innovative and transparent ITC solutions, thus contributing to the efficiency, safety and reliability of the corridor.

#### **Readiness and Maturity**

Not all initiatives should be greenfield. TRACECA recommends capitalising on existing projects that may need investment to improve their efficiency. Thus high scores may be given to projects that address the quality of maritime, port and intermodal services; hinterland connections; and functional partnerships involving several stakeholders.

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### **Economic Viability**

Projects differ in terms of their expected impact on cost, profitability and regional development prospects.

Under this criterion preference is given to projects for which formal cost-benefit analyses and/or business plans indicate high rates of return; qualitative analysis suggests substantial social benefits (e.g. in the form of regional development); or for which private investors are already committed or have expressed interest.

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### **Environmental Considerations**

Any specific environmental effects of a project are taken into account. These may be related to modal shift and consequent impact on CO2 and other harmful emissions.

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***The projects that score at least 75% are vital for TRACECA development – all LOGMOS projects comply with this feature***

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The Master Plan promotes projects that score at least 75% overall. This is the minimum score required for reasonable confidence that a proposed initiative supports the directions of the Master Plan.

All LOGMOS pilot projects have complied with these provisions.

---

***Action plans were developed for pilot projects to address, inter alia, the improvement of project scores and hence contribution to the network cohesion and market attractiveness***

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The pilot projects are supported by the dynamic action plans that address project contribution to legal, operational and infrastructural layers of the Master Plan.

The action plan addresses these recommendations following the criteria of project importance as defined by MCA. This approach not only selects projects that fit the Master Plan framework, but also enables monitoring of their development over time.

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***Currently defined projects do not comprise the exhaustive list, new initiatives complying with MCA criteria could be identified for development of the Master Plan***

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Currently defined projects cover the overall TRACECA core network and could be roughly split into three intervention areas:

- Silk Wind Project connecting Asia to Europe via Caspian Sea and Turkey, which not only serves as a vital direct land-based link between Europe and China, but also provides feeder routes from other landlocked Central Asia countries to the Silk Wind. In addition, functioning of the Silk Wind depends on proper running of the cross-Caspian link, and well-functioning logistics nodes in Kazakhstan, Turkmenistan, and Azerbaijan.
- The Caucasus leg is covered by the Baku–Poti–Batumi block train link, which in combination with infrastructure development at logistics nodes in Alyat, Tbilisi and Yerevan would provide a reliable link for supply chains on TRACECA route.
- For the Black Sea countries, the most important steps include development of the motorways of the sea; improvement of the transit potential (removing existing soft-barriers); and looking for new links (maritime and inland waterways).

The list of projects is not exhaustive. New initiatives to support strategic implementation of the Master Plan could be defined and developed by TRACECA countries with the help of the multicriteria analysis matrix.



### 3.4 Technical Recommendations

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***The Master Plan relies of in-depth corridor analysis***

The following technical recommendations are provided under the thematic issues tackled by the Master Plan:

- Institutional and Legal Barriers to Transport and International Trade.
- MoS, Rail-ferries and Maritime Links.
- Railway Sector.
- Road Sector.
- Inland Waterways.
- Hinterland Connections, Multimodal and Logistics Capabilities.

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***States have different and often competing interests, but cooperation can benefit all***

The TRACECA member states are to some extent in competition with one another, but at the same time they all have something to gain from cooperation. This gives rise to an inherent tension that must be recognized when devising strategies, plans and projects.

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***Systems and operating environments also vary between states, posing a barrier to cooperation***

Because of the differences in national interests, background, legal and regulatory regimes and business environments, the realisation of a seamlessly functioning, reliable, safe and commercially attractive Eurasian corridor must be a challenging goal.

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***Constructive dialogue is essential in all sectors, as is full ownership of regional projects by the governments concerned***

Consequently, implementation of the recommendations made in this Master Plan will be possible only if the member states establish and sustain a constructive dialogue. This dialogue should aim at working out solutions and procedures to improve the technical, operational, administrative, commercial and financial performance of all sectors involved in making the TRACECA corridor attractive and competitive.

To date the best examples of such cooperation are found when governments endorse and take ownership of projects – such as the Baku-Tbilisi-Kars rail line and the ‘Silk Wind’ container block train service

#### 3.4.1 Institutional and Legal Barriers for Transport and International Trade

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##### ***Purpose***

It has long been recognised that TRACECA’s development is constrained as much by institutional and legal obstacles as by infrastructural deficiencies. In Section 3.1.1 of this document these obstacles were identified and the status of efforts to overcome them was described. The purpose of this section is to present recommendations for strengthening those efforts, within the overall framework of the Master Plan.

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**Three layers of the Master Plan**

By definition this section addresses only the second of the Master Plan’s three layers: Institutional and legal settings. It recommends a range of measures to facilitate trade and relieve legal obstacles associated with border crossings.

**Contents**

This section advocates adoption of a range of trade facilitation concepts, suggesting country-specific priorities; and recommends both full ratification of the TRACECA Multimodal Transport Agreement (MTA) and a widening of its scope. For each of the two maritime regions (Caspian and Black Sea) it identifies actions to be taken to promote the single window and economic operator concepts. Finally, it points out the need for regional and bilateral cooperation, full involvement of stakeholders and importance of capacity building measure.

**Areas of attention are specified and recommended for each direct beneficiary country**

Countries will benefit from implementation of advanced trade facilitation concepts, pursued under the respective initiatives of [WTC](#), [UNECE](#), [UNSPEC](#), [UNESCAP](#) etc.

Country-specific recommendations are summarised below in the form of areas for attention by each direct beneficiary country. Recommendations are made in more detail in the legal sectoral report ([Annex 1](#)).

Recommendation domain	AM	AZ	GE	KZ	KG	MD	TJ	UA	UZ
Single Window Assistance	x	x		x	x	x	x	x	x
Economic Operator Concept	x	x		x	x		x	x	x
Custom Code modernisation	x					x		x	
Landlocked countries convention accession	x								
Delineation of borderlines	x	x	x						
Institutionalization of trade facilitation cooperation with neighbouring countries	x	x	x						
Land border crossing analysis		x							
Compulsory insurance for vehicles and transportation			x						
Port Benchmarking and KPI				x				x	
Risk Management						x			x
Twinning on Customs								x	

**Economic operator and single window are major domains for improvement both in the**

The Black Sea countries are slightly ahead of their counterparts at the Caspian Sea in terms of implementing concepts and reforms. This is due to a higher level of targeted technical assistance and twinning arrangements, and proximity to the EU and Turkey.



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**Black Sea and the Caspian Sea countries**

The countries bordering the Caspian Sea share a post-Soviet legal environment which is slow to adapt to modern requirements. In this region, a bundling of targeted assistance programs is recommended, capitalising on established regional trade facilitation initiatives. For instance, the agreement of GUAM countries on the early exchange of customs relevant information (about goods and vehicles crossing borders) can serve as a transnational normative basis to align national legislation.

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**International best practices assure global recognition**

**The [MTA](#) is a step towards a multimodal transport agreement and should be ratified by all TRACECA members**

The [TRACECA MTA agreement](#), which has not been ratified by all TRACECA countries, proposes the corner points for an internationally accepted multi-modal transport document regulating liability, insurance etc. The main principles of the [MTA](#) are based on the internationally accepted Hague-Visby rules and can therefore provide a regional normative basis for an internationally acceptable contractual document catering for the liability of a Multimodal Transport Operator.

**EU experience provides a model for developing multimodal transport networks**

The [MTA](#) does not fully meet the need for a TRACECA multimodal transport document, in line with best international practice and internationally accepted. Nevertheless it represents a step towards it and universal ratification is recommended.

TRACECA countries are not on their own in attempting to tackle this issue. [The EU Freight Transport Logistics Action Plan](#) deals with researching and developing multimodal freight transport networks in Europe. Examples of these efforts are [e-Freight](#) and [FLAGSHIP](#). Any efforts should aim to capitalise on the latest policies and practices as designed and implemented in the EU.

---

**Specific issues in multimodal transportation to be addressed**

The specific issues to be addressed by a multimodal transport agreement include:

- liability of receivers for abandoning cargo;
- failure to pay (and the option to enforce payment for) demurrage for unduly retained containers;
- liability for containers not returned;
- compensation regimes and procedures for abandoned of cargo and, recovery of losses;
- auctions by customs within a set timeframe; and
- free expatriation and recovery of the goods/cargo.

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**Addressing legal bottlenecks at border crossings**

An overview of the recommendations for the Caspian and Black Sea Regions in regard to the identification and addressing of legal bottlenecks at border crossing points is presented below.

Individual countries' concrete concerns and requirements have been taken into account. For example, Ukraine, Tajikistan and Azerbaijan have recently introduced new Customs Codes. Therefore these countries might not need assistance to draft primary legislation, but they may need support to draft sub-normative legislation.



Area of concern	Black Sea				Caspian Sea, Central Asia				
	AM	GE	MD	UA	AZ	KZ	KG	UZ	TJ
MTA / MLA	xx	xx	xx	xx	xx	xx	xx	xx	xx
Single Window Concept	xxx		xxx	xxx	xx	xxx	xxx	xxx	xxx
Economic Operator Concept	xxx		xxx	xxx	xx	xxx	xxx	xxx	xxx
Legislative reform	xx	x	xxx	xxx	xx	xxx	xx	xx	xx

***Cross-border measures require strong commitment and cooperation between neighbours and regionally***

Any cross-border measures require national, bilateral and even regional cooperation and coordination. The example of the border crossing point between Georgia and Armenia at Bavra shows how important bilateral cooperation is on these matters. The two countries disagree as to the reasons, but coordination between them was evidently insufficient to achieve a mutually satisfactory result with development of this border crossing point.

The levels of intervention and the respective functional target areas need to be clear and all key stakeholders need to be committed to the objectives of any such measure.

[EUBAM](#) is a good example of how a bilateral project between Ukraine and Moldova was implemented successfully, due to close cooperation, commitment and coordination of measures on both sides (joint inspections, information sharing, etc.).

***Linkage to other interventions promotes synergy***

To maximize potential synergy, there should be built-in linkages to other initiatives, interventions or projects (planned, ongoing or past); and to recent policy developments where applicable.

***Interventions should target concrete needs.***

Interventions can be of many types, alone or in combination. The main types are:

- technical assistance;
- exchange of experience ([twinning](#));
- information exchange platforms ([TAIEX](#), round tables etc.); and
- capacity building and training measures.

Selection of the most suitable intervention depends chiefly on:

- Analytical issues, such as the lack of legislation and lack of standards.
- Human resource related issues of institutional strengthening and capacity building.
- Hardware related issues, such as the absence of equipment and facilities.



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***Stakeholder involvement is essential***

All types of interventions should be preceded by a stakeholder mapping exercise, identifying the key national and international stakeholders, both public and private as well as those between the public and private sector, such as NGOs.

**Text box 10: Single Window Concept**

In recent decades, modern trade development has required efficient administration and seamless border-crossing services. Customs and private sector organizations have realised there is an increasing need for processes aimed at trade facilitation. Such processes were not just related to new approaches and technology, but were about modern business philosophies and requirements. The emergence of the 'Single Window' concept is one such development.

The Single Window is defined by the UNECE as a facility that allows parties involved in trade and transport to lodge standardised information and documents with a single entry point to fulfil all import, export, and transit-related regulatory requirements. If information is electronic, then individual data elements should only be submitted once.

The Single Window is designed to simplify information flows between trade and government and bring meaningful gains to all parties involved in cross-border trade. The Single Window is generally managed centrally by a lead agency, enabling the appropriate governmental authorities and agencies to receive, or have access to, the information relevant for their purpose. In addition, participating authorities and agencies should co-ordinate their controls. In some cases, the Single Window may provide facilities for payment of relevant duties, taxes and fees.

A Single Window does not necessarily imply the implementation and use of high-tech information and communication technology (ICT), although facilitation can often be greatly enhanced if governments identify and adopt relevant ICT technologies for a Single Window.

Single Window process represents a practical application of trade facilitation concepts that reduce non-tariff barriers to trade and benefit all members of the trading community through the simplification and transparency of compliant procedures.

---

***Multiple and multi-layer interventions will be necessary in some cases, with wide stakeholder involvement and time allowed for dialogue***

Multiple interventions are suggested for each jurisdiction, either on a national, a bilateral or a multilateral basis and all from the TRACECA perspective. Constant dialogue and in some cases, a multi-layer approach is needed for the stakeholder mapping exercise and this will need to be kept updated over the course of planning, programming and actual implementation.

For example, the adoption of the [TRACECA Regional Action Strategy on Maritime Safety and Security and Environmental Protection](#) at the IGC meeting in Bucharest in November 2011, was preceded by a year of dialogue involving Regional Working Group meetings; discussions and alignment within the various national maritime administrations and transport ministries; and coordination with the TRACECA PS in Baku and stakeholders in the EU.



---

**Capacity building will be a feature of all interventions to some degree**

All interventions will have various degrees of capacity building measures included and some will be additionally concerned about institutional strengthening. Both these measures are vital to ensure sustainable impacts.

Some interventions have capacity building as their principal purpose. Other interventions will have capacity building as an additional component – for example, the revision of a customs code or the drafting and enactment of bylaws.

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**3.4.2 MoS, Rail-ferries and Maritime Links**

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**Purpose**

In Section 3.1.3 the maritime sector was described and issues affecting its contribution to achieving TRACECA's goals were identified. This section presents technical recommendations.

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**Three layers of the Master Plan**

There is substantial ongoing investment in port infrastructure, relevant to the Infrastructural layer of the Master Plan, and in fleet renewal. There is also a need for improved landside connectivity and 'soft' measures in the 'Institutional/legal and Market/operational layers. Specific recommendations for the next steps on the level of identified TRACECA MoS pilot projects are outlined in Section 3.6.

---

**Contents**

Technical recommendations are specific and practical. For port operators they include fixed-days berthing, supported by formal agreements between ports and shipping lines, allowing the latter to operate to fixed schedules and so achieve much higher levels of reliability.

There should also be regulations (as in EU ports) that limit the time taken for control processes. This will require cooperation between government agencies responsible for customs and other border control operations. A recommendation is made for inter-agency 'commissions' that would board incoming/outgoing vessels for combined inspections, thus reducing port-related delays. Implementation of 'single window' and 'port community' systems would also help to reduce unnecessary port-related delays.

Many of the problems confronting the maritime sector in TRACECA countries have already been successfully addressed in other regional groupings, notably the EU and ASEAN. TRACECA should study and learn from these solutions, which are widely regarded as 'international best practice', and where appropriate adopt them.



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***Assuring regularity in shipping service improves TRACECA attractiveness***

Enhancing efficiency of the shipping sector represents a key component of improving the attractiveness of the TRACECA Corridor. There is a need to improve the shore-side operation in order to assure regular MoS and Short Sea services running regularly, according to fixed schedules. This, in turn, will help to increase the frequency of departures and reduce the overall duration of voyages.

---

***Technical recommendations target practical subjects and generate quick wins***

Technical recommendations are practical and imply no legislative amendments. Experience shows that their impact is immediate and can be measured precisely. These aim at assuring a win-win situation, reducing the running costs of the shipping companies and enhancing the competitiveness of TRACECA to attract more cargo to its shipping routes.

---

***Universal recommendations for the Black Sea and the Caspian Sea***

The following recommendations are for both the Black Sea and Caspian Sea basins, particularly for the LOGMOS Pilot Projects, connecting Varna/Ilychevsk with Poti/ Batumi in the Black Sea, Baku with Aktau and Turkmenbashi in the Caspian Sea.

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***Fixed-schedule and regular operations***

Ports have to define fixed-days berthing windows during which they can receive the vessels and give full priority to the necessary berth/rail ramp, port equipment and storage facilities to handle them within a fixed number of hours.

Shipping companies have to maintain services according to these windows, releasing corresponding long-term monthly schedules and up-dates on a weekly/daily/12/6 hour basis. Ports and shipping companies have to jointly define a set of measures to remedy adverse circumstances affecting the schedule.

This should result in the signature of technical Memorandums of Agreement (MoA) between shipping lines, ports, railway companies and operators, framing the respective duties and commitments of each party and penalties applicable in case of breach.



### Text box 11: Motorways of the Sea and Short-Sea Shipping in the EU

- The EC describes its overall target as follows:

*'The 'motorways of the sea' concept aims at introducing new intermodal maritime-based logistics chains in Europe, which should bring about a structural change in our transport organization within the next years to come. These chains will be more sustainable, and should be commercially more efficient, than road-only transport. Motorways of the sea will thus improve access to markets throughout Europe, and bring relief to our over-stretched European road system. For this purpose, fuller use will have to be made not only of our maritime transport resources, but also of our potential in rail and inland waterway, as part of an integrated transport chain... These 'motorways of the sea' should be part of the Trans-European network (TEN-T).'*

Motorways of the Sea (MoS) are therefore based on existing or new sea-based transport services integrated in door-to-door logistic chains concentrating flows of freight on viable, regular, frequent, high-quality and reliable Short-Sea Shipping (1) services (SSS).

Accordingly, they must link in priority ports with valuable multimodal hinterland connections.

Practical goals include: the absorption of a significant part of the expected increase in road freight traffic; an improvement in the accessibility of peripheral and, in the case of the EU, island regions and states; a reduction in road congestion (with 30% of road freight shifted over 300km to other modes by 2030 and more than 50% by 2050) as well as a decrease in GHG emissions generated by transport (the target set by the EC being -60% by 2050).

Apart from providing ad-hoc financial instruments (the best known being the Marco Polo Program) while mitigating the risk of distortion of competition, the EU has developed and keeps on implementing a number of consistent policies in order to create a sustainable and favourable environment for MoS and SSS initiatives (European Maritime Transport Space without Barriers, Reporting Formalities Directive and e-Maritime, Blue Belt initiative, Sustainable Waterborne Transport Toolbox, Connecting Europe Facility, Port Policy review).

- Short-Sea Shipping means the movement of cargo and passengers by sea between ports situated in geographical Europe or between those ports and ports situated in non-European countries having a coastline on the enclosed seas bordering Europe.

---

#### **...streamlining of the vessels' clearance procedures**

There should be fixed regulations (as in EU ports) for the maximum duration of control procedures.

Officers from governmental agencies (Customs, Health, Sanitary, Phytosanitary and Veterinary Authorities, Border Guards) should form a 'commission' to timely board vessels on arrival and departure. This would create a win-win situation both for ports in terms of berth occupancy and for vessels in terms of maintaining schedules.

Progressive implementation of single-window and port community systems in all TRACECA countries, combined with the general introduction of pre-declaration procedures, represents a welcome revision of administrative regulations that should be sustained.



---

***Common IT Platform for rail-ferry liner service with access and date exchange for all stakeholders involved***

A common IT-platform for rail-ferry services will facilitate the exchange of information. This platform would be linked to the involved port community systems and the railway companies' IT systems.

The platform will help:

- railway companies to plan locomotive deployment and space for timely wagon operations;
- ports and shipping companies to improve planning of Ro-Ro embarkation or disembarkation;
- shipping companies and their agents to respect sailing schedules.

Railway companies are recommended to release to the ports and shipping lines daily up-dated lists of full and empty wagon availability with all relevant information on cargo type / weight per laden wagon. In addition, Railway companies should send to ports and shipping lines' agents a monthly plan (up-dated on a weekly basis) of the full and empty wagons expected to arrive at the ports' marshalling yards with their present location and status, corresponding ETAs and cargo type / weight per laden wagon.

---

***Paperless exchange of information for all data***

Exchange of information is recommended to be performed in the future using only modern paperless electronic means (including where necessary digital signature(s)).

---

***Address improvement of technical conditions for ferry operations***

In the Black Sea delays are still caused by such issues as damage, dirtiness, or technical clearance of the empty wagons carried back from the Caucasus.

---

***Settlements of railway subjects by respective companies without involvement of a shipping line***

It is recommended to appoint a technical surveyor on behalf of Ukrzaliznytsia and Georgian Railway at their common expense to check the condition of the wagons upon discharge and before loading at Ilychevsk/Poti and Batumi. The two railway companies could then directly make up for discrepancies on the basis of the survey reports without involving the shipping company and without unduly delaying departures from ports.



### Text box 12: Reporting Formalities in the EU

In a mid-term perspective TRACECA ports should strive to jointly align with, for instance, the ship reporting procedure under implementation in the EU (the system must be fully compliant and operational in all Member States by the 1st of June, 2015):

Directive 2010/65/EU stipulates that the SWS is the place where a vessel reports the information once only and it is also the place where this information is made available to all relevant and competent authorities. The report includes as a minimum the following information:

- To be submitted under EU legal acts
  - ✓ HAZMAT notification
  - ✓ Waste notification
  - ✓ Pre-arrival security notification
  - ✓ Entry summary declaration
  
- To be submitted under the IMO FAL Convention
  - ✓ FAL form 1: General Declaration
  - ✓ FAL form 2: Cargo Declaration (*the EU favors rather the implementation of a harmonized electronic cargo manifest*)
  - ✓ FAL form 3: Ship's Stores Declaration
  - ✓ FAL form 4: Crew's Effects Declaration
  - ✓ FAL form 5: Crew List
  - ✓ FAL form 6: Passenger List
  - ✓ FAL form 7: Dangerous Goods
  - ✓ Maritime Declaration of Health

Besides, the vessel has to answer a SW list of up to 100 questions covering all possible administrative, legal, operational, commercial, ecological, safety, security, personnel, sanitary, veterinary and other subjects ranging from the ship's name to the location of stowaways on board.

Therefore the work of the commission is drastically reduced as the information electronically collected in advance (and up-dated as the case may be until arrival/berthing) is much more accurate and comprehensive. Critical situations can be anticipated and further business processes adequately planned which saves time and costs for all involved parties, improves the predictability and increases the attractiveness of maritime transport and ultimately enhances the efficiency of the port system.

Furthermore, and as a result of the above, in many EU ports, commissions carry out their duties at any time during the call regardless of and without preventing or delaying berthing, cargo operations or departure.



---

**Coordinate customs clearance between the ports:**

In the Caspian Sea, there are incidences when wagons loaded in Baku are rejected by customs authorities upon arrival in Turkmenbashi.

Loading of the rolling stock back on the same vessel causes time-consuming shunting and marshalling operations, and causes further delays.

**Pre-declaration system**  
*or*

A pre-declaration system would enable Turkmenbashi customs to prevent Caspian Shipping Company of Azerbaijan from loading in Baku, until all formalities are settled.

**Optimised wagon handling in Turkmenbashi**

Alternatively, such cargoes/wagons could be allowed to 'slip through' the Turkmenistan Customs and be sent back to Baku on one of the next two vessels calling at Turkmenbashi.

---

**Optimisation of Deployment and Use of Vessels**

It is advisable to sort out the wagons and railcars which pose a customs clearance problem (whether import or export) or present technical deficiencies, and isolate them.

There is no technical obstacle since all existing vessels are designed for the carriage of wagons and/or trucks. Vessels which KazMorTransflot plans to acquire are rail-ferries of the same type as the latest built for former CASPAR (Caspian Shipping Company of Azerbaijan) in Croatia and Turkmenistan intends to run two exclusively Ro-Pax.

---

**Nominate dedicated liner service**

The implementation of specialized lines would also match the present trend at all ports to develop specialized terminals for the handling of cargoes carried by different modes. This would also contribute to a smoother flow of full and empty wagons via the rail-ferries.

---

**Involve big trucking companies to assure regularity of service**

For Ro-Ro liner services it is advisable to involve the users: big trucking companies and trucking associations (from TRACECA and non-TRACECA countries).

In the Caspian Sea, the majority of potential customers are Turkish trucking companies, UND (the truckers association) and the shipping company UN Ro-Ro. They have developed solutions for efficient Ro-Ro transport between Turkey and the EU and would be valuable partners for Caspian ports and shipping companies.

---

**Strong Promotion of Marketing and Booking Systems:**

Promotion and information on availability of services enhances regularity and attracts cargo.

**Use opportunities of international conferences**

Strong promotion and marketing actions are needed to improve the image of the TRACECA shipping companies. Their participation in regional, European and international fairs and exhibitions is one way to achieve this.



***Establish online booking systems, perhaps based on EU examples***

Transparent online booking systems should be developed allowing customers to check sea-freight, surcharges, port tariffs and the price-list of ancillary services; book space on specific departures; provide relevant information about the cargo, truck and driver and prepay all expenses.

The booking and pricing methods may follow the examples of similar companies in the EU, being fair and transparent for clients.

---

***Disseminate required information***

Daily positions of vessels should be advertised online, enabling drivers to reach ports on time. The site should also contain all necessary information about:

- Formalities for loading and discharge, place of occurrence, official costs and estimated time.
- The physical stevedoring process.
- All documents needed (for drivers, trucks, trailers and cargo) at origin and destination.
- Road access in the form of maps (as a minimum, entry to port of loading and exit from port of discharge).
- Useful tips and links (embassies, consulates, gas and service stations, hotels and rest places on the way, around or in the port areas).

---

***Stakeholder Working Groups for Improvements and Monitoring***

***...comprising major interest groups***

To address the matters mentioned above, dedicated stakeholders' working groups could meet at regular intervals, review progress and decide on appropriate actions.

Stakeholder working groups should bring together

- shipping companies or their foreign port agents;
- ports and terminal operators;
- railway companies; and
- port-based customs authorities (empowered to represent all other governmental agencies present at border-crossing points – unless one of them needs to attend the meeting for a specific matter/issue)

---

***Business case oriented performance of the working groups***

The working groups must play a key commercial role:

- Shipping companies and ports should identify and monitor significant cargo flows which have been lost or which could be attracted.
- A joint tariff policy should be agreed and applied on a door-to-door basis.
- Special conditions should be defined for transit block trains via stakeholder countries (e.g. Zubr and Viking trains' extension across the Black Sea, and Silk Wind across the Caspian Sea in the future).



---

***Making use of existing structures***

Existing bodies, such as the Council of Directors of the Rail-Ferry Operations in the Black Sea or the regular annual meetings of the Caspian ports could be used to initiate such working groups, with a wider scope of participants.

**3.4.3 Railway Sector**

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***Purpose***

The structure and operational characteristics of the railway sector were described in Section 3.1.4, where the issues that relate to the railways' role in TRACECA were also presented as a basis for the technical recommendations in this section.

---

***Three layers of the Master Plan***

In the context of the three layers of the Master Plan, there are certainly infrastructural problems that must be addressed – not least gauge differences between the '1520 space' and neighbouring systems, including those of the EU and Turkey; and the interface between rail and sea transport at the shores of the Caspian and Black Seas.

But there are important institutional, legal and operational issues to be addressed, especially with regard to opening the sector to private investors and operators and improving interoperability between rail systems.

---

***Contents***

It is recognised that substantial restructuring of TRACECA's railway sector involves political as well as technical considerations. This section addresses the latter, with emphasis on logistics processes and the requirement for close inter-system cooperation.

There is ongoing investment in electrification, double-tracking, continuous welding of track, modernisation of signalling and communication systems, terminal upgrading and renewal of rolling stock. If this investment is to be fully effective it should be accompanied by a range of 'soft' measures that are described in detail. They include separation of responsibilities for policy, regulation, infrastructure management and transport operations; rational pricing; some degree of privatisation and competition; and recognition of public service obligations.

A special mention is made of container block train services (such as the existing Viking and planned Silk Wind services) and the systems and procedures that support them. In particular, there is a need for TRACECA-wide recognition of the common CIM/SMGS consignment note and through-tariffs.

The ultimate objective is a seamless transport corridor in which each transport mode must play a role, together with the transport and logistics industry and each government agency concerned with border control, customs and regulation of transport services. As the most efficient overland long-haul transport mode, the rail sector has an essential role to play.



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***Improving participation of the railway sector in the logistics chains and processes – a challenge for TRACECA railways***

Making TRACECA railway transport more attractive requires not only infrastructural improvements, but also a great deal of institutional, policy and market orientation effort. The technical recommendations of this Master Plan for the railway sector mainly target logistics processes and their contributions to viable MoS projects.

Creating a sustainable rail corridor across several nations is a great challenge from the political, financial and technical point of view. But at the same time rail transport is an extremely efficient way of moving freight, as it is relatively green, fast and can move vast loads with minimal manpower resources.

In a viable market, rail transport can play an essential role as a link in the intermodal supply chain and in users' logistical strategies. In this way it can also contribute to countries' economic growth and efficient participation in the global supply chains.

The proposed recommendations cover a wide range of barriers which confront railway transport stakeholders.

---

***Interoperability assures smooth transportation across the borders....***

Technical co-operation among the TRACECA railways (especially among neighbouring countries such as Georgia and Azerbaijan) exploits synergies and thereby reduces costs and time. Therefore railway rehabilitation plans should be coordinated, especially in regard to operational standards. Interoperability across borders reduces transit times and consequently raises system capacity. In turn this strengthens rail's competitiveness versus other transport modes. Coordinated policies may also allow economies of scale in infrastructure, railway equipment and rolling stock investments.

---

***....Improved corridor capacity can be achieved by elimination of operational bottlenecks***

System capacity is also improved by electrification, double-tracking, compatible electrification and signalling systems, upgraded rolling stock, and enhanced handling facilities at borders and port terminals. At present corridor efficiency is hindered by operational bottlenecks such as:

- Railway company rules that require a technically unnecessary changing of locomotives;
- Additional stops to change crews, often at different stations to those used for locomotive changes.
- Uncoordinated marshalling operations between neighbouring countries.



---

**...Average speed may be increased by addressing safety dimension**

The maximum freight train speed on TRACECA routes varies typically from 60 to 80 km/h. On some sections, however, train speed is limited to 20 - 40 km/h due to infrastructure condition. The average freight train speed is about 40 km/h, which is rather low and could be enhanced through:

- General overhaul of the track, laying continuous welded rail, or adjusting pre-existing welded rail and tightening of fastenings (which is sufficient if all other parts of the superstructure are in good condition),
- Overall repair of the superstructure down to the bed.
- Renovation of switches, level crossings, overhead electrical contact lines etc.

---

**Structural reforms ensuring competitiveness and transparency in the railway business**

Structural reforms should be conducted to:

- ensure the independence of railway undertakings' management;
- separate infrastructure management and transport operations;
- strengthen the railway administrations in handling regulatory tasks, and
- provide incentives for deeper private sector involvement.

To ensure competition in rail transport, providers of infrastructure and transport operators must have clear and separate responsibilities. After separating rail infrastructure management and rail operations, enhanced efficiency of railway authorities could be brought about with partial or complete privatization of operations.

Cross-subsidization of passenger services by freight services is, widespread among TRACECA countries. This policy is commercially unsound. An alternative way of financing passenger services should be considered, for example public service obligation (PSO) grants from government.

---

**Separating infrastructure management from transport operations helps improve railway image and inter alia facilitates access to IFI financing and donor funding**

Steps should be taken to separate infrastructure management from transport operations; strengthen the railway administrations to handle regulatory tasks; and foster deeper involvement of the private sector. This separation, which has to be at least a strict separation of accounts between rail infrastructure management and rail operation, is a prerequisite for financial transparency, better asset management and improved cost-effectiveness of public investment.

Separation between rail infrastructure management and rail operation is a driver of fair competition. Railway operators competing in a less regulated market will bring about innovation and development. Competition will also ensure that railway operators act commercially and take the necessary rationalization measures.



Governments should regard state railway companies as fully-fledged economic enterprises which have to concentrate on their core business and yield financial returns for the state budget.

Meeting this condition is one of the IFIs' and donors' requirements for allocation of funding for infrastructure projects. Thus, meeting this market condition also facilitates the attraction of funding for infrastructural improvement.

---

***Access to market for freight operators is a pre-requisite for in modern logistics market***

It is important to ensure fair competition for possible new freight operators (block-train operators, railway terminal operators) ready to invest and offer new freight services using the existing rail network. An open, market-oriented approach will mean higher quality of services (transit time and reliability, new wagons and possibly improved dead weight /loading, simplified procedures etc.) and increased market share for rail.

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***Integrated border management for trains enables modern block train services and improves corridor attractiveness***

Implementation of the 'single window' and the 'economic operator' concepts contributes to establishment of seamless transportation along the TRACECA corridor. These subjects apply to all modes of transport and are addressed in greater detail in the Section 3.1.1.

For the railway sector application of the 'single window' and 'economic operator' concepts (including submission and acceptance of pre-arrival information) would allow settlement of all border-crossing formalities before physical arrival of a train at a border-crossing point. The train may opt to stop at the border just for technical maintenance or service.

---

***Reliability of the railway services is a key for being involved in modern logistics business***

A number of soft measures are needed for the TRACECA rail corridor to meet major supply chain requirements (such as reliability of transit times, frequencies and times of departure; routes suitable for freight transport services; coordination of priority rules relating to capacity allocation on the freight corridor; and transparent and easy to access market prices).

---

***Capitalise on best practices of electronic data exchange***

As described in detail in Section 3.4.6 it is a necessity to set up unified EDI systems between border crossing point agencies to allow swift transit and predictability (the 'Viking' model). Neutral, commonly accessible IT platforms must be developed to ensure the timely transfer of cargo-relevant information using electronic data interchange.



---

***User information interface attracts new customers to the railway sector***

A range of user-friendly tools should be offered, to trace availability of service; monitor status of shipments; and enable automated reporting, management of fleet maintenance, management of lease activities and contracts, distribution planning, demurrage and detention management, shipment mileage tracking, waybill processing and carrier rate management.

This recommendation is relevant for all modes.

---

***Traffic management along the corridor as a prerequisite for optimised performance***

The following measures are essential to improve the railway sector's common performance indicators:

- Procedures to coordinate traffic management along the freight corridor from the design of the path to its implementation and monitoring, including border procedures,
- Common targets for punctuality and common guidelines for traffic management in the event of disturbance of train movements on the freight corridor,
- Performance monitoring of rail freight services on the freight corridor.

---

***Unified transport document – best practice applicable for TRACECA***

Recognition of the common CIM/SMGS railway consignment note throughout the TRACECA region would contribute much to improving the corridor's competitiveness. Railway companies in half the TRACECA countries<sup>10</sup> are members of the International Rail Transport Committee (CIT), which promotes the common consignment note, but it is more important that Customs authorities recognise the note. For example, KTZ has successfully negotiated procedures that minimize delays for the Chongqing–Duisburg block train at the Kazakh-PRC border (transition from OTIF to OSJD) without being a CIT member.

It is recommended that all TRACECA countries encourage or require their national railway operators to join CIT; and to ensure that their Customs authorities recognize the common consignment note.

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<sup>10</sup> Armenia, Azerbaijan, Bulgaria, Iran, Romania, Turkey and Ukraine.



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***Through tariff – as a component towards door-to-door railway transport solutions...***

Setting up a competitive, predictable, unified through-tariff for the whole route is another major challenge for the creation of a competitive corridor. The main tasks include:

- elaboration of a tariff agreed between all the parties;
- definition of conventional route parameters (including routing, frequency, transit-times, etc.); and
- set-up of fixed periods of validity (before the end of which no party can change its portion of the rates unilaterally).

This new tariff should define the allocation of revenues among the parties.

The countries participating in the 'Silk Wind' project are going to introduce a single tariff for transportation of goods which is one of the key issues in the creation of a competitive route.

---

***...accompanied by their transparency and predictability***

Lack of coordination between the TRACECA beneficiary countries on railway tariff harmonization is one of the significant constraints to the TRACECA corridor's competitiveness. It is important to quote prices transparently, giving clients confidence that they are being treated equally, and to provide competitive prices that are within market limits.

Railway companies and operators should publish regularly updated information on the conditions of use of the freight corridor as well as annual reports covering the rail corridor performance and customers' satisfaction. Such information should be available on the website of each rail service provider as well as on the TRACECA website.

### **3.4.4 Road Sector**

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***Purpose***

In Section 3.1.5 of this document the current situation in the road sector was described and problems were identified. The purpose of this section is to present recommendations for overcoming those problems, within the overall framework of the Master Plan.

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### *Three layers of the Master Plan*

The three layers of the master plan are addressed as follows:

- **Infrastructural:** Intermodal and logistics facilities should be developed to allow the road sector to play an efficient role in an integrated transport system.
- **Institutional/legal:** Countries should accede to and implement international and bilateral agreements promoting free movement of vehicles, people and goods. Standards and procedures should be harmonized, including those which affect safety. Priority should be given to professional development and training in the road transport sector.
- **Market/operational:** Efforts should continue to improve border procedures to support trade development and transit traffic. Truck fleet modernisation should be supported to improve competitiveness and reduce environmental harm.

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### *Contents*

The technical recommendations derive from continuous stakeholder consultation, analysis of road sector performance and action plans for the pilot projects. They also recognize the ongoing work of the PS and member countries in collaboration with IRU/NELTI.

The section identifies constraints to seamless road transport and summarizes measures to which TRACECA member countries are already committed.

There is a strong emphasis on:

- Harmonization of standards and procedures, among TRACECA members, with the EU and with the global community at large through accession to UN agreements.
  - Intermodal connectivity, supported by infrastructure, systems, agreements and technical capacity.
  - Removal of constraints to cross-border movements. These constraints are mainly legal and procedural, and are addressed in Section 3.4.4 but they include infrastructural capacity constraints such as road access to key nodes.
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***The following major constraints to seamless road transport of goods and passengers have to be (and are being) addressed by TRACECA countries***

- Unduly restrictive bilateral agreements, incorporating quotas and permits that reduce opportunities for trade and transit.
- Loss of time en route due to inefficient border-crossing procedures, excessive number of interior check-points in some countries, visa procedures, etc.
- Non-harmonized customs procedures (lack of equipment, fraud, dignity issues, etc.).
- High official charges and illegal dues at check-points.
- Different national limits on vehicle weights and dimensions.
- A general need for fleet modernisation, bringing trucks up to international standards with regard to performance, safety and harmful emissions.
- A need to improve professional capacities through vocational training in the trucking industry and state agencies responsible for national transport networks and industry regulation.

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***TRACECA members are already committed to a Plan of Measures, and are progressively implementing them***

The IGC approved '[Concept of Development of Road Traffic along the Transport Corridor Europe - the Caucasus - Asia \(TRACECA\)](#)' committed the TRACECA member countries to systematically implement measures promoting efficiency of the road transport sector:

- Simplify and harmonize border procedures.
- Remove restrictions on the movement of commercial vehicles and professional drivers within the TRACECA region.
- Harmonize requirements for vehicle weights and dimensions.
- Regularize prioritization of perishable cargoes.
- Improve trans-Caspian road-ferry transport services.
- Facilitate container and con-trailer traffic across Kazakhstan, including flexible tariffs.
- Apply MLA Articles and Protocols relating to transit, recognizing the special needs of landlocked developing countries.
- Identify and address bottlenecks and administrative barriers.
- Introduce hotlines at border posts throughout the TRACECA transit areas.
- Exchange information and experience with regard to combating corrupt practices.
- Cooperate with financial institutions to develop road infrastructure improvement projects.
- In connection with the above measures, accede to and apply relevant international conventions; and cooperate with international organizations.



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***Regulatory and other non-physical bottlenecks greatly hamper trade facilitation and responsiveness of the road industry to the supply chain challenges***

Standards and procedures should be harmonized with those generally adopted internationally. EU assistance is available for this purpose.

TRACECA countries should take advantage of technical assistance provided by the EU for harmonization of national legislation and improving law enforcement through transparent monitoring processes.

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***Infrastructure: coherent improvement of connections to and between logistics hubs and nodes***

The above-listed measures are all relevant to and supported by the LOGMOS Master Plan.

The technical recommendations emphasize intermodal connectivity, creation of logistics chains and network cohesion – as promoted by the EaP transport process in the ENPI countries, and by CAREC in the Central Asia and the Caucasus.

Consequently priority is given to projects that directly support development of intermodal transport and logistics facilities and services.

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***Public support is needed to provide suitable road access to logistics centres and other nodes such as sea-ports***

Provision of reliable road access is one of the key requirements for attractiveness of a logistics node.

In some cases, for instance in Aktau, adequate road access to the port would not only improve freight vehicles' future access to the logistics centre, but also relieve a bottleneck and eliminate a missing link on the TRACECA corridor. The highway leading to the port needs major repairs in order to cope with current and future transport demand.

Establishment of proper road access is also needed for the sites selected for international logistics centres in Kiev and Tbilisi.

There are positive examples of state support for provision of road access to major logistics facilities in Armenia and Moldova, where the necessary infrastructure is included in governmental priority programmes and represent TRACECA best practice. In Azerbaijan, road access to the ILC is provided by the access road to the new port at Alyat, where the logistics centre is located.

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***Ro-La concept and facilities***

In major hubs with railway access it is necessary to develop accelerated combined traffic solutions, including Ro-La facilities. Apart from generating green effects, Ro-La provides the following advantages for transport users:

- Savings in running costs – fuel, road tax, truck wear and tear.
- Freedom from truck transit restrictions between countries.
- Avoidance of traffic jams and queues at truck control sites and border crossings.
- Better planning of travel and delivery time.
- Improved road safety.



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***Truck fleet modernisation is a long-recognized need***

TRACECA countries should work together on creation of favourable conditions for modernisation of the vehicle fleet engaged in international road transport haulage, and multimodal chains with participation of the road transport.

Efforts by the hauliers to gain access to affordable credit for fleet upgrading have not met with much success. An alternative is to promote fleet leasing to enhance the regional trucking industry's competitiveness.

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***Training and professional development should be sought from established providers***

TRACECA countries are recommended to work towards improvement of professional and training standards (for example capacity building for drivers and managerial staff of road transport companies and relevant state authorities).

The [IRU](#) and the [FIATA](#) offer best practice standards in training of road sector personnel, and TRACECA countries should take advantages of these achievements.

The training concepts should be concentrated on multimodal opportunities and incorporation of road sector in modern logistics concepts.

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***Implement the [Action plan](#) developed by the EU-funded TRACECA Land Transport Safety and Security Project***

This Master Plan promotes technical recommendations on road safety and security developed and approved by the member countries in the framework of the TRACECA [Action Plan](#) for 2012-2016.

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***Support and technical assistance are available from many international sources***

Legal subjects in the road sector are addressed on the political level by various professional road transport organizations or other multilateral fora. The platforms of these organizations should be used to settle such matter as follows:

- Revisiting the existing bilateral agreements in terms of compliance with WTO requirements to freedom of transit, market access, and national regimes;
- Promotion of further development of the BSEC multilateral permits system; or
- Maintaining and improvement of the ECMT multilateral permits system.

This work should be deliberately and continuously organized within the respective fora, rather than dispersing efforts among numerous platforms.

Similarly, members are recommended to accede to the relevant UN Agreements in order to standardize vehicle requirements, control procedures, signs and signalling systems in accordance with international norms as adopted by the EU. Technical assistance is available from the EU in this field.



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***Border-crossing procedures should follow best international practices***

Just-in-time delivery requires seamless transportation between origin and destination. The following measures would achieve shorter and more predictable delivery times:

- TIR Green Lines at border crossing points.
- Electronic customs pre-declaration.
- Introducing of the 'Single Window' system.
- Introduction and improvement of joint checking of vehicles at the border crossing points;
- Improving transparency and accountability of border control and other agencies.

### **3.4.5 Inland Waterways**

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***Purpose***

This section summarises the general and technical recommendations in the Inland Waterways sector, based on the situation on both river system of the Danube and the Dnepr as described in Section 3.1.6.

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***Three layers of the Master Plan***

These recommendations deal with the three layers of the master plan as follows:

- Infrastructure: major infrastructural improvements are needed in overall navigation basin, ports and adjacent land transport infrastructure connections. This requires international cooperation and stakeholder involvement.
  - Institutional and legal: sectoral policy-making requires sound data and commitment from all levels of government and the private sector. Laws require updating (EUSDR is a possible model) and institutional responsibilities require rationalization.
  - Market and operations: recommendations include steps to enable current market players to participate in intermodal supply chains. This entails attracting higher-value cargoes, especially containerized cargoes, which require regular, reliable schedules and modern logistics services.
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**Contents**

The section presents practical steps and proposes an intervention methodology to address the issues which have been identified as representing the main obstacles to the sustainable development of IWW transport in TRACECA countries.

The section starts with presenting general recommendations, that are common for both rivers. Then river system specific recommendations are outlined in accordance with the three layers of the Master Plan for the Danube and the Dnepr respectively.

These include implementation of infrastructural improvements that are already known to be necessary and require cooperation between riparian states; fleet modernisation; new laws, regulations and assignment of responsibilities among agencies; and engagement with the private sector.

It is recommended that regional working groups be set up, each centred on a logistics hub on one of the IWWs and involving all stakeholders.

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**General recommendation for TRACECA IWW system - Danube and Dnepr**

The two navigable inland waterways in the TRACECA region – the Danube that runs through or between Bulgaria, Moldova, Romania and Ukraine; and the Dnepr in Ukraine – currently do not completely fulfil their potential as a means of transport.

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**Regularity of services – learning from the best practices**

Given that they cater for low-paying bulk commodities carried on a tramp basis, independent river transport operators on both the Dnepr and Danube do not focus on the provision of scheduled and reliable services. To this end the current cargo transportation pattern determines the level of service. Inland waterway transport can therefore not compete with the fast door-to-door solutions offered by road transport and with the attractive commercial conditions of the railways.

Stakeholders however recognise the importance of learning from the best European practices. The vision for container transportation has started to emerge.

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**Capitalise on the European Models**

The EU experience proves that IWW transport can be successfully included in the supply chain. The most striking example being the 2 M TEU (2012) container traffic on the Rhine.

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**Regularity and reliability**

The EU IWW system relies on regular and reliable services providing transit-times comparable to those achieved by the road and rail modes and therefore acceptable for trade.



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*Intermodal operations*

The EU system also allows intermodal operation, hence reduced congestion and emissions on roads and railways. It also gives sea ports the possibility to dispatch increasing container volumes to inland dry ports/ depots thus reducing the (sometimes scarce and always expensive) space needed for the storage of full and empty boxes, releasing it for more cost-effective purposes.

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*Competitive pricing  
Green transport and  
regional development*

Last but not least it brings about a decrease in transport costs and therefore the cost of goods for the end-consumer.

But the case for IWW transport in the EU is not only about greener and cheaper inland transport. It is also a tool for governments and regional authorities to improve space planning and urbanization; and to re-vitalize less-developed regions and impoverished sub-urban or poverty-stricken industrial areas.

Waterways have a wider social function than roads or railroads as they can be used for many other purposes than mobility only.

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***Multi-modality as a prerequisite for a sustainable development of non-bulk cargo transport on the Danube and the Dnepr***

A common feature which makes both the Danube and the Dnepr different from other IWW systems, such as Western European rivers, is that navigation is seasonal due to climatic reasons (drought, flooding, icing). In order to ensure sustainable development of non-bulk traffics, any plan must envisage river transport in combination with other modes of transport.

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***A comprehensive and prospective identification of the market is the first step before planning any IWW development policy***

The crucial importance of this step is commonly overlooked by state agencies and ministries in TRACECA countries who rely only on official data. Experience shows that such data are often not comprehensive, inaccurate, obsolete and, depending upon the (official) sources, mutually contradictory. This obviously prevents civil servants from making optimal decisions.

Before writing any strategy or plan for the revamping of port facilities, renewal of the river fleet, design of logistics centres along the rivers, accompanying 'soft' measures and so on, it is therefore highly recommended that Ministries of Transport clearly identify:

- the existing river transport market (shippers, commodities, tonnage handled, origins/destinations, size of the shipments, etc.);
- the volume of cargoes which are moving by other transport modes/routes and could be attracted to river transport; and
- the short and mid-term prospects.

Rather than between bulk and break-bulk, this study should be split between containerizable and non-containerizable cargoes.



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***Defining a proper frame for IWW management in TRACECA countries – experience of EUSDR – clear policy frame***

The EUSDR, in spite of its shortcomings, represents the best practice by the scope of its topics and range of priorities. EUSDR offers advance references which could be used by riparian TRACECA countries to define a global strategy for the exploitation of their IWW.

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*Reference for the scope of laws and regulations*

This experience could be used to update existing laws and regulations in all four TRACECA countries about river transport, river maintenance and management. EUSDR offers a model for addressing in the legislation the environmental protection, regional development and distribution of rights and duties and resources between central, regional and local authorities.

---

*Clear policy frame*

Existing regulations do not form a framework defining overall and specific targets and socio-economic benefits expected from the use of IWW. The countries are recommended to work in this direction. Different state agencies take care of different and sometimes overlapping matters and report to their responsible ministries. Inter-agency consultation and feedback using EUSDR model would add to comprehensiveness and consistency.

Moldova has made significant progress in this direction and is encouraged to continue its efforts. Romania and Bulgaria still need to work on implementation of their commitments to cooperate. Ukraine's regulatory framework mostly addresses cargo transport issues only. It is recommended that Ukraine enhance the policy level of intervention related to its IWW.

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***Bringing stakeholders together***

Sustainable policy can be implemented only through close and permanent involvement of all relevant stakeholders. Ministries, state agencies, shipping companies, ports and traders must contribute to the decision-making process. So must the riverine municipalities, local and regional authorities and users' associations.

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***Fixing the rules of the game***

Still, it is the duty of the government to set general goals, sketch guidelines and rules of the game and remain on the watch to keep a balance between contradictory demands.

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***Promoting cooperation with the private sector***

The involvement of transport industry specialists and decision-makers (national and foreign) and the business community at large is necessary. Achieving this involvement remains a key issue in most TRACECA countries, not least in both EU members.



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***Communication with Shippers, Carriers supports the marketing of the IWW mode***

National statistical institutes, ports and other state bodies will of course provide useful sets of data. However, as already noted in other parts of this report, in order to put consistent figures into perspective and obtain a dynamic view, such a survey must be carried out in close collaboration with the key players from the private sector involved in trade, industry and river transport.

This can and should also be used for establishing an expedient relationship with those shippers who are on the lookout for reliable alternative means of transport.

This consultation process will represent a unique opportunity for ministries to gather first-hand information from users about their plans, projects, wishes, expectations and difficulties.

Likewise ministries would have the duty to explain their policies, measures and incentives aimed at enhancing the use of IWW transport.

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***IWW Working Groups must be set up including Public and Private Stakeholders***

These contacts and exchanges should be formalized in regular working group meetings, keeping records of the information collected and drawing up joint scheduled action plans.

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***Policies and plans of development of IWW transport must be based on real facts not on words***

More generally the proposed methodology is meant to provide central authorities with a true and comprehensive picture of business operations. This in turn should help them shape, adapt or change the course of their policy and set themselves realistic, measurable targets.

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***Technical recommendations for TRACECA IWW system specific to the Danube***

Technical recommendations specific to the Danube and the Dnepr are outlined below.

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***The Danube***

***Lower Danube***

*Attract containers and move away from bulk*

In this part of the river the potential for market development and operations is hampered by infrastructural conditions. The main cargo stream on the Lower Danube reaches Constanza via the Black Sea – Danube Canal. Future developments on this leg (which upstream flows through Central Europe from Germany) depend upon the possibility for regular services over short and medium distances.

Service of high quality – i.e. frequent departures, door-to-door delivery and collection, tracking/tracing facilities – are essential to carrying high-value goods in containers or break-bulk (new cars for instance) up to and from Constanza, the biggest Black Sea port.



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*Navigation and schedule reliability could be achieved with infrastructural improvements*

Therefore, providing uninterrupted navigation during the navigation period on the Lower Danube is a prerequisite for attraction of sustainable container flows, and its move away from carrying mostly cheap bulk commodities.

Necessary infrastructure works to achieve a minimum permanent depth and a stable fairway on this stretch of the river separating Romania from Bulgaria have been identified long ago. In spite of the availability of EU funding they have however been delayed for (in some cases unjustified) environmental concerns in Romania. These have pushed into the background any other consideration – including socio-economic and safety concerns. It seems a decision at political level is needed to get things moving i.e. enabling the start of the works while mitigating their impact to address the main and more realistic environmental demands.

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***Breaking the competition approach between Danube countries and formation of clusters***

Single-handed actions of countries over time did not result in improvement of overall attractiveness of the Lower and Maritime Danube regions. The countries should change this practice and adopt a more cooperative approach.

Trans-national cooperation has developed successfully in other European regions without erasing competition. It stresses the complementarity of different players to make the most efficient use of their individual strengths rather than playing one off against another.

In the Lower and Maritime Danube regions it should lead to the formation of clusters (e.g. Ruse-Giurgiu for serving the same catchment area around Bucharest; Braila/Galati-Giurgiulesti-Reni/Izmail for setting up joint container feeder services), coordinating their plans and promoting their region and cluster jointly.

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***Container traffic needs to be addressed specifically***

IWW Working Groups should elaborate specific plans for container trade with the following objectives:

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*Logical split of river basins for better specialization*

- To operate a logical split of the river basins into several regions which would be each served by a fully intermodal container hub operating as a local logistics distribution centre (the Maritime Danube could for instance be divided between the Romanian section with Galati as focal point, the Moldovan part around Giurgiulesti including Reni and the Ukrainian one around Izmail).

---

*Logistics hubs according to demand – economies of scale*

- There should be a limited number of these logistics hubs, selected on the basis of their ability to concentrate maximum cargo volumes in particular containerizable bulk commodities for export, such as grain, in order to ensure an optimum utilization of the container equipment.



## Logistics Processes and Motorways of the Sea II

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*Cargo forecasts to determine potential*

- To forecast the volumes and time necessary for shifting cargo-flows a) from bulk to container and b) from road or rail to IWW during the navigation season.

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*Supply chain responsiveness of service*

- To determine the seasonality of already containerized and potentially containerizable cargo-flows.

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*Complementarity instead of one-sided actions*

- To take into account not only the prevailing competition but also the potential complementarity of road and rail transport with river transport and determine the best ways to achieve an efficient synergy between all three at all times.

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*Offer cluster related services to attract users*

- To agree upon the (possibly variable) parameters of the water transport service to be implemented (size of vessels/barges, frequency, routing, rotation, Black Sea ports chosen as transshipment hubs, etc.). Evidently the set-up of a common container transport service on the Maritime Danube calls for a close cooperation between the IWW WGs of Romania, Moldova and Ukraine.

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### ***The Dnepr***

On the Dnepr the technical recommendations on policy and institutional layers are essential to improve competitive positions on river infrastructure and market.

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### ***The IWW transport legal frame in Ukraine needs to be completely overhauled***

Ukraine is recommended to take the following steps in order to eliminate several legal and organizational obstacles:

- Adopting the existing draft of the Law on Inland Waterways of Ukraine, or a revised version of same, defining the reciprocal obligations and duties of the State on one hand and of the river-based public and private stakeholders on the other.
- Developing and introducing a simplified customs regime for cabotage between Ukrainian sea ports and between sea and river ports applicable to all types of cargoes including container and project cargo.
- Introducing a customs procedure recognizing river ports of destination/origin as border-crossing points, for vessels plying an IWW leg plus a passage at sea in international waters and call(s) at foreign port(s); and simplifying procedures at the border post at the entrance/exit of the Dnepr in Kherson with no physical inspection of cargo.
- Adopting a special Law on Container Multi-modal Transportation (in addition to the existing Law On Sea Ports).



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***Common actions between business and public sector***

It has been underlined already that State and private business operate separately and the win-win (and PPP) culture remains to be implemented in the TRACECA countries.

In Ukraine the State could for instance join forces with the private sector to establish tri-modal distribution/logistical centres on the Dnepr (e.g. at Kherson, Dnepropetrovsk, Kiev) and their integration with road and railway routes to EU countries making use of the 'Broad Gauge Metallurgy Line' (LHS) running for 400 km from the Ukrainian border to the important logistics node of Slavkow in Poland.

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***Technologies and procedures need to be modernized and standardized in Ukraine***  
***Training of IWW staff should be reinstated***

Revival of the Ukrainian IWW system also depends on the following recommended actions:

- Investment in modernizing port and river infrastructure and the fleet of river-going vessels.
- Standardization of technologies and procedures equivalent to those used by Ukraine's European neighbours.
- Revival of vocational training for river staff. A blueprint already exists: 'Development of a State Concept of the Formation and Development of the Logistical Transportation and Distribution Structure of Dnepr Regions and the Human Resource Support Thereto'.

### ***3.4.6 Hinterland Connections, Multimodal and Logistics Capabilities***

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***Purpose***

Section 3.1.7 summarised the situation and issues relating to hinterland connections, multimodal transport and logistics. In this section technical recommendations are presented to address those issues as they affect the realisation of TRACECA's goals within the framework of the Master Plan. Specific recommendations for the next steps on the level of identified TRACECA logistics centres pilot projects are outlined in the Section 3.6.

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***Three layers of the Master Plan***

The recommendations are wide-ranging and combine elements of all three layers of the Master Plan: Infrastructural, institutional/legal and Markets/operational. The creation and operation of suitable infrastructure depends on the existence of a favourable institutional and legal environment, and will allow TRACECA to develop with greatly enhanced competitiveness and market responsiveness.

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**Contents**

The section starts by proposing the adoption of a single definition of the characteristics and functions of a logistics centre, as outlined in Section 3.1.7. This encompasses not only physical location and facilities but also structures of ownership and management.

It goes on to elaborate the proposed definition in some detail, and explain the optimum relationship between logistics and the different transport modes, and means for coordination between stakeholders to achieve synergies.

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***The definition of International Logistics Centres / Logistics Platforms in TRACECA countries should be formalized, to comply with international standards and the requirements of users***

The term 'Logistics centre' is widely used in official publications and the press in the beneficiary countries, meaning most of the time a stand-alone facility of a single operator, in some cases exclusively connected to one transport mode, or operated by a key player of the transport market.

In order to avoid confusion, and clearly define which kind of projects are supported by the Governments in the TRACECA beneficiary countries, the criteria of an International Logistics Centre in the understanding of this Master Plan are described earlier in this document.

It is recommended that the definition of an International Logistics Centre / Logistics Platform should be integrated into the legal and regulatory framework in the beneficiary countries.

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***The International Logistics Centre / Logistics Platform should be operated by a neutral operator***

The concept on an International Logistics Centre includes both the handling of containers or other ITUs *and the settlement of various transport and logistics operators, investors and service providers* on one territory. The aim is to attract a maximum number of operators in various fields of logistics and transport to the territory.

Here, the concept of an International Logistics Centre goes beyond the pure Dry Port functions.

Therefore the overall management of an International Logistics Centre should be a neutral management company / management body which does not compete with the tenants.

This can be ensured by either a major share of local and central public authorities (not public transport companies) in the management company, or by inviting a specialised company / developer without any conflict of interest with the tenants.



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***The International Logistics Centre / Logistics Platform should be connected to at least two modes of transport (such as road and rail)***

Public support should be increased for the creation of International Logistics Centres and a network of regional intermodal terminals and logistics centres. This is justified by the need to:

- enhance the intermodal capabilities of the beneficiary countries and multimodal supply chains;
- increase the degree of containerization;
- support modal shift;
- reduce emissions; and
- promote ecologically friendlier means of transport (short-sea shipping, railways and inland waterways).

The quality of road and railway access is a crucial factor for the attractiveness of any logistics centre, and improvement of these connections is to a large extent a public task. The creation or improvement of transport connections to International Logistics Centres should be included in the TRACECA countries' national plans for infrastructure development, or into road and railway investment projects already planned.

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***The choice of location is the key success factor for the development of an ILC***

For logistics operators, warehouse operators and value-added service providers, the proximity of the site to their main clients (in terms of time and distance) is a key factor for the decision where to base the operations.

Excellent transport access to the national and regional transport network is another factor.

Naturally, the costs related to the use of space and services at the ILC should be determined competitively in the local real estate market.

In most TRACECA countries there is little experience in planning and setting up new ILCs. Therefore international technical assistance should be considered to continue the work of the EU-financed projects for the development of ILCs along the TRACECA corridor.

It is proposed that an analysis be made of the demand for the new/additional ILCs close to the main urban centres in Central Asia, and around Kiev (capital of Ukraine) and Chisinau (capital of the Republic of Moldova).

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***International Logistics centres require sufficient space for logistics operators and value-added services***

Most of the existing railway container terminals are historically located close to city centres and have only limited space for expansion.

While planning an International Logistics Centre, enough space should be provided for the settlement of logistics operators and providers of value-added services, including industries with extensive logistics operations.

The development of the territory should however be phased, following the demand of the market, based on the attractiveness of the site in comparison with other possible locations for investment.

Large-scale land acquisition close to major urban centres is a costly and commercially risky transaction for a private company, including commercial losses resulting from keeping empty land plots for future extension in the mid- and long term. Therefore in Europe, within different PPP schemes, the public sector plays a key role by either obtaining the land plots for future ILC development, followed by public investment into preparation of the land plots for investment; or supporting land acquisition for this purpose.

A hinterland Logistics Platform / ILC plays the same role in the transport network as do new ports, airports, roads or railway lines of national importance. Therefore, similar PPP schemes should be developed in the TRACECA countries for the implementation of ILCs, ensuring there is enough space available for their phased, long-term development.

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***Multimodal supply chains require regular, reliable block train connections between ports and Logistics Platforms / ILCs in the hinterland***

From their conception, future ILCs are to be considered as main hubs for the development of block train connections.

This requires close cooperation, at the concept stage and during project implementation, with the national railway company, specialised container operators, international block train operators, ports and the logistics community.

The creation of working groups and permanent discussion panels with all (national and international) parties involved is proposed to ensure coordinated development of the ILCs.

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***The development of ILCs / Logistics Platforms requires coordination with all public authorities involved***

Similar to port or airport operations, an ILC / Logistics Platform requires all authorities responsible for export, import and transit operations (except border guards in interior locations) to be available on site and execute their duties efficiently.

It is recommended that there should be early coordination with these authorities with regard to needed investment, allocation of personnel etc., since public budgeting processes need time to be completed.



### 3.5 TRACECA and EU Linkage

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***The EU aims at implementing a unified transport network, the TEN-T network, by 2030***

There is a strong commitment to creating a core transport network within the EU – a single network serving a single market. This was expressed clearly in 2011 in the White Paper ‘Roadmap to a Single European Transport Area’, and in 2013 when the European Commission, Council and Parliament agreed to ‘transform the existing patchwork of European roads, railways, airports and canals into a unified transport network (TEN-T)’<sup>11</sup>. The target date is 2030. In the medium term the main focus will be:

- filling in cross-border missing links;
- removing bottlenecks; and
- making the network smarter.

The most critical elements of the core transport network have been identified as:

- cross-border projects;
- interoperability; and
- inter-modality.

Clearly there are many aspects to implementing this ambitious programme. They include the construction and upgrading of infrastructure. But legal, institutional and technological aspects are crucial, and likely to be more challenging

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***A fully fledged logistics sector is a prerequisite the TEN-T network to be efficient***

It is well recognised that logistics facilities and services and the corresponding regulatory framework play an increasingly important role in transport and trade; in facilitating the development of value chains; in achieving a more sustainable use of natural resources; in creating jobs; and, ultimately, in supporting the development of human society. The modern supply chain concept voids the antiquated distinction drawn between industry, trade and transport services by combining them all. Accordingly the EU has adopted a Logistics Action Plan with five ‘core orientations’:

- Innovation, especially in ICT.
- Simplification of documentation and administration.
- Quality, including elimination of bottlenecks and upgrading of professional skills.
- Green corridors in urban areas and along the busiest transport routes, targeting environmental and safety concerns.
- Updating of the regulatory framework, especially with regard to standardisation of loading units and road vehicles.

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<sup>11</sup> Press release quoting EC Vice-President Siim Kallas (europa.eu, 13 May 2013).



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***TEN-T project selection emphasises sustainability***

Within EU territory, and in the context of TEN-T project selection, there is strong emphasis on economic efficiency and environmental protection – in particular meeting the EU target for reducing greenhouse gas (GHG) emissions<sup>12</sup>. It is notable that of 30 priority projects identified for the development of TEN-T:

- 18 are railway projects;
- 3 are mixed rail-road projects;
- 2 are inland waterway projects; and
- 1 refers to Motorways of the Sea<sup>13</sup>.

Past steps initiated by the EU already resulted in the implementation of functioning bodies such as the Ecoports association, developing standards and tools to help transport and logistics operators and users improve their environmental performance while achieving a greater business-efficiency.

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<sup>12</sup> For the transport sector the target is for GHG emissions to be 60% lower in 2050 than in 1990. This implies an average annual reduction of 1.5%.

<sup>13</sup> Source: [http://tentea.ec.europa.eu/en/ten-t\\_projects/30\\_priority\\_projects/](http://tentea.ec.europa.eu/en/ten-t_projects/30_priority_projects/)



### Text box 13: Ecoports in the EU

ESPO: The history of Ecoports starts with the Port Working Group, which was established by the European Commission in 1974 and consisted of representatives of port authorities, administrations and associations from the EU and Norway's major ports. By the beginning of 1993, this group had formed the European Sea Ports Organization (ESPO), an independent Brussels-based lobby for seaport interests focusing on a variety of policy and technical issues.

EMAS: The major breakthrough in eco-friendly port management followed the European Regulation 1836/93, which established EMAS (Eco Management and Audit Scheme) for companies of the industrial sector.

Since its inception, EMAS has been updated twice. In 2001, EMAS II opened the scheme to all economic sectors, including public and private services, and strengthened it through the integration of the environmental management requirements of ISO 14001. The last revision occurred with Regulation (EC) No 1221/2009 (EMAS III), which came into force in January 2010.

EMAS is a globally applicable but *voluntary* environmental management instrument, open to all types of public and private organizations enabling them to assess, manage and continuously improve their environmental performance. The EMAS-Regulation sets all the requirements that have to be met in order to become registered. There are today over 4,600 registered organizations.

The new main feature of EMAS III aims to harmonize the process of reporting on environmental performance by requiring participants to report on KPIs in six key environmental areas:

- Energy efficiency (measurement of total annual energy consumption and percentage of the productions from renewable energy sources);
- Material efficiency (annual mass flow of different materials used);
- Total annual water consumption;
- Waste management (total annual waste per type, and total annual production of hazardous waste);
- Biodiversity: use of land (expressed in m<sup>2</sup> of built-up area); and
- Total annual emissions of GHG and total annual air emission.

ECOPORTS: Significant ESPO initiatives were published in the first Environmental Code of Practice in 1994 and led to the establishment of the EcoPorts association a few years later.

With EC co-funded research and development initiatives, Ecoports brings together universities, research institutes, port industry professionals and other professional organizations to share views, practice and experience and exchange expertise in port environmental management with the aim of working collaboratively towards the improvement of the sector's environmental performance. The basic principle is voluntary self-regulation.

Two main tools have been developed, which are subject to continuous development and refinement:

- The Self Diagnosis Method (SDM), used to identify environmental risk and establish priorities for action and compliance. SDM is a concise checklist against which the environmental management programme of the port can be assessed in relation to the performance of both the European port sector and international standards.
- The Port Environmental Review System (PERS), which has become the recognised port environmental standard across the sector. PERS incorporates the main generic requirements of acknowledged environmental management standards, such as ISO 14001. It is designed to assist port authorities to set up functional organizations so that sustainable development goals are achievable. PERS can be independently certified.

Currently 67 ports have 'EcoPort' status, being those which have completed of a SDM checklist. Varna is the only EcoPort in the TRACECA region so far.



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***TEN-T is internal to the EU but an external dimension is also recognised***

The White Paper on Transport uses the phrase ‘a single European transport area’, but also addresses the ‘external dimension’ in which context it identifies three areas of action:

- Extending the EU’s internal market rules and standards as widely as possible. Particular mention is made of standards relating to safety, security, privacy and the environment.
- Extending transport and infrastructure policy and rules to the EU’s immediate neighbours, with particular reference to the aviation and maritime sectors and information technology.
- Opening up transport markets globally, with emphasis on a) free and fair competition and b) environmental sustainability.

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***The TRACECA LOGMOS Master Plan is grounded on the same principles as the TEN-T policy, emphasizing the same priorities promoting regional integration and coalescence with the TEN-T network***

Since LOGMOS Master Plan is to be aligned with the TEN-T programme it shares the same approach and target similar goals. In addition it assists TRACECA member countries to move towards substantial integration of their transport systems with the EU’s own, effectively extending the reach of the TEN-T to the mutual benefit of the EU and its neighbours. In this context integration includes the following elements:

- Bringing and maintaining transport infrastructure and facilities to a common standard.
- Harmonizing rules and procedures such that they do not constitute barriers to the cross-border movement of people, vehicles and goods.
- Harmonizing communication and other technologies – most obviously in the aviation, maritime and railway sectors – to ensure safety as well as efficiency.

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***Based on the EU experience interventions are necessary in three key areas***

Improved transport efficiency, creation of integrated transport networks and reduced greenhouse emissions are important features of attractive modern transport systems. Figure 1 enclosed in the appendix presents a logic diagram based on the above discussion of EU and TRACECA linkage in this respect:

- Investment in infrastructure, rolling-stock and systems to promote a modal shift towards rail and sea; and to improve interoperability between transport systems.
- Technical assistance and promotion of private sector participation in the fields of technology and provision of intermodal freight facilities and services.
- Technical assistance and negotiation to eliminate border-related costs and delays.
- The methodology and constraints are described hereafter.



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***Addressing  
infrastructure  
development from  
corridor perspective***

The TRACECA Investment Fora is a privileged platform for detailed presentation of important TRACECA infrastructure projects.

The LOGMOS project's approach with regard to addressing infrastructure within this Master Plan has been the following:

1 – Geographical perspective

- TRACECA is basically a corridor linking the EU with the Eastern Partnership Countries (with the exception of Belarus) and the five post-Soviet states of Central Asia.
- However the transit function of TRACECA is now enlarged with the implementation of links with Western China, primarily to meet the transport needs and requirements of European and other international industrial companies having established operations or developing them there.
- Therefore, the core network has an East-West orientation. As described in the Section 3.2 it is based on the EU TEN-T definition whereby TRACECA's existing approved network should be adapted to EU standards.

2 – Assessment of facilities

The threefold focus is on:

- Identification of links which are missing or sub-optimal to meet present and forecast logistics demand.
- Evaluation of ongoing and planned investments in infrastructure, with special attention to these projects which rely on public private partnership and those which bring about a modal shift from road to rail and sea transport,
- Appraisal of the existing infrastructure in terms of capacity, operational processes and its resulting performance, leading to the definition and recommendation of soft measures to improve asset-management based on best practices and policies implemented elsewhere, especially in the EU.



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***Fostering cooperation between stakeholders to eliminate bottlenecks was and remains one of the main tasks of LOGMOS Project***

The LOGMOS Master Plan is the direct result of the permanent work carried out with public and private stakeholders in all TRACECA countries.

The removal of bottlenecks starts with identification of direct benefits for stakeholders at national level. It therefore implies the set-up of national working groups of experts from the transport industry public and private sectors who define together the issues to be addressed and agree upon an action plan, a schedule of implementation and a set of KPIs.

Experience gathered in other regions of the world is highlighted with a view to help stakeholders to take advantage of the positive results achieved elsewhere, avoid repeating others' mistakes and shorten the time necessary for the implementation of new procedures and legal frames (e.g. Single Window and Economic Operator concepts, Port Community Systems etc.).

The next step is to bring several national working groups to work together on removing cross-border obstacles, exchanging information through dedicated platforms (e.g. Customs), streamlining procedures and harmonizing documentation (e.g. unified CIM-SMGS railway consignment note).

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***The implementation of Pilot projects enhancing the attractiveness of TRACECA is the final goal***

The ultimate target is to unite these working groups around a number of pilot-projects of regional dimension, strengthening the attractiveness of the TRACECA corridor and improving physically the linkage of the region with its Western (EU) and Eastern (China) neighbours.

Pilot projects developed under LOGMOS, first at the level of national working groups, acquired an international significance (Transit Ukraine, Silk Wind) especially for the seamless flow of goods between the EU, the TRACECA region and beyond.

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***Political support is crucial for success***

The successful implementation of these projects directly depends upon the political support of the involved countries. This support is a function of the priorities that the governments set themselves

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***Priority between East-West (TRACECA) and North-South Corridor may differ between countries***

The globalization of the economy and widespread adoption of the supply chain concept are objective drivers of the changing attitude of many TRACECA countries to international transit cargo-flows through their territory.

Unlike the EU however, TRACECA is not a harmonized block of nations enjoying an increasingly common legal and societal frame. And while TRACECA is essentially an East-West corridor, the North-South direction is also extremely important for all countries.



**LOGMOS Master Plan is a practical tool which can be used under any circumstances**

The LOGMOS Master Plan, by addressing global issues and proposing high-level as well as practical technical recommendations, will remain applicable whichever future directions the EU and the TRACECA countries decide to follow,

### 3.6 LOGMOS Pilot Projects Status and Next Steps

As outlined in the Section 3.3, the EU-Funded LOGMOS project followed up and identified pilot initiatives in logistics and MoS domains on the TRACECA corridor, that enhance its overall attractiveness (see Map 8). Annex 9.2 presents project fiches for the pilot projects in the direct beneficiary countries: [Azerbaijan](#), [Armenia](#), [Georgia](#), [Kyrgyzstan](#), [Kazakhstan](#), [Moldova](#), [Tajikistan](#), [Turkmenistan](#), [Ukraine](#), [Uzbekistan](#).

This section discusses the current pilot projects in regards to their contribution to implementation of the Master Plan. For each pilot projects it provides a descriptive summary, implementation status and next steps to be addressed. A discussion of the MoS Projects is followed by elaboration of the ILC projects.

#### 3.6.1 Motorways of the Sea Pilot Projects

##### **Motorways of the Sea Pilot Projects:**

A common remark applies to all MoS pilot projects: since they necessarily involve a minimum of two countries and sometimes many more, none can be implemented in a sustainable way without a strong, enduring, joint political support and commitment at bilateral and/or multilateral level.

##### **Azerbaijan, Kazakhstan and Turkmenistan**

##### **Improving Existing Trans-Caspian Shipping MoS Links**

There are four pilot projects addressing improvement of the Trans-Caspian sea link. These projects comprise the following initiatives:

- Ro-Ro: Baku-Turkmenbashi and Baku-Aktau
- Rail-Ferry Line: Baku-Turkmenbashi and Baku-Aktau

The Ro-Ro and rail-ferry operation projects are presented below respectively.

*Description* **Ro-Ro: Baku-Turkmenbashi and Baku-Aktau**

Setting up of dedicated Ro-Ro services running according to regular / fixed-day schedules between Baku and Turkmenbashi and Baku and Aktau to answer the market demand and offer large existing truck-flows alternatives to other – purely road and reportedly difficult – corridors.

*Implementation stage*

Both links are under development but constrained by infrastructure deficiencies and poor port transit procedures.



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*Recommendations for implementation*

The next steps include the following:

- Allocation of fixed berths and slots for berthing and handling Ro-Ro vessels at all ports, based on vessels' schedules jointly agreed upon by ports and shipping companies;
- Simplification of border-crossing and other administrative procedures to shorten the stay of both vessels and trucks in all ports;
- Improvement in coordination and development of the EDI at national level:
  - between ports, shipping companies and Users (PCS);
  - between transport industry public and private stakeholders and governmental agencies (SWS); and
- Introduction at bilateral level (advanced exchange of information especially between Customs Houses)

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*Description* **Rail-Ferry Line: Baku-Turkmenbashi and Baku-Aktau**

The projects are aimed at restoration of regular / fixed-day rail-ferry schedules between Baku and Turkmenbashi and Baku and Aktau. They help to optimize the employment of the fleet and of the rolling stock, reduce berth and port marshalling yards congestion, meet the demand for increased cargo volumes carried in rail wagons.

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*Implementation stage*

Both projects are under development but constrained by serious infrastructure deficiencies and poor operational procedures in Aktau and Turkmenbashi.

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*Recommendations for implementation*

The next steps include the following:

- Allocation of the sole existing rail-ferry ramp in Aktau exclusively to the handling of rail-ferries
- Construction of a second rail-ferry ramp / extension of the marshalling yard in Aktau.
- Simplification of border-crossing, customs and other administrative procedures to shorten the stay of vessels in all ports.
- Improvement in coordination and development of the EDI at national level:
  - between ports, railway and shipping companies;
  - between transport industry public and private stakeholders and governmental agencies (SWS); and
  - at bilateral level (advanced exchange of information especially between Customs Houses).



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*Ukraine, Georgia, Turkey,  
Bulgaria, Romania*

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**Improving Black Sea MoS Links**

*Description*

This pilot project is aimed at enhancing the quality of the shipping services between Varna, Ilychevsk and Georgian ports. This will entail regular / fixed-day schedules with better frequency of sailings to attract more regional and international truck traffic and compensate stagnating or declining traffic in rail wagons.

The initiative also supports the development of new / prospective shipping links both for truck (Constanza-Poti) and rail (Derince-Poti) traffic.

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*Implementation stage*

The MoS links is under development and in a transitory phase when Ro-Ro, container and rail traffics are still carried on the same vessels. The operational and administrative constraints of rail transport bear on the stays of the vessels at ports.

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*Recommendations for  
implementation*

Separate physically rail and container traffic on one hand from truck traffic on the other hand, loading them on different vessels.

Agree between ports and shipping companies upon fixed berthing and handing slots for vessels carrying only trucks (Ro-Ro).

Agree between ports, railway and shipping companies upon fixed berthing and handing slots for vessels exclusively dedicated to rolling stock carriage (rail-ferries).

Revise and up-date administrative, commercial and technical procedures between national railway companies based on modern EDI technology, avoiding any involvement of shipping companies in purely railway-related matters

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**Kazakhstan, Azerbaijan,  
Georgia, Turkey:**

**Block Train Projects**

The MoS block train pilot project comprise the following links

- *Silk Wind*
- *Baku – Poti Block Train*

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*Description*

**Silk Wind Block Train Service**

This pilot project aims to improve the existing railway connection and offer an alternative route to the trade through eastern border of Kazakhstan:

- between TRACECA countries and Central and Northern Europe through the Caucasus and across the Black Sea; and
  - between the TRACECA countries and Turkey, Mediterranean and Southern Europe through the Caucasus and across Turkey and Marmara and Aegean Sea ports.
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*Implementation stage*

The project is developed under ownership of Kazakhstan with involvement of Azerbaijan, Georgia and Turkey. The MoU was signed between these four participating states in 2012. The institutional conditions and market requirements for operation of this link are being gradually prepared. On the infrastructure side, a missing railway link between Zhezkazgan and Beyneu in Kazakhstan is currently under construction and due for completion in 2016. This railway section will be a part of the Silk Wind physical route.

---

*Recommendations for implementation*

For implementation it is recommended that a formal intergovernmental working group be set up by the four countries. This working group will address such administrative, technical and commercial issues as:

- simplified single-window border-crossing procedures avoiding delays to trains, advanced EDI between Customs Houses through neutral/secured platforms and appointment of single national Silk Wind train operators;
- a common transport document (CIM/SMGS Unified Rail Bill) with at least one common language;
- equipment (container) and rolling stock (locos, platforms) to be used;
- type of sea-transport across the Caspian Sea (container feeder or rail-ferry);
- door-to-door tariffs; and
- common tracking/tracing system accessible by the corridor users.

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*Description* **Azerbaijan, Georgia Baku-Poti Block Train**

This pilot project aims to improve the existing connection between the ports of Poti (and Batumi in the future) and the new Baku sea port at Alyat along the TRACECA Backbone (the Caucasus) so as to:

- facilitate trade within the TRACECA Region as well as between TRACECA countries (including landlocked ones) and the rest of the world through the Black Sea ports; and
- support the implementation and development of containerization in the region.

---

*Implementation stage*

The rail works (infrastructure and equipment) for rehabilitation of main railway lines through the Caucasus are going on. Modernization of rolling stock is underway or planned in participating countries. Various public and private attempts launched over the past 10 years for block-train operations however failed due to lack of cooperation between national Georgian and Azerbaijani railway companies.



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*Recommendations for implementation*

The setting up of an intergovernmental working group between Georgia and Azerbaijan to address all administrative, technical and commercial issues (this group could be an off-shoot of the Silk Wind IWG)

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### **3.6.2 Pilot Projects: International Logistics Centres**

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**ILC Pilot Projects**

The ILC pilot projects in the direct beneficiary countries are presented below.

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**Armenia:**

***Yerevan International Logistics Centre at Zvartnots International Airport, Yerevan'***

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*Description*

The Zvartnots International Airport site of 36 ha is located about 12 km to the south-west of Yerevan city centre, adjacent to the airport.

The proposed ILC at ZIA will be developed and upgraded to become a highly productive and competitive logistics site as a part of the TRACECA network. The different warehouses and areas for logistics services will be developed to meet the requirements of regional and international stakeholders. Three functional areas for 'logistics services', 'container terminal' and 'logistics-intensive industries and trade' have been delineated.

Estimated investment needs: EUR 24.4 M

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*Implementation stage*

The Government of Armenia has decided to include the ILC at Zvartnots into the list of priority projects in the transport sector.

A PPP scheme is being implemented. The Government of Armenia will take care of the land acquisition for new transport access links (road and rail); the construction of a new access road to the airport area; and extension of the land plot.

In 2011-12, a new road access to the area was designed. This initiative was coordinated with ongoing ADB-financed road infrastructure projects in and around Yerevan (North-South corridor project and Yerevan city centre by-pass). This activity was supported by the LOGMOS project.

The Concessionaire of Zvartnots Airport, Armenia International Airports CJSC, has finalized a design study for new railway access linking the ILC, the Free Economic Zone, the fuel farm of the airport and the new passenger terminal to Masis railway station and the city centre. This will provide a direct link to the TRACECA railway network.

Discussions are underway between the airport concessionaire, the South Caucasus Railways and the Government about their respective shares in the investment needed and operational issues.

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*Recommendations for implementation* The land acquisition process should be speeded up by the Government, being the key issue for both the new transport access (road and rail) and the extension of the site.

The framework of investment promotion measures should be defined by the Government, discussed with the Concessionaire and presented to the public to attract transport and logistics companies to the site.

The interfaces between the project development of the Free Economic Zone and the ILC should be clearly defined and a joint working group be formed to secure synergies between the two projects.

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**Azerbaijan:**

***International Logistics Centre at the New Baku International Sea Trade Port, Alyat***

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*Description* The ILC on a 50 ha land plot at the New Baku International Sea Trade Port at Alyat is a greenfield site and located about 70 km to the south of Baku, on the Caspian Sea, where TRACECA and North-South Corridors cross.

Estimated investment needs: EUR 38 M

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*Implementation stage*

The construction of the New Baku International Sea Trade Port at Alyat, including land-fill operations and new transport access, is under way. Operation of the new port is planned to start in late 2015 or early 2016.

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*Recommendations for implementation*

A public entity should be formed and take responsibility for the development of the project.

The scope of public investment into land plot preparation measures (hydrological and land fill operations, internal transport infrastructure and utilities) should be clearly defined.

The framework for private investment on the site within a PPP scheme should be defined by the Government, discussed with stakeholders and presented to the public to attract transport and logistics companies to the site.

The location of intermodal facilities (e.g. container terminal, parking areas, shunting yards) should be coordinated between the stakeholders of the port and the ILC to secure synergies.

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**Georgia:**

***International Logistics Centre Tbilisi at the TAM/Veli Site, Tbilisi***



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*Description* The TAM/Veli site is located 3 km from Tbilisi International Airport and 15 km from Tbilisi City. The total area is 217 ha. The operator of TAM is JSC Tbilisi Aircraft Manufacturing (TAM), owned by the Georgian state (Ministry of Defence). There is about 63 ha of land available for the development of an ILC (including 15 ha extension area and 12 ha at Veli Terminal). Veli Terminal is owned by Georgian Railways, located just across the street from TAM.

The TAM/Veli site has a direct connection to the road Tbilisi – Rustavi. Veli Terminal is situated on the main railway line (Poti – Tbilisi – Baku). Tbilisi Marshalling station, located roughly 3 km away from TAM/Veli is the main railway junction for routes to Azerbaijan and Armenia.

Estimated investment needs: EUR 41.3 M

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*Implementation stage* The implementation of the project has been halted due to different and partly conflicting interests among the various public sector stakeholders. The mid- and long-term perspectives for the development of the newly established container terminal of Georgian Railways in the same area are limited due to space restrictions.

The Ministry of Economy and Sustainable Development is continuing its efforts to promote the project and coordinate the future activities of the parties involved. The LOGMOS project prepared an updated information paper for this project in October 2013.

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*Recommendations for implementation* The Government of Georgia should take a clear position about the project and its support to the project.

The framework for private investment on the site should be defined including to the form and scope of public support for the development (land preparation, connection to utilities, connecting transport infrastructure, incentives for investors).

A public entity should be created for the development of the site, once a positive decision has been taken.

The existing road, which connects the land plot with the main highway, is in poor condition and needs repair and upgrade.

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### **Kazakhstan:**

#### **Aktau International Logistics Centre**

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*Description* The Aktau ILC with a size of 8 ha is positioned within the Aktau SEZ, close to the port of Aktau.

With the on-going investment projects improving the rail and road connections of Aktau to the East and the South, the importance of a logistics hub in Aktau is increasing.

Estimated investment needs: USD 33.4 M



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*Implementation stage* In the basic documents for activities allowed within the Free Economic Zone, warehousing and logistics activities have been added. Several companies have shown initial interest in investing into these spheres of business in the Free Economic Zone.

However, this did not result in any investment as rail transport access to the port of Aktau and further connections to the Kazakhstani network depend on Kaskortransservice, which owns the main railway access facilities the port of Aktau and the Free Economic Zone.

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*Recommendations for implementation* The proposed project can only be an initial step towards the development of a Logistics centre in the meaning of this Master Plan. Sufficient space should be allowed for future extension.

In cooperation with KTZ and other stakeholders a solution should be found to mitigate the current risks attached to the private ownership of the railway access to the site.

Neutral management of the Logistics centre should be secured to ensure maximal attractiveness of the project for private investors.

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**Kyrgyz Republic:**

***Osh International Logistics Centre***

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*Description* The ILC is well located North of Osh, on the border with the Kara-Suu district, with a site of 10-14 ha within the territory of a former textile mill of 44 hectares. The northern part of the former textile mill will be developed as a new wholesale market for the city of Osh. The area was chosen because of the nearby proximity of road, rail and air connections.

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*Implementation stage* The project is in initial stages, with an initial evaluation of the site provided by the LOGMOS project.

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*Recommendations for implementation* The regional administration or Government of the Kyrgyz Republic should secure/buy the whole remaining territory for the development of a Logistics Centre, as has already been done for the wholesale market development.

Public investment should be made be available for the rehabilitation of transport infrastructure (rail connection, roads) and utilities connecting the site.

A public entity should be founded to promote the development of the project.

The institutional framework for the project should be defined, including a PPP model.

A new feasibility study, taking into account the conditions of the site, should be conducted for the project.

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**Moldova:**

***Logistics Centre at the Free International Airport Marculesti***



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*Description* The ILC at the Free International Airport Marculesti, with a territory of 40 ha, is located about 30km east of the city centre of Balti. There are reasonably good connections to the urban and national highway network. The site is located directly on the TRACECA railway network. It could play a major role as a logistics hub in Northern Moldova.

Estimated investment needs: EUR 12 - 20 M

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*Implementation stage* The FIA Marculesti has been included in the Transport Strategy of Moldova as one of the multimodal hubs to be developed in the country (other hubs have been identified at Chisinau, the port of Giurgiulesti and close to the railway bogie-exchange facility at the Romanian border at Ungheni). The Strategy was approved by the Government of Moldova in September 2013.

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*Recommendations for implementation* A coordinating body should be established with the Ministry of Defence (owner of the land plot), the Ministry of Economy (responsible for the development of Free Economic Zones), Moldovan railways and the Ministry of Transport and Road Construction.

A joint and coordinated plan for development of the logistics hub should be agreed upon. In Moldova, there is a legislative framework for concessions. PPP could be an option with the successful example of the free port 'Giurgiulesti'.

The new local level access road to the site (constructing an access road (0.4 km) to an existing road running north to the main East-West road R13, and rehabilitating that existing road (1.2 km) should be included into public road construction plans.

Improvement is also needed to the railway access of the main line and present railway junction at Marculesti.

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**Tajikistan:**

***Nizhniy Pyandj International Logistics Centre***

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*Description* The Nizhniy Pyandj Logistics Centre, on the Tajik/Afghan border, with a proposed size of 4ha, will provide a modern logistics terminal. Initially this will be for single-modal truck delivery, but eventually it will allow multimodal shipment by truck and rail, and multi-functions such as transshipment, storage and processing goods and general container cargo. A rail line from Nizhniy Pyanj to Kolhozabad has been planned.

Estimated investment needs: USD 8.3 M

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*Implementation stage* The Tajik Ministry for Transport and Communication has developed an investment project for building the Kolhozabad-Nizhniy Pyandj railroad, which will be about 46km long.

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*Recommendations for implementation*

The proposed project should include sufficient space for extension as the current project does not qualify to be a logistics centre in the meaning of this Master Plan.

A specific land plot for the Logistics Centre should be defined, taking into account the future railway line.

A (concession-based) framework for a private company to operate the Logistics Centre in the future should be developed.

This company should be selected during a transparent tendering process.

**Turkmenistan:**

**Turkmenbashi Port International Logistics Centre**

*Description*

The ILC will be located within the extended Port of Turkmenbashi, on 12 ha of newly acquired land. The main railway line and highway connect the port to Djanga and further to Ashgabat. The Logistics centre is part of the expansion project of Turkmenbashi Port. The project includes two warehouses of 10.000 m<sup>2</sup>. each, including a temperature controlled warehouse for perishable goods.

*Implementation stage*

For the construction works in connection with the expansion project of Turkmenbashi port a contract of USD 1.5 bn was awarded on 20 August 2013 to Gap Insaat, part of the Turkish corporation Calik Holding.

*Recommendations for implementation*

During the implementation, the principles for creating a logistics centre as described in the Master Plan should be followed.

**Ukraine:**

**International Logistics Centre at Boryspil Airport Commercial Park**

*Description*

The BACP site is located 35 km from Kiev city centre. The plot is adjacent to Boryspil International Airport and is located in the vicinity of a planned Kiev Ring Road east of Boryspil.

Estimated investment needs: EUR 96.4 M

*Implementation stage*

BACP is an operational facility adjacent to Boryspil International Airport. The owner, BF Group, has already constructed internal infrastructure and warehousing with a total area of 100,000 m<sup>2</sup> on an estate of 350 ha. The initial land allocation to the Logistics Centre is 120 ha (34% of the total site area) with the possibility of expansion if warranted by demand. Customs clearance is on site.

The nearest trunk railway line is about 7 km away from the site.

The facilities of the BF group have been extended during the last few years. Additional warehouses were constructed and leased to customers, but no major progress has been achieved concerning the improved road access and a new railway link.



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*Recommendations for implementation*

A feasibility study for connection to the planned railway passenger link at Boryspil International Airport should be prepared.

Public support in the form of land acquisition is needed for the new 5km access road to the facility.

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**Ukraine:**

***International Logistics Centre at Dry Port Euroterminal, Odessa***

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*Description*

Dry Port Euroterminal is a functioning private facility on an inland 50 ha site located 2 km west of the northern extremity of Odessa Commercial Sea Port.

EBRD and EIB have already agreed to parallel co-financing of the initial stages of development of Dry Port Euroterminal, to an amount of USD 27 M. A customs terminal has been constructed and is operating.

Dry port Euroterminal is directly connected to the port of Odessa by a closed road.

For further development a direct improved road connection (Khadzibey-2 road) and new rail access is needed. Peresyp railway station is 1.5 km away, with a functioning trunk line ending at an industrial facility on a neighbouring site.

Estimated investment needs: EUR 103 M

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*Implementation stage*

Dry Port Euroterminal has successfully extended its activities after the opening of the customs terminal in early 2012. The company has financed design studies for both the new 'Khadzibey-2' access road to the site and the new railway access (including extension of Peresyp railway station) to the site for the development of a railway container terminal and other railway-related cargo operations. The implementation of both projects relies on public sector support.

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*Recommendations for implementation*

The Ministry of Infrastructure, in coordination with Odessa oblast administration and Odessa port, should discuss options for public financial support to the implementation of both the road and railway access to the site (and, at the same time, Odessa Sea Commercial Port).

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**Uzbekistan:**

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**Navoi Airport International Logistics Centre**

*Description* The proposed Navoi ILC is located at Navoi International Airport on a 2ha plot, near the 'Navoi' Free Industrial Economic Zone (FIEZ), at the crossroads of international 'North-South' and 'East-West' land and air corridors: the E40, which is the shortest connection between China and Europe, and in vicinity of a railway line linking Bukhara to Samarkand and heading further to Tashkent.

Estimated investment needs: USD 10.5 M

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*Implementation stage* According to the Feasibility Study prepared in 2010, the proposed ILC will comprise a warehouse distribution centre and a railway container terminal. It will be built within the territory of the Navoi Airport.

The proposed facility is planned as the extension of the existing air cargo terminal at Navoi airport. The proposed land plot does not offer sufficient space for an international logistics centre with road/rail handling facilities and warehousing.

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*Recommendations for implementation* A new site, possibly with direct connection to the nearby Navoi Free Industrial Economic zone (1.5 km across the road), should be evaluated for mid- and long-term development.

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## 4 LOGMOS ROAD MAP

### *Introduction to the Road Map.*

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#### *Purpose of the road map*

The Road Map aims to provide a streamlined outline of actions to be implemented in TRACECA in order to continue working on improvement of logistics and motorways of the sea master plan.

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#### *Technical recommendations*

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The road map is based on technical recommendations outlined in the master plan.



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### **Standard format for recommendations**

The Road Map comprises 68 distinct technical recommendations, each of which has been described and presented in a standard format indicating:

- The extent of its impact (National or Corridor).
- The Master Plan layer or layers to which it applies (Institutional/legal, Infrastructure, Market/operations or a combination thereof).
- Its perceived priority (High, Medium, Low).
- The transport mode or modes to which it applies (Road, Rail, Maritime, Inland waterway, Multimodal, or combination of modes).
- Its timeframe for its implementation (Short for immediate measures in 2014-17, Medium – 2017-20, Long – 2020+).
- The highest level at which an action is required (Country, Regional, Cross-regional).
- The country or countries concerned.
- The location of responsibility to a process owner in a TRACECA country mainly within the public sector of transport policy making.
- Potential source of other actors for cooperation within private sector, public sector, or externally, with specific agencies nominated where possible.
- Specific attention is paid to involvement of the EU, IFIs who are assumed as supporters of policy improvement process, and whose assistance may be sought at implementation stage by owners/promoters of a specific master plan recommendation in the beneficiary countries.
- Ministries of Transport or similar structures with transport policy setting functions in TRACECA countries are deemed to be important stakeholders of the Master Plan. Responsibility for implementation is clearly within TRACECA countries and their institutional structures on regional or national levels.
- Required mode of intervention that is deemed suitable for implementation of a specific recommendation.
- Expected benefits for TRACECA from implementation of a measure.
- Currently 67<sup>14</sup> road map recommendations are active.

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### **Road Map Users**

It is envisaged that the Road Map will be used by governments, EC, TRACECA structures and other stakeholders, public and private.

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<sup>14</sup> Recommendation 005 for Armenia to access the UN Landlocked Countries Convention has been fulfilled in October 2013 by submission of the Armenian government an application to the UN. Since recommendations are assigned unique numbers, each completed recommendations keep its number and new action items may added to the road map



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***Interactive features road map - Excel model 'RoMaR'***

A model has been developed as an interactive tool. It is called RoMaR (Road Map Recommendations). RoMaR allows the recommendations to be filtered according to the criteria listed above.

The model consists of unit entries that allow creation of a customised plan of action for an individual user. Any individual stakeholder can compile his/her own table of recommendations that are of direct interest. A user manual accompanies the model.

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***Recommendation References***

Each recommendation has been given a unique 3-digit reference number as an identifier: 001, 002, 003 etc. in the sequence in which the original list of recommendations was compiled. This allows for easy reference.

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***Layer-wise composition of recommendations***

Of the 67 recommendations 46 (69%) relate to the Institutional/legal layer of the Master Plan; 23 (34%) relate to the Infrastructure layer; and 39 (57%) relate to the Market/ operations layer. Most recommendations relate to more than one layer (47%); 8% relate to all three.

The relative weights of the three layers reflect the emphasis on 'soft' measures in the Master Plan as a whole and in the technical recommendations in particular.

The recommendations that relate to each of the three layers are listed in the table below, together with explanatory details. Because most of the recommendations relate to more than one layer there is considerable overlap between the tables.

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### **Priorities**

Each recommendation has been given a priority rating: High, Medium or Low.

The ratings were given at four stages of Road Map development, evolving from stakeholder consultations and project work. The first round was done in the context of each individual sector or transport mode for which a measure applies. The second and third round were done in the context of the programme as a whole and with regard to the criteria applied to the scoring of pilot projects in the multi-criteria analysis (MCA). The third round was done by verification of the weighting in stakeholder consultations at the final stage of the project.

The final rating is a weighted average of those four, the first round having a lesser weight than the subsequent rounds, in view of reflection of the corridor importance and cross-border actions:

- High priority: 29 recommendations.
- Medium priority: 34 recommendations.
- Low priority: 4 recommendations.

Therefore, a major number of Master Plan recommendations are rated as having High and Medium priority. In general the highest priority was assigned to recommendations that are likely to have corridor-wide impact; significantly ease cross-border movements and intermodal transfers; improve the efficiency of sea and rail transport; or bring the TRACECA countries' laws and procedures closer to those of the EU.

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### **Transport modes**

The various transport modes are represented as follows:

- Road: 17 (25%).
- Rail: 21 (31%).
- Maritime: 22 (32%).
- Inland waterways: 9 (13%).
- Multimodal: 49 (74%).

As with the layers, there is considerable overlap because most recommendations relate to more than one mode, taking into account complexity of the logistics processes. Most of the multimodal recommendations fall into this category.



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***Responsibilities and support actions***

One of the Road Map's most important features is the proposed allocation of responsibilities for implementation of the various recommendations. TRACECA public sector stakeholders (national, regional, bilateral or TRACECA international levels) would have responsibility for implementing the Master Plan recommendations<sup>15</sup>. Private sector stakeholders need to be actively involved in implementation of 33 (48%) recommendations.

This allocation of responsibilities underscores the need for collaboration between the public and private sectors. In most cases it is likely that the initiative for implementation and support to a measure will have to come from the public sector.

In Table 2 the recommendations that call for action by Ministries of Transport or equivalent transport policy responsible bodies in countries are outlined. These assume their lead responsibility for the specific recommendations listed and cooperation with development partners, as the EU, other donors or IFIs.

Specifically the Table 3 and Table 4 are prepared to outline areas where support of the EU and the IFIs is deemed helpful. These tables are of reference type, and may be used both by national stakeholders and the EU Institutions / IFIs in their programming.

Due to the Master Plan's emphasis on 'soft' measures, the expected role for IFI's is limited to 16 of the 67 recommendations. In contrast, the EU is assumed to have a supportive role in 34 measures (50%).

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<sup>15</sup> The exception is recommendation 037: Customer-friendly web pages of shipping companies, where implementation lead is assumed to be taken by private companies.



Table 2: Recommendations for Lead Action: Levels of Ministries of Transport

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
008	Introduce compulsory insurance for vehicles and transportation	Corridor	Medium	Multimodal	2013-17	Country	GE	Industry	MOT	Governmental agencies / state bodies (as required by procedures in a respective country); Legislative body(-ies).			Implementation of respective Action Plans / improvement programmes Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	Law enforcement improved; National legislation harmonised / stakeholder roles and responsibilities clearly defined; Safer travel in place; Simplified procedures and transparency introduced;
025	Construct of a second ramp / bridge in Aktau	Corridor	High	Rail Maritime Multimodal	2013-17	Country	KZ	Services	MOT	Railway companies of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; AISCP;		IFIs	Implementation of respective Action Plans / improvement programmes Seeking development partner assistance in sourcing; Inclusion into IFI financing plans; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Bottleneck(s) relieved and/or missing link(s) eliminated; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Inclusion into modern logistics concepts, networks and supply chains achieved; Congestion reduced and connectivity improved;
026	Extend marshalling yard in Aktau	Corridor	High	Rail Maritime Multimodal	2013-17	Country Regional	KZ	Services	MOT	Railway companies of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; AISCP;		IFIs	Implementation of respective Action Plans / improvement programmes Seeking development partner assistance in sourcing; Inclusion into IFI financing plans; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Bottleneck(s) relieved and/or missing link(s) eliminated; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Inclusion into modern logistics concepts, networks and supply chains achieved; Congestion reduced and connectivity improved;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
027	Allocate or construct a dedicated Ro-Ro berth in Aktau	Corridor	High	Road Maritime Multimodal	2013-17	Country	KZ TR	Services	MOT	Railway companies of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; AISCSP;		IFIs	Implementation of respective Action Plans / improvement programmes Seeking development partner assistance in sourcing; Inclusion into IFI financing plans; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Bottleneck(s) relieved and/or missing link(s) eliminated; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Inclusion into modern logistics concepts, networks and supply chains achieved; Congestion reduced and connectivity improved;
028	Build truck parking + service area / drivers' rest area in Aktau	Corridor	High	Road Maritime Multimodal	2013-17	Country	KZ TR	Services	MOT	Railway companies of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; AISCSP;			Implementation of respective Action Plans / improvement programmes Seeking development partner assistance in sourcing; Inclusion into IFI financing plans; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Bottleneck(s) relieved and/or missing link(s) eliminated; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Inclusion into modern logistics concepts, networks and supply chains achieved; Congestion reduced and connectivity improved;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
029	Prioritize of dredging of access channel at Turkmenbashi	Corridor	High	Maritime Multimodal	2013-17	Country	TM		MOT	Railway companies of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; SSMRT; Governmental agencies / state bodies (as required by procedures in a respective country);		IFIs	Implementation of respective Action Plans / improvement programmes Seeking development partner assistance in sourcing; Inclusion into IFI financing plans; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	Bottleneck(s) relieved and/or missing link(s) eliminated; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Inclusion into modern logistics concepts, networks and supply chains achieved; Congestion reduced and connectivity improved;
030	Implement Vessel Free Practice Procedure	Corridor	Medium	Maritime	2013-17	Country Cross-regional	AZ BG GE MD RO TR TM UA	Services	MOT	Customs Committee(-s); Port authorities of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Governmental agencies / state bodies (as required by procedures in a respective country); National Working Groups;			Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Roundtables, exchange; Utilisation of existing platforms in implementation; Involvement of TAIEX; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	Availability and transparency of information is assured; Compliance with best international and EU practice increased; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Qualification and efficiency of professional staff improved;
031	Implement Vessel Single Window Reporting System at national level and harmonization at regional level (Black Sea and Caspian Sea)	Corridor	High	Maritime Multimodal	2013-17	Cross-regional	AZ BG GE MD RO TR TM UA		Bilateral MOT	UNECE; Customs Committee(-s); Port authorities of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Governmental agencies / state bodies (as required by procedures in a respective country); National Working Groups;	EU		Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Cooperation with EUBAM; Roundtables, exchange; Utilisation of existing platforms in implementation; Involvement of TAIEX; Measures for alignment with EU policies (Directive 2010/65/EU); Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	Availability and transparency of information is assured; Compliance with best international and EU practice increased; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Qualification and efficiency of professional staff improved;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
032	Introduce and run Port Community Systems based on EDI and pre-declaration procedures	Corridor	High	Maritime Multimodal	2013-17	Cross-regional	AZ BG GE MD RO TR TM UA		Bilateral MOT	UNECE; Customs Committee(-s); Port authorities of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Governmental agencies / state bodies (as required by procedures in a respective country); National Working Groups;	EU		Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Cooperation with EUBAM; Roundtables, exchange; Utilisation of existing platforms in implementation; Involvement of TAIEX; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	Efficient handling and transport of containers, container operations and services is reached; Availability and transparency of information is assured; Compliance with best international and EU practice increased; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Qualification and efficiency of professional staff improved; Inclusion into modern logistics concepts, networks and supply chains achieved;
033	Redesign Approach of Functioning of Port Community Systems in Caspian Region	Corridor	High	Maritime Multimodal	2020+	Regional	AZ KZ TM		MOT	Customs Committee(-s); Port authorities of respective country(-ies); Port community system(s); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Governmental agencies / state bodies (as required by procedures in a respective country); Ports and Shipping companies;			Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Intergovernmental Agreements needed;	Bottleneck(s) relieved and/or missing link(s) eliminated;
038	Target Lower Danube improvements (navigation conditions)	Corridor	Medium	IWW	2017-20	Regional	BG RO		MOT	Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Ministry (-ies) of economy and finance and other ministry (-ies) responsible for budget and macroeconomic plans ; Development partners / funding agencies / donors; Other agencies that are already involved in implementation;	EU	IFIs	Seeking development partner assistance in sourcing;	Bottleneck(s) relieved and/or missing link(s) eliminated; Harmonisation of infrastructure development plans assured; Quality of services, competitiveness and market share increased (for a transport mode / route / connection ); Inclusion into modern logistics concepts, networks and supply chains achieved; Congestion reduced and connectivity improved; Socio+eco-friendly modal shift enabled;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
039	Develop and implement Ukrainian IWW strategy	National	Medium	IWW	2017-20	Country	UA	Industry Services Operators	MOT Other	Port community system(s); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Governmental agencies / state bodies (as required by procedures in a respective country); Shipping lines;	EU		Twinning or a Technical Assistance Project; Alignment measures to the EU policies; Seeking development partner assistance in sourcing; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support; Training and capacity building measures; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	Compliance with best international and EU practice increased; Countries' economic growth and economic activities improved; Deployment of assets (rolling stock, vessels, fleets, infrastructure) improved; Inclusion into modern logistics concepts, networks and supply chains achieved; National legislation harmonised / stakeholder roles and responsibilities clearly defined; Socio+eco-friendly modal shift enabled;
059	Implement Concept of Development of Road Traffic along the Corridor	Corridor	Medium	Road Multimodal	2013-17	Country Regional Cross-regional	AM AZ BG GE KZ KG MD RO TJ TR TM UZ	Services Operators	Bilateral MOT	Road agencies; IGC TRACECA and Permanent Secretariat; International organisations dealing with a respective mode of transport;	EU	IFIs	Implementation of respective Action Plans / improvement programmes Round-tables, exchange; Utilisation of existing platforms in implementation; Coordination and monitoring of trans-national actions;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Quality of services, competitiveness and market share increased (for a transport mode / route / connection ); Inclusion into modern logistics concepts, networks and supply chains achieved; Safer travel in place; Simplified procedures and transparency introduced;
060	Harmonize standards and procedures	Corridor	Medium	Road Multimodal	2017-20	Country Regional Cross-regional	All	Services	Bilateral MOT	Road agencies; IGC TRACECA and Permanent Secretariat; National Working Groups; International organisations dealing with a respective mode of transport; Legislative body(-ies).	EU		Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Round-tables, exchange; Utilisation of existing platforms in implementation; Coordination and monitoring of trans-national actions; Governmental support and procedural changes implicated; Training and capacity building measures;	New customers and cargoes attracted to TRACECA corridor; Bottleneck(s) relieved and/or missing link(s) eliminated; Compliance with best international and EU practice increased; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Law enforcement improved; National legislation harmonised / stake-



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
														holder roles and responsibilities clearly defined; Speed-up of abandoned cargoes disposal facilitated;
061	Improve connections to and between logistics hubs and nodes	Corridor	High	Road Multimodal	2017-20	Country Regional Cross-regional	All	Industry Services Operators	MOT	Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Ministry (-ies) of economy and finance and other ministry (-ies) responsible for budget and macroeconomic plans ; Governmental agencies / state bodies (as required by procedures in a respective country); IGC TRACECA and Permanent Secretariat; Regional, local and municipal authorities;		IFIs	Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Alignment measures to the EU policies; Governmental support and procedural changes implicated; Decision on political level; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Bottleneck(s) relieved and/or missing link(s) eliminated; Compliance with best international and EU practice increased; Cost-effectiveness of public investment achieved; Harmonisation of infrastructure development plans assured; Inclusion into modern logistics concepts, networks and supply chains achieved; Coordinated development plans in place;
062	Provide suitable road access to logistics centres and other nodes such as sea-ports	Corridor	Medium	Road Multimodal	2013-17	Country Cross-regional	AZ BG KZ RO UA	Industry Operators	MOT	Port authorities of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Ministry (-ies) of economy and finance and other ministry (-ies) responsible for budget and macroeconomic plans ; Governmental agencies / state bodies (as required by procedures in a respective country); IGC TRACECA and Permanent Secretariat; Regional, local and municipal authorities;			Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Alignment measures to the EU policies; Governmental support and procedural changes implicated; Decision on political level; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Bottleneck(s) relieved and/or missing link(s) eliminated; Compliance with best international and EU practice increased; Cost-effectiveness of public investment achieved; Harmonisation of infrastructure development plans assured; Inclusion into modern logistics concepts, networks and supply chains achieved; Coordinated development plans in place;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
063	Implement Ro-La concept and facilities	Corridor	Medium	Road Rail Multimodal	2017-20	Country Regional Cross-regional	All	Industry Services Operators		Road agencies; Railway companies of respective country(-ies); IGC TRACECA and Permanent Secretariat;			Implementation of respective Action Plans / improvement programmes Round-tables, exchange; Business plans reorientation and adjustments (market driven).	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Deployment of assets (rolling stock, vessels, fleets, infrastructure) improved; Congestion reduced and connectivity improved; Socio+eco-friendly modal shift enabled;
064	Modernise Truck fleet	Corridor	Low	Road	2017-20	Country	AM AZ BG GE KZ KG MD RO TJ TM UZ UA	Industry Services Operators	Bilateral MOT	Road agencies; Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Governmental agencies / state bodies (as required by procedures in a respective country); Private stakeholders; International organisations dealing with a respective mode of transport; Other agencies that are already involved in implementation; Legislative body(-ies).		IFIs	Governmental support and procedural changes implicated; Decision on political level; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support; Business plans reorientation and adjustments (market driven).	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Compliance with best international and EU practice increased; Countries' economic growth and economic activities improved; Deployment of assets (rolling stock, vessels, fleets, infrastructure) improved; Quality of services, competitiveness and market share increased (for a transport mode / route / connection );
065	Promote professional development of road industry	Corridor	Medium	Road Multimodal	2013-17	Country Regional Cross-regional	All	Industry Services Operators	MOT Other	Road agencies; IGC TRACECA and Permanent Secretariat; International organisations dealing with a respective mode of transport.	EU		Alignment measures to the EU policies; Seeking development partner assistance in sourcing; Governmental support and procedural changes implicated;	Qualification and efficiency of professional staff improved; Quality of services, competitiveness and market share increased (for a transport mode / route / connection );
066	Implement the Action plan developed by the EU-funded TRACECA Land Transport Safety and Security Project	Corridor	Medium	Road	2013-17	Country Regional Cross-regional	All	Industry Services Operators	Bilateral MOT	Road agencies; Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Governmental agencies / state bodies (as required by procedures in a respective country); Re-	EU	IFIs	Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Round-tables, exchange; Utilisation of existing platforms in implementation; Coordination and monitoring of trans-national actions; Governmental support and pro-	National legislation harmonised / stakeholder roles and responsibilities clearly defined; Safer travel in place; Simplified procedures and transparency introduced; Coordinated development plans in place;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
										gional, local and municipal authorities; NGOs / academic institutions / involved non-profit organisations; National Working Groups; International organisations dealing with a respective mode of transport; Legislative body(-ies).			cedural changes implicated; Decision on political level; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	
067	Harmonize standards and procedures according to international standard in road sector	Corridor	Medium	Road	2013-17	Country Regional Cross-regional	All	Services	Other	Road agencies; IGC TRACECA and Permanent Secretariat; International organisations dealing with a respective mode of transport; Other agencies that are already involved in implementation; Legislative body(-ies).	EU		Round-tables, exchange; Allocation of TRACECA legal task force; Utilisation of existing platforms in implementation; Decision on political level.	Law enforcement improved; National legislation harmonised / stakeholder roles and responsibilities clearly defined.



Table 3: Possible Areas for Supporting Interventions: Level of the IFIs

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
010	Improve equipment of borders: hard-ware for inspections and controls	Corridor	Medium	Multimodal	2017-20	Country Regional	MD TJ UA		Gov't	Customs Committee(-s); Governmental agencies / state bodies (as required by procedures in a respective country); Border control agencies; National Working Groups; Other agencies that are already involved in implementation;	EU	IFIs	Cooperation with EUBAM; Seeking development partner assistance in sourcing; Governmental support and procedural changes implicated;	Availability and transparency of information is assured; Compliance with best international and EU practice increased; Countries' economic growth and economic activities improved; Law enforcement improved; Safer travel in place; Illicit trade dropped; Simplified procedures and transparency introduced;
011	Introduce Customs Risk Management and Information sharing centre;	Corridor	Medium	Multimodal	2017-20	Regional	MD RO UA		Gov't	Customs Committee(-s); Governmental agencies / state bodies (as required by procedures in a respective country); Border control agencies; Private stakeholders; National Working Groups; Other agencies that are already involved in implementation;	EU	IFIs	Twinning or a Technical Assistance Project; Cooperation with EUBAM; Seeking development partner assistance in sourcing; Governmental support and procedural changes implicated; Involvement of TAIEX; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	Availability and transparency of information is assured; Compliance with best international and EU practice increased; Countries' economic growth and economic activities improved; Law enforcement improved; Safer travel in place; Illicit trade dropped; Simplified procedures and transparency introduced;
020	Rehabilitate Varna Ferry Complex	Corridor	Medium	Rail Maritime Multimodal	2013-17	Country Regional	BG		Gov't	Railway companies of respective country(-ies); Development partners / funding agencies / donors;		IFIs	Seeking development partner assistance in sourcing; Inclusion into IFI financing plans; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support;	Bottleneck(s) relieved and/or missing link(s) eliminated; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Inclusion into modern logistics concepts, networks and supply chains achieved;
021	Construct rail access, and marshalling facilities at Euroterminal in Odessa	Corridor	Medium	Multimodal	2017-20	Regional Cross-regional	UA	Industry Operators	Gov't	Port authorities of respective country(-ies); Railway companies of respective country(-ies); Terminal operator(s);		IFIs	Implementation of respective Action Plans / improvement programmes Seeking development partner assistance in sourcing; Definition of legal status of relationship between EuroTerminal and Port of Odessa;	Bottleneck(s) relieved and/or missing link(s) eliminated; Congestion reduced and connectivity improved; Socio+eco-friendly modal shift enabled;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
022	Prioritize lengthening and strengthening of breakwater and dredging of access channel and port aquatorium in Poti	Corridor	High	Maritime Multimodal	2013-17	Country	GE	Industry Operators	Gov't	Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; APMT; Development partners / funding agencies / donors;		IFIs	Implementation of respective Action Plans / improvement programmes Seeking development partner assistance in sourcing;	Bottleneck(s) relieved and/or missing link(s) eliminated; Congestion reduced and connectivity improved; Socio+eco-friendly modal shift enabled;
023	Construct of Ro-La transshipment facilities at Batumi	Corridor	High	Maritime Multimodal	2017-20	Country	GE		Gov't	Railway companies of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Development partners / funding agencies / donors; Other agencies that are already involved in implementation;		IFIs	Implementation of respective Action Plans / improvement programmes Seeking development partner assistance in sourcing;	Bottleneck(s) relieved and/or missing link(s) eliminated; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Inclusion into modern logistics concepts, networks and supply chains achieved; Congestion reduced and connectivity improved; Socio+eco-friendly modal shift enabled;
025	Construct of a second ramp / bridge in Aktau	Corridor	High	Rail Maritime Multimodal	2013-17	Country	KZ	Services	MOT	Railway companies of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; AISCP;		IFIs	Implementation of respective Action Plans / improvement programmes Seeking development partner assistance in sourcing; Inclusion into IFI financing plans; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Bottleneck(s) relieved and/or missing link(s) eliminated; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Inclusion into modern logistics concepts, networks and supply chains achieved; Congestion reduced and connectivity improved;
026	Extend marshalling yard in Aktau	Corridor	High	Rail Maritime Multimodal	2013-17	Country Regional	KZ	Services	MOT	Railway companies of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies)		IFIs	Implementation of respective Action Plans / improvement programmes Seeking development partner assistance in sourcing; Inclusion	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
										responsible for transport policy and infrastructure; AISCP;			into IFI financing plans; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support;	is reached; Bottleneck(s) relieved and/or missing link(s) eliminated; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Inclusion into modern logistics concepts, networks and supply chains achieved; Congestion reduced and connectivity improved;
027	Allocate or construct a dedicated Ro-Ro berth in Aktau	Corridor	High	Road Maritime Multimodal	2013-17	Country	KZ TR	Services	MOT	Railway companies of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; AISCP;		IFIs	Implementation of respective Action Plans / improvement programmes Seeking development partner assistance in sourcing; Inclusion into IFI financing plans; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Bottleneck(s) relieved and/or missing link(s) eliminated; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Inclusion into modern logistics concepts, networks and supply chains achieved; Congestion reduced and connectivity improved;
029	Prioritize of dredging of access channel at Turkmenbashi	Corridor	High	Maritime Multimodal	2013-17	Country	TM		MOT	Railway companies of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; SSMRT; Governmental agencies / state bodies (as required by procedures in a respective country);		IFIs	Implementation of respective Action Plans / improvement programmes Seeking development partner assistance in sourcing; Inclusion into IFI financing plans; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	Bottleneck(s) relieved and/or missing link(s) eliminated; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Inclusion into modern logistics concepts, networks and supply chains achieved; Congestion reduced and connectivity improved;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
038	Target Lower Danube improvements (navigation conditions)	Corridor	Medium	IWW	2017-20	Regional	BG RO		MOT	Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Ministry (-ies) of economy and finance and other ministry (-ies) responsible for budget and macro-economic plans ; Development partners / funding agencies / donors; Other agencies that are already involved in implementation;	EU	IFIs	Seeking development partner assistance in sourcing;	Bottleneck(s) relieved and/or missing link(s) eliminated; Harmonisation of infrastructure development plans assured; Quality of services, competitiveness and market share increased (for a transport mode / route / connection ); Inclusion into modern logistics concepts, networks and supply chains achieved; Congestion reduced and connectivity improved; Socio+eco-friendly modal shift enabled;
059	Implement Concept of Development of Road Traffic along the Corridor	Corridor	Medium	Road Multimodal	2013-17	Country Regional Cross-regional	AM AZ BG GE KZ KG MD RO TJ TR TM UZ	Services Operators	Bilateral MOT	Road agencies; IGC TRACECA and Permanent Secretariat; International organisations dealing with a respective mode of transport;	EU	IFIs	Implementation of respective Action Plans / improvement programmes Round-tables, exchange; Utilisation of existing platforms in implementation; Coordination and monitoring of trans-national actions;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Quality of services, competitiveness and market share increased (for a transport mode / route / connection ); Inclusion into modern logistics concepts, networks and supply chains achieved; Safer travel in place; Simplified procedures and transparency introduced;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
061	Improve connections to and between logistics hubs and nodes	Corridor	High	Road Multimodal	2017-20	Country Regional Cross-regional	All	Industry Services Operators	MOT	Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Ministry (-ies) of economy and finance and other ministry (-ies) responsible for budget and macro-economic plans ; Governmental agencies / state bodies (as required by procedures in a respective country); IGC TRACECA and Permanent Secretariat; Regional, local and municipal authorities;		IFIs	Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Alignment measures to the EU policies; Governmental support and procedural changes implicated; Decision on political level; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Bottleneck(s) relieved and/or missing link(s) eliminated; Compliance with best international and EU practice increased; Cost-effectiveness of public investment achieved; Harmonisation of infrastructure development plans assured; Inclusion into modern logistics concepts, networks and supply chains achieved; Coordinated development plans in place;
064	Modernise Truck fleet	Corridor	Low	Road	2017-20	Country	AM AZ BG GE KZ KG MD RO TJ TM UZ UA	Industry Services Operators	Bilateral MOT	Road agencies; Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Governmental agencies / state bodies (as required by procedures in a respective country); Private stakeholders; International organisations dealing with a respective mode of transport; Other agencies that are already involved in implementation; Legislative body(-ies).		IFIs	Governmental support and procedural changes implicated; Decision on political level; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support; Business plans reorientation and adjustments (market driven).	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Compliance with best international and EU practice increased; Countries' economic growth and economic activities improved; Deployment of assets (rolling stock, vessels, fleets, infrastructure) improved; Quality of services, competitiveness and market share increased (for a transport mode / route / connection );



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
066	Implement the Action plan developed by the EU-funded TRACECA Land Transport Safety and Security Project	Corridor	Medium	Road	2013-17	Country Regional Cross-regional	All	Industry Services Operators	Bilateral MOT	Road agencies; Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Governmental agencies / state bodies (as required by procedures in a respective country); Regional, local and municipal authorities; NGOs / academic institutions / involved non-profit organisations; National Working Groups; International organisations dealing with a respective mode of transport; Legislative body(-ies).	EU	IFIs	Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Round-tables, exchange; Utilisation of existing platforms in implementation; Coordination and monitoring of trans-national actions; Governmental support and procedural changes implicated; Decision on political level; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	National legislation harmonised / stakeholder roles and responsibilities clearly defined; Safer travel in place; Simplified procedures and transparency introduced; Coordinated development plans in place;
068	Simplify border-crossing procedures in road sector	Corridor	Medium	Road	2013-17	Country Regional Cross-regional	All	Services Operators	Bilateral Gov't Other	Road agencies; IGC TRACECA and Permanent Secretariat; International organisations dealing with a respective mode of transport; Other agencies that are already involved in implementation; Legislative body(-ies).	EU	IFIs	Round-tables, exchange; Allocation of TRACECA legal task force; Utilisation of existing platforms in implementation; Decision on political level.	Law enforcement improved; National legislation harmonised / stakeholder roles and responsibilities clearly defined.



Table 4: Possible Areas for Supporting Interventions: Level of the EU

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
001	Implement Single Window	Corridor	High	Multimodal	2013-17	Country	AM AZ KZ UA		Gov't Other	WCO; SPECA (in Central Asian countries); ESCAP; UNECE; Customs Committee(-s); Governmental agencies / state bodies (as required by procedures in a respective country); IGC TRACECA and Permanent Secretariat; Border control agencies;	EU		Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Cooperation with EUBAM; Round-tables, exchange; Alignment measures to the EU policies; Seeking development partner assistance in sourcing; Utilisation of existing platforms in implementation; Involvement of TAIEX; Training and capacity building measures;	Availability and transparency of information is assured; Compliance with best international and EU practice increased; Countries' economic growth and economic activities improved; Law enforcement improved; Illicit trade dropped; Simplified procedures and transparency introduced;
003	Advance Single Window Implementation in Ukraine - Expansion in Greater Odessa	Corridor	High	Maritime Multimodal	2013-17	Country Cross-regional	UA		Gov't	UNECE; Customs Committee(-s); Port authorities of respective country(-ies); Port community system(s); Other agencies that are already involved in implementation;	EU		Implementation of respective Action Plans / improvement programmes Cooperation with EUBAM; Round-tables, exchange; Alignment measures to the EU policies; Utilisation of existing platforms in implementation; Involvement of TAIEX;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Countries' economic growth and economic activities improved; Deployment of assets (rolling stock, vessels, fleets, infrastructure) improved; Quality of services, competitiveness and market share increased (for a transport mode / route / connection );
004	Modernise Customs Code	Corridor	High	Multimodal	2013-17	Country	MD UA		Gov't	WCO; UNECE; Customs Committee(-s); Ministry (-ies) of economy and finance and other ministry (-ies) responsible for budget and macroeconomic plans ; Governmental agencies / state bodies (as required by procedures in a respective country); National Working Groups; Other agencies that	EU		Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Cooperation with EUBAM; Round-tables, exchange; Alignment measures to the EU policies; Utilisation of existing platforms in implementation; Involvement of TAIEX; Training and capacity building measures;	Availability and transparency of information is assured; Compliance with best international and EU practice increased; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Law enforcement improved; Simplified procedures and transparency introduced;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
										are already involved in implementation;				
006	Institutionalise cooperation on border management	Corridor	Low	Multimodal	2017-20	Regional	AM AZ GE		Bilateral	UNECE; Customs Committee(-s); Governmental agencies / state bodies (as required by procedures in a respective country); Border control agencies;	EU		Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Coordination and monitoring of trans-national actions;	Availability and transparency of information is assured; Compliance with best international and EU practice increased; Speed-up of abandoned cargoes disposal facilitated;
007	Assess, benchmark and analyse border-crossing practise on regular basis	Corridor	Medium	Multimodal	2013-17	Regional	AM GE	Industry	Gov't	UNECE; Customs Committee(-s); Governmental agencies / state bodies (as required by procedures in a respective country); Border control agencies; National Working Groups;	EU		Implementation of respective Action Plans / improvement programmes Alignment measures to the EU policies; Utilisation of existing platforms in implementation; Coordination and monitoring of trans-national actions; Monitoring of operational and commercial performance; Monitoring of alternative routes and modes; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	Availability and transparency of information is assured; Bottleneck(s) relieved and/or missing link(s) eliminated; Compliance with best international and EU practice increased; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Increased efficiency in planning and execution for common initiatives assured; Illicit trade dropped; Simplified procedures and transparency introduced;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
009	Improve competitiveness and nodal function of Aktau Port AISCP	Corridor	High	Multimodal	2013-17	Country	KZ	Industry Operators	Gov't	Customs Committee(-s); Railway companies of respective country(-ies); Port community system(s); Terminal operator(s); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Ministry (-ies) of economy and finance and other ministry (-ies) responsible for budget and macroeconomic plans ; AISCP; IGC TRACECA and Permanent Secretariat; Regional, local and municipal authorities; Development partners / funding agencies / donors;	EU		Twinning or a Technical Assistance Project; Revision, simplification and harmonization of procedures and tariffs (door-to-door); Agreements between ports and shipping lines on frequency, schedules, dedicated berths, berthing windows, handling times; Governmental support and procedural changes implicated; Monitoring of operational and commercial performance; Monitoring of alternative routes and modes; Decision on political level; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Bottleneck(s) relieved and/or missing link(s) eliminated; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Harmonisation of infrastructure development plans assured; Inclusion into modern logistics concepts, networks and supply chains achieved; Congestion reduced and connectivity improved; Speed-up of abandoned cargoes disposal facilitated;
010	Improve equipment of borders: hard-ware for inspections and controls	Corridor	Medium	Multimodal	2017-20	Country Regional	MD TJ UA		Gov't	Customs Committee(-s); Governmental agencies / state bodies (as required by procedures in a respective country); Border control agencies; National Working Groups; Other agencies that are already involved in implementation;	EU	IFIs	Cooperation with EUBAM; Seeking development partner assistance in sourcing; Governmental support and procedural changes implicated;	Availability and transparency of information is assured; Compliance with best international and EU practice increased; Countries' economic growth and economic activities improved; Law enforcement improved; Safer travel in place; Illicit trade dropped; Simplified procedures and transparency introduced;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
011	Introduce Customs Risk Management and Information sharing centre;	Corridor	Medium	Multimodal	2017-20	Regional	MD RO UA		Gov't	Customs Committee(-s); Governmental agencies / state bodies (as required by procedures in a respective country); Border control agencies; Private stakeholders; National Working Groups; Other agencies that are already involved in implementation;	EU	IFIs	Twinning or a Technical Assistance Project; Cooperation with EUBAM; Seeking development partner assistance in sourcing; Governmental support and procedural changes implicated; Involvement of TAIEX; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	Availability and transparency of information is assured; Compliance with best international and EU practice increased; Countries' economic growth and economic activities improved; Law enforcement improved; Safer travel in place; Illicit trade dropped; Simplified procedures and transparency introduced;
012	Employ New Customs Codes	Corridor	High	Multimodal	2017-20	Country	MD		Gov't	Customs Committee(-s); Other agencies that are already involved in implementation;	EU		Twinning or a Technical Assistance Project; Cooperation with EUBAM; Involvement of TAIEX; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	Compliance with best international and EU practice increased; Law enforcement improved; Simplified procedures and transparency introduced;
013	Introduce and regularly monitor performance indicators for port services	Corridor	Medium	Maritime	2017-20	Regional	AZ GE KZ TM UA	Industry Services	Gov't	Port authorities of respective country(-ies); Ports and Shipping companies; National Working Groups;	EU		Implementation of respective Action Plans / improvement programmes Round-tables, exchange; Revision, simplification and harmonization of procedures and tariffs (door-to-door); Utilisation of existing platforms in implementation; Governmental support and procedural changes implicated; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	New customers and cargoes attracted to TRACECA corridor; Availability and transparency of information is assured; Bottleneck(s) relieved and/or missing link(s) eliminated; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Access to IFI financing and donor funding, improved use of funding facilitated; Quality of services, competitiveness and market share increased (for a transport mode / route / connection); Inclusion into modern logistics concepts, networks and supply chains achieved; Coordinated development plans in place;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
014	Enhance cooperation between port and customs authorities	Corridor	High	Multimodal	2017-20	Regional	AZ GE TR UA		Bilateral	SPECA (in Central Asian countries); ESCAP; UNECE; Customs Committee(-s); Port authorities of respective country(-ies);	EU		Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Cooperation with EUBAM; Alignment measures to the EU policies; Utilisation of existing platforms in implementation; Governmental support and procedural changes implicated; Training and capacity building measures;	Availability and transparency of information is assured; Bottleneck(s) relieved and/or missing link(s) eliminated; Compliance with best international and EU practice increased; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Congestion reduced and connectivity improved;
015	Introduce Electronic Risk Assessment Systems for Transit	Corridor	Medium	Multimodal	2017-20	Country	All		Gov't Other	WCO; SPECA (in Central Asian countries); UNECE; Customs Committee(-s); Governmental agencies / state bodies (as required by procedures in a respective country); Border control agencies; National Working Groups; Other agencies that are already involved in implementation;	EU		Twinning or a Technical Assistance Project; Cooperation with EUBAM; Seeking development partner assistance in sourcing; Governmental support and procedural changes implicated;	Availability and transparency of information is assured; Compliance with best international and EU practice increased; Countries' economic growth and economic activities improved; Law enforcement improved; Safer travel in place; Illicit trade dropped; Simplified procedures and transparency introduced;
016	Apply international rules for assurance of international recognition	Corridor	High	Multimodal	2013-17	Regional Cross-regional	AM AZ GE KZ KG MD TJ TR TM UZ UA		Other	WCO; SPECA (in Central Asian countries); ESCAP; UNECE; Customs Committee(-s); Governmental agencies / state bodies (as required by procedures in a respective country); IGC TRACECA and Permanent Secretariat; Legislative body(-ies).	EU		Cooperation with EUBAM; Allocation of TRACECA legal task force; Accession to the relevant UN Agreements / Conventions; Involvement of TAIEX;	Compliance with best international and EU practice increased;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
017	Consider EU experience in developing multimodal transport networks	Corridor	High	Multimodal	2013-17	Cross-regional	AM AZ GE KZ KG MD TJ TR TM UZ UA	Industry	Other	Port authorities of respective country(-ies); Railway companies of respective country(-ies); Port community system(s); Terminal operator(s); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Ministry (-ies) of economy and finance and other ministry (-ies) responsible for budget and macroeconomic plans ; Ports and Shipping companies; IGC TRACECA and Permanent Secretariat; Regional, local and municipal authorities; Shipping lines; IWW users; Border control agencies;	EU		Twinning or a Technical Assistance Project; Seeking development partner assistance in sourcing; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support; Training and capacity building measures;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Compliance with best international and EU practice increased; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Inclusion into modern logistics concepts, networks and supply chains achieved; Increased efficiency in planning and execution for common initiatives assured; Coordinated development plans in place;
018	Align TRACECA initiatives with internationally recognised practices	Corridor	High	Multimodal	2013-17	Cross-regional	All		Other	WCO; SPECA (in Central Asian countries); ESCAP; UNECE; Customs Committee(-s); Governmental agencies / state bodies (as required by procedures in a respective country); IGC TRACECA and Permanent Secretariat; Legislative body(-ies).	EU		Cooperation with EUBAM; Allocation of TRACECA legal task force; Accession to the relevant UN Agreements / Conventions; Involvement of TAIEX;	Compliance with best international and EU practice increased;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
019	Benchmark TRACECA performance in insurance and liability	Corridor	Medium	Multimodal	2013-17	Cross-regional	All		Other	Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Governmental agencies / state bodies (as required by procedures in a respective country); Legislative body(-ies).	EU		Twinning or a Technical Assistance Project;	New customers and cargoes attracted to TRACECA corridor; Bottleneck(s) relieved and/or missing link(s) eliminated; Compliance with best international and EU practice increased; Countries' economic growth and economic activities improved;
031	Implement Vessel Single Window Reporting System at national level and harmonization at regional level (Black Sea and Caspian Sea)	Corridor	High	Maritime Multimodal	2013-17	Cross-regional	AZ BG GE MD RO TR TM UA		Bilateral MOT	UNECE; Customs Committee(-s); Port authorities of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Governmental agencies / state bodies (as required by procedures in a respective country); National Working Groups;	EU		Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Cooperation with EUBAM; Round-tables, exchange; Utilisation of existing platforms in implementation; Involvement of TAIEX; Measures for alignment with EU policies (Directive 2010/65/EU); Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	Availability and transparency of information is assured; Compliance with best international and EU practice increased; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Qualification and efficiency of professional staff improved;
032	Introduce and run Port Community Systems based on EDI and pre-declaration procedures	Corridor	High	Maritime Multimodal	2013-17	Cross-regional	AZ BG GE MD RO TR TM UA		Bilateral MOT	UNECE; Customs Committee(-s); Port authorities of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Governmental agencies / state bodies (as required by procedures in a respective country); National Working Groups;	EU		Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Cooperation with EUBAM; Round-tables, exchange; Utilisation of existing platforms in implementation; Involvement of TAIEX; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	Efficient handling and transport of containers, container operations and services is reached; Availability and transparency of information is assured; Compliance with best international and EU practice increased; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Qualification and efficiency of professional staff improved; Inclusion into modern logistics concepts, networks and supply chains achieved;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
034	Align existing laws regarding cargoes abandoned in ports with EU rules and best practices	Corridor	Medium	Maritime Multimodal	2013-17	Country	AZ BG GE MD RO TR TM UA		Bilateral Gov't	Customs Committee(-s); Port authorities of respective country(-ies);	EU		Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Round-tables, exchange; Utilisation of existing platforms in implementation; Involvement of TAIEX; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Availability and transparency of information is assured; Compliance with best international and EU practice increased; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Qualification and efficiency of professional staff improved; Inclusion into modern logistics concepts, networks and supply chains achieved; Costs and liability for Carriers and Terminal Operators reduced; Speed-up of abandoned cargoes disposal facilitated;
035	Implement of fixed-day maritime liner services	Corridor	High	Road Rail Maritime Multimodal	2013-17	Cross-regional	AZ BG GE KZ MD RO TR TM UA	Industry Services Operators	Bilateral Gov't	Ports and Shipping companies;	EU		Agreements between ports and shipping lines on frequency, schedules, dedicated berths, berthing windows, handling times;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Availability and transparency of information is assured; Compliance with best international and EU practice increased; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Qualification and efficiency of professional staff improved; Inclusion into modern logistics concepts, networks and supply chains achieved; Costs and liability for Carriers and Terminal Operators reduced; Speed-up of abandoned cargoes disposal facilitated;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
038	Target Lower Danube improvements (navigation conditions)	Corridor	Medium	IWW	2017-20	Regional	BG RO		MOT	Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Ministry (-ies) of economy and finance and other ministry (-ies) responsible for budget and macroeconomic plans ; Development partners / funding agencies / donors; Other agencies that are already involved in implementation;	EU	IFIs	Seeking development partner assistance in sourcing;	Bottleneck(s) relieved and/or missing link(s) eliminated; Harmonisation of infrastructure development plans assured; Quality of services, competitiveness and market share increased (for a transport mode / route / connection ); Inclusion into modern logistics concepts, networks and supply chains achieved; Congestion reduced and connectivity improved; Socio+eco-friendly modal shift enabled;
039	Develop and implement Ukrainian IWW strategy	National	Medium	IWW	2017-20	Country	UA	Industry Services Operators	MOT Other	Port community system(s); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Governmental agencies / state bodies (as required by procedures in a respective country); Shipping lines;	EU		Twinning or a Technical Assistance Project; Alignment measures to the EU policies; Seeking development partner assistance in sourcing; Public support and inclusion of relevant initiatives into governmental priority programmes with budgetary support; Training and capacity building measures; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	Compliance with best international and EU practice increased; Countries' economic growth and economic activities improved; Deployment of assets (rolling stock, vessels, fleets, infrastructure) improved; Inclusion into modern logistics concepts, networks and supply chains achieved; National legislation harmonised / stakeholder roles and responsibilities clearly defined; Socio+eco-friendly modal shift enabled;
045	Improve participation of the railway sector in the logistics chains	Corridor	High	Rail Multimodal	2017-20	Country Regional Cross-regional	All	Industry Services Operators	Bilateral Gov't	Railway companies of respective country(-ies);	EU		Round-tables, exchange; Utilisation of existing platforms in implementation; Training and capacity building measures; Public consultation, including involvement of private sector into development of implementation approach / implementation measures; Business plans reorientation and adjustments (market driven).	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Availability and transparency of information is assured; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
														times/costs, improved regularity of service achieved; Deployment of assets (rolling stock, vessels, fleets, infrastructure) improved; Quality of services, competitiveness and market share increased (for a transport mode / route / connection ); Inclusion into modern logistics concepts, networks and supply chains achieved; Socio+eco-friendly modal shift enabled;
046	Assure interoperability for smooth transportation across the borders	Corridor	High	Rail	2017-20	Country Regional Cross-regional	All	Services Operators	Bilateral Gov't	Railway companies of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Ministry (-ies) of economy and finance and other ministry (-ies) responsible for budget and macroeconomic plans ; IGC TRACECA and Permanent Secretariat; National Working Groups;	EU		Round-tables, exchange; Utilisation of existing platforms in implementation; Training and capacity building measures; Public consultation, including involvement of private sector into development of implementation approach / implementation measures; Business plans reorientation and adjustments (market driven).	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Availability and transparency of information is assured; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Deployment of assets (rolling stock, vessels, fleets, infrastructure) improved; Quality of services, competitiveness and market share increased (for a transport mode / route / connection ); Inclusion into modern logistics concepts, networks and supply chains achieved; Socio+eco-friendly modal shift enabled; Coordinated development plans in place;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
049	Implement structural reforms	National	Medium	Rail	2017-20	Country Regional	All	Services Operators	Gov't	Railway companies of respective country(-ies); Legislative body(-ies).	EU		Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Alignment measures to the EU policies; Seeking development partner assistance in sourcing;	Compliance with best international and EU practice increased; Quality of services, competitiveness and market share increased (for a transport mode / route / connection ); Law enforcement improved;
050	Separate infrastructure management from transport operations	National	Medium	Rail	2013-17	Country	All	Services Operators	Gov't	Railway companies of respective country(-ies); Legislative body(-ies).	EU		Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Alignment measures to the EU policies; Seeking development partner assistance in sourcing;	Compliance with best international and EU practice increased; Access to IFI financing and donor funding, improved use of funding facilitated; Quality of services, competitiveness and market share increased (for a transport mode / route / connection ); Law enforcement improved;
052	Implement an Integrated border management for trains	Corridor	High	Road Rail Maritime IWW Multimodal	2013-17	Country Regional Cross-regional	All	Services Operators	Bilateral Gov't	Customs Committee(-s); Railway companies of respective country(-ies); Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Development partners / funding agencies / donors;	EU		Round-tables, exchange; Alignment measures to the EU policies; Allocation of TRACECA legal task force; Utilisation of existing platforms in implementation; Training and capacity building measures;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Availability and transparency of information is assured; Quality of services, competitiveness and market share increased (for a transport mode / route / connection ); Inclusion into modern logistics concepts, networks and supply chains achieved; Socio+eco-friendly modal shift enabled;
054	Capitalise on best practices of electronic data exchange	Corridor	High	Rail Maritime Multimodal	2013-17	Country Regional Cross-regional	All	Services Operators	Bilateral Gov't	Customs Committee(-s); Railway companies of respective country(-ies); Shipping lines;	EU		Round-tables, exchange; Utilisation of existing platforms in implementation; Business plans reorientation and adjustments (market driven).	Deployment of assets (rolling stock, vessels, fleets, infrastructure) improved; Quality of services, competitiveness and market share increased (for a transport mode / route / connection ); Inclusion into modern logistics concepts, networks and supply chains achieved;



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
059	Implement Concept of Development of Road Traffic along the Corridor	Corridor	Medium	Road Multimodal	2013-17	Country Regional Cross-regional	AM AZ BG GE KZ KG MD RO TJ TR TM UZ	Services Operators	Bilateral MOT	Road agencies; IGC TRACECA and Permanent Secretariat; International organisations dealing with a respective mode of transport;	EU	IFIs	Implementation of respective Action Plans / improvement programmes Round-tables, exchange; Utilisation of existing platforms in implementation; Coordination and monitoring of trans-national actions;	New customers and cargoes attracted to TRACECA corridor; Efficient handling and transport of containers, container operations and services is reached; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Quality of services, competitiveness and market share increased (for a transport mode / route / connection ); Inclusion into modern logistics concepts, networks and supply chains achieved; Safer travel in place; Simplified procedures and transparency introduced;
060	Harmonize standards and procedures	Corridor	Medium	Road Multimodal	2017-20	Country Regional Cross-regional	All	Services	Bilateral MOT	Road agencies; IGC TRACECA and Permanent Secretariat; National Working Groups; International organisations dealing with a respective mode of transport; Legislative body(-ies).	EU		Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Round-tables, exchange; Utilisation of existing platforms in implementation; Coordination and monitoring of trans-national actions; Governmental support and procedural changes implicated; Training and capacity building measures;	New customers and cargoes attracted to TRACECA corridor; Bottleneck(s) relieved and/or missing link(s) eliminated; Compliance with best international and EU practice increased; Countries' economic growth and economic activities improved; Efficiency of services, reduced transit-times/costs, improved regularity of service achieved; Law enforcement improved; National legislation harmonised / stakeholder roles and responsibilities clearly defined; Speed-up of abandoned cargoes disposal facilitated;
065	Promote professional development of road industry	Corridor	Medium	Road Multimodal	2013-17	Country Regional Cross-regional	All	Industry Services Operators	MOT Other	Road agencies; IGC TRACECA and Permanent Secretariat; International organisations dealing with a respective mode of transport;	EU		Alignment measures to the EU policies; Seeking development partner assistance in sourcing; Governmental support and procedural changes implicated;	Qualification and efficiency of professional staff improved; Quality of services, competitiveness and market share increased (for a transport mode / route / connection );



Logistics Processes and Motorways of the Sea II

Ref.	Recommendation Title	Impact	Priority	Mode	Time frame	Level	Countries concerned	Responsibility / Measure Implementation Owners			Possible Support		Supporting Mode of Intervention	Expected Benefit
								Private Sector	Public Sector	Details on specific agencies and institutions of the involved sector	EU	IFIs		
066	Implement the Action plan developed by the EU-funded TRACECA Land Transport Safety and Security Project	Corridor	Medium	Road	2013-17	Country Regional Cross-regional	All	Industry Services Operators	Bilateral MOT	Road agencies; Ministry (-ies) of transport and other ministry/body (-ies) responsible for transport policy and infrastructure; Governmental agencies / state bodies (as required by procedures in a respective country); Regional, local and municipal authorities; NGOs / academic institutions / involved non-profit organisations; National Working Groups; International organisations dealing with a respective mode of transport; Legislative body(-ies).	EU	IFIs	Implementation of respective Action Plans / improvement programmes Twinning or a Technical Assistance Project; Round-tables, exchange; Utilisation of existing platforms in implementation; Coordination and monitoring of transnational actions; Governmental support and procedural changes implicated; Decision on political level; Public consultation, including involvement of private sector into development of implementation approach / implementation measures;	National legislation harmonised / stakeholder roles and responsibilities clearly defined; Safer travel in place; Simplified procedures and transparency introduced; Coordinated development plans in place;
067	Harmonize standards and procedures according to international standard in road sector.	Corridor	Medium	Road	2013-17	Country Regional Cross-regional	All	Services	Other	Road agencies; IGC TRACECA and Permanent Secretariat; International organisations dealing with a respective mode of transport; Other agencies that are already involved in implementation; Legislative body(-ies).	EU		Round-tables, exchange; Allocation of TRACECA legal task force; Utilisation of existing platforms in implementation; Decision on political level;	Law enforcement improved; National legislation harmonised / stakeholder roles and responsibilities clearly defined;
068	Simplify border-crossing procedures in road sector	Corridor	Medium	Road	2013-17	Country Regional Cross-regional	All	Services Operators	Bilateral Gov't Other	Road agencies; IGC TRACECA and Permanent Secretariat; International organisations dealing with a respective mode of transport; Other agencies that are already involved in implementation; Legislative body(-ies).	EU	IFIs	Round-tables, exchange; Allocation of TRACECA legal task force; Utilisation of existing platforms in implementation; Decision on political level.	Law enforcement improved; National legislation harmonised / stakeholder roles and responsibilities clearly defined.



## APPENDIX A: LIST OF ABBREVIATIONS AND ACRONYMS

AADT	Average Annual Daily Traffic
AC	Alternating current
ACN	Administratia Canalelor Navigabile (Romanian National Company 'Administration of Navigable Canals')
ADB	Asian Development Bank
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADO	Asian Development Outlook (ADB publication)
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ADU	Avtomobilny Dorohy Ukrainy
ADY	Azərbaycan Dəmir Yolları, the National Railway Company of Azerbaijan
ADY	Azərbaycan Dəmir Yolları, the national railway company of Azerbaijan
ADY	National Railway Company of Azerbaijan
ADY	Azerbaijan Dooviet Deniri Yolu - Azerbaijani Railways
AETR	European Agreement concerning the Work of Crews of Vehicles engaged in International Road Transport
AF	Additional Financing
AFDJ	Administratia Fluviala a Dunari de Jos (Romanian – River Administration of the Lower Danube)
AGC	European Agreement on Main International Railway Lines
AGN	European Agreement on Main Inland Waterways of International Importance
AGR	European Agreement on Main International Traffic Arteries
AGTC	European Agreement on Important International Combined Transport Lines and Related Installations
AH	Asian Highway
AIRTO-KR	Association of the International Road Transport Operators of the Kyrgyz Republic
AIS	Automatic Identification System
AISCP	Aktau International Sea Commercial Port
ALTID	Asian Land Transport Infrastructure Development
AMD	Armenian Dram
ANR	Autoritatea Navala Romana (Romanian Naval Authority)
APDM	Administratia Porturilor Dunarii Maritime Galati (Maritime Danube Ports Administration)



**Logistics Processes and Motorways of the Sea II**

APL	American President Lines Ltd, Singapore
APL	American President Lines, Singapore
ASEAN	Association of Southeast Asian Nations
ASPU	Administration of Sea Ports of Ukraine
ATP	Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for such Carriage
ATP	Autonomous Trade Preferences
BASPA	Black and Azov Seas Port Association
BCP	Border Crossing Point
BDZ EAD	Bulgarian State Railways
BDZh	Bulgarian State Railways
BG	Bulgaria
BGN	Bulgarian Lev (national currency of the Republic of Bulgaria – 1 BGN = about 0.51 Euro)
BICSP	Baku International Commercial Sea Port
BICT	Batumi International Container Terminal
BIMCO	The Baltic and International Maritime Council
BISTP	Baku International Sea Trade Port
BLASCO	The Black Sea Shipping Company, the world's biggest shipping company until the fall of the USSR
BMF	Български Морски Флот АД / Navigation Maritime Bulgare
Bn	Billion (s)
BOI	Binding Origin Information
BOT	Build-Operate-Transfer
BPI Co.	Bulgarian Ports Infrastructure Company
BRP	Bulgarian River Shipping Company
BS MoU	Black Sea Memorandum of Understanding
BSEC	Organization of the Black Sea Economic Cooperation
BTI	Binding Tariff Information
BuIRIS	Bulgarian River Information Services
CAREC	Central Asia Regional Economic Cooperation Programme
CASPAR	Closed Joint Stock Venture “Caspian Shipping Company of Azerbaijan”, as restructured in October 2013
CBA	Cost-Benefit Analysis
CBC	Cross Border Cooperation
cbm	Cubic Meter



**Logistics Processes and Motorways of the Sea II**

CBTA	Cross Border Transport Agreement
CES	Common Economic Space (Russia, Kazakhstan, Belarus)
CFM	Calea Ferată din Moldova, the national railway company of Moldova
CFR	Caile Ferate Române, the Romanian Railways
CFR Marfa	Romanian Railways Freight Division
CIM	Convention Internationale concernant le transport des Marchandises par chemin de fer', Uniform Rules concerning the Contract of International Carriage of Goods by Rail
CIS	Commonwealth of Independent States
CKU	Railway construction project China - Kyrgyzstan – Uzbekistan
CLC	International Convention on Civil Liability for Oil Pollution Damage
CMR	Convention on the Contract for the International Carriage of Goods by Road
CMU	Cabinet of Ministers of Ukraine
CN APDF SA	Compania Nationala Administratia Porturilor Dunarii Fluviale SA (Romanian Fluvial Danube Ports Administration)
CN APM SA	C.N. 'Administratia Porturilor Maritime' S.A. Constanza, National Company 'Maritime Ports Administration' SA, Constanza
CO2	Carbon Dioxide
COLREG	The International Regulations for Preventing collisions at Sea
COSCO	China Ocean Shipping Company, Beijing (a state-owned company of the People's Republic of China)
COSPAS-SARSAT	Cosmicheskaya Sistema Poiska Avariynyh Sudov – Search and Rescue Satellite Aided Tracking
CRIMT	China Railway International Multimodal Transport
CSCCL	China Shipping Container Line, Shanghai
CSCCL	China Shipping Container Line, Shanga, Chinese second-largest Container Line
CSCT	Constanza South Container Terminal, managed by Dubai Ports World
CSCT	Constanza South Container Terminal
CSR	China South Locomotive and Rolling Stock
CSTO	Collective Security Treaty Organization
CU	Customs Union (between Belarus, Russia and Kazakhstan)
CVR	Convention on the contract for the international carriage of passenger and luggage by road
D/A	Disbursement Account (the fees, taxes and other dues paid by a shipowner to a port for the services rendered to his vessel during a call)



**Logistics Processes and Motorways of the Sea II**

DaHar	Danube Inland Harbour Development
DB	Deutsche Bahn – The German Railways
DC	Direct current
DCS	Department of Customs Service
DDSG	Donaudampfschiffahrtsgesellschaft (Vienna)
DL	Danube Logistics
DMC	Developing Member's Country
DNV	Det Norske Veritas
DP World	Dubai Ports World
DTS	Department of Tax Service
DWCC	Dead weight cargo capacity
DWT	Deadweight tonnage
EAEMDR	Executive Agency for the Exploration and Maintenance of the Danube River (Bulgaria)
EAMA	Executive Agency Maritime Administration (Bulgaria)
Eastern Partnership IBM Flagship Initiative	A Flagship Initiative of the EU aimed at Cooperation on border management in the EaP countries is focused on improving security, reducing smuggling and human trafficking and facilitating mobility of people across non-EU borders. It is also meant to help partners approximate border management rules and adopt best practices in line with EU border management standards.
EBRD	European Bank for Reconstruction and Development
EBUTT	Economic Benefits from Ukrainian Transit Traffic
EC	European Commission
ECA	Emission Control Area
ECE	Economic Commission for Europe
ECMT	European Conference of Ministers of Transport
ECO	Economic Cooperation Organization
ECSA	East Coast South America (Brazil, Argentina)
EDI	Electronic Data Interchange
EIB	European Investment Bank
ENP	European Neighbourhood Program
ENP	European Neighbourhood Policy
ENPI	European Neighbourhood Partnership Instrument
ERDF	European Regional Development Fund
ESD	Electronic Summary Declaration
ETC	European Territorial Cooperation



Logistics Processes and Motorways of the Sea II

EU	European Union
EUBAM	European Union Border Assistance Mission for Moldova and Ukraine
EUR	EURO (European common currency)
EurAsEC-Evrazes	EuroAsian Economic Community
EUSDR	European Union Strategy for the Danube Region
Evergreen	Evergreen Marine Corporation, Luzhu (Taiwan)
FAL	Convention of Facilitation of International Maritime Traffic
FE	Far-East
FESCO	Far-Eastern Shipping Company, Moscow
FESCO	Far-Eastern Shipping Company, Moscow
FEZ	Free Economic Zone
FIEZ	Free Industrial Economic Zone
FIZ	Free Industrial Zone
FMCG	Fast Moving Consumer Goods
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GDP per capita in PPS	Gross Domestic Product per capita in Purchasing Power Standard (which adjusts GDP to average EU price levels)
GFC	Global Financial Crisis 2007-..?
GIFP	Giurgiulesti International Free Port
GIS	Geographic Information System
GM	General Motors
GoK	Government of Kazakhstan
GoU	Government of Ukraine
GR	Georgian Railway, the national railway company of Georgia
GRT/NRT	Gross Registered Tonnage / Net Registered Tonnage (of a ship)
GRTC	Georgian Railway TransContainer
GSHL	Global Steel Holdings Limited
GSP	Generalized System of Preferences
GUAM	Organization for Democracy and Economic Development
ha	Hectare
Hanjin	Hanjin Shipping, Seoul
HHLA	Hamburg Hafen und Logistik AG
HMM	Hyundai Merchant Marine, Seoul
HMM	Hyundai Merchant Marine, Seoul
HPC	Hamburg Port Consulting



HPC Ukraine	Hamburg Port Consulting Ukraine
HPP	Hydroelectric Power Plant
HRA	High Risk Area (of piracy)
HVR	Hague-Visby Rules
Hz	Hertz
IACS	International Agency of Classification Societies
IBM	Integrated Border Management
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
ICT	Information and Communications Technology
ICTS	International Container Terminal Services, Inc., Manila
IDA	International Development Association (World Bank Group)
IDB	Islamic Development Bank
IDEA	Transport Dialogue and Interoperability between the EU and its Neighbouring Countries Project
IDEA I	EU-funded project Transport dialogue and interoperability between the EU and its neighbouring countries and Central Asian countries I (2009-2012)
IDEA II	EU-funded project Transport dialogue and interoperability between the EU and its neighbouring countries and Central Asian countries II (2013-2015)
IFB	Inter Ferry Boats NV (Antwerp)
IFC	International Finance Corporation
IFI	International Financial Institution
IFSP	Ilychevsk Sea Fishing Port
IGA	Intergovernmental Agreement on the Asian Highway Network
IGC TRACECA	Intergovernmental Commission TRACECA
ILC	International Logistics Centre
IMF	International Monetary Fund
IMO	International Maritime Organization
IMTP	Ilychevsk Commercial Sea Port
INMARSAT	International Maritime Satellite
INTERVENTION	International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties
IPA	Instrument for Pre-Accession Assistance
IRF	International Road Federation
IRU	International Road Transport Union



**Logistics Processes and Motorways of the Sea II**

IsDB	Islamic Development Bank
ISPA	Instrument for Structural Policies for Pre-Accession
ISPS	International Ship and Port Facility Security Code
ITC	International Transport Corridor
ITU	Intermodal Transport Unit
IWT	Inland Water Way Transport
IWW	Inland Waterways
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
JSC	Joint Stock Company
JV	Joint Venture
K-Line	Kawasaki Kisen Kaisha Ltd, Ichikawa (Japan)
km	Kilometre
km <sup>2</sup>	Square kilometre
KMTF	KazMorTransFlot
Kn	Knot, unit of speed for a vessel counted in nautical miles per hour
KPI	Key Performance Indicator
KRT	Kherson River Terminal
KTJ	Kyrgyz Temir Zholy, the national railway company of Kyrgyzstan
KTS	KaskorTran Service
KTZ	Kazakhstan Temir Zholy, the National Railway Company of Kazakhstan
Kv	Kilovolt
KY	Kyrgyzstan
LASH	Lighter Aboard Ship
LC	Logistic Centre
LDC	Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter
LL	The International Convention on Load Lines
LLP	Limited Liability Partnership
lm	Lane Meter (1 m in length on 2.5 m in width), a unit of measure for calculating the roll capacity of Ro-Ro vessels
LNG	Liquefied Natural Gas
LOA	Length Overall (of a ship)
LOGMOS	EU-funded project Logistics Processes and Motorways of the Sea II
Lo-Lo	Lift-on/Lift-off (container vessel)
LPG	Liquefied Petroleum Gas



LRIT	Long Range Identification and Tracking of Ships
LRNP	Lifeline Road Network Program
LS	Logistical System
LSSP	Land Transport Safety and Security Project.
LUZ	Larger Urban Zone
M	Million
m	Metre
m <sup>2</sup>	Square metre
MARPOL	The International Convention for the Prevention of Pollution from ships
MCA	Multi-Criteria Analysis
MCC	Millennium Challenge Corporation
MD	Moldova
MLA	TRACECA Basic Multilateral Agreement
MoA	Memorandum of Agreement
Mol	The Ministry of Infrastructure of Ukraine
MOL	Mitsui O.S.K. Lines, Toranomon (Japan)
MOL	Mitsui O.S.K., Tokyo
MOS	Motorways of the Sea
MoT	Ministry of Transport
MoTC	Ministry of Transport and Communication of Kazakhstan
MoTC	Ministry of Transport and Communication of Kyrgyzstan
MoTI	Ministry of Transport and Infrastructure of Romania
MoU	Memorandum of Understanding
MP	Master Plan
MS	Member States
MSC	Mediterranean Shipping Company, Geneva
MSC	Mediterranean Shipping Company, Geneva, number 2 Container Line in the world
MSC	Maritime Safety Committee
MT	Million Metric Tons
MTA	TRACECA Multimodal Transport Agreement
MTITC	Ministry of Transport, Information Technology and Communications of the Republic of Bulgaria
MTO	Multimodal Transport Operator
MTT	International Transit Tariff – Russian abbreviation
NA	Not-applicable



**Logistics Processes and Motorways of the Sea II**

NAIADES	Navigation and Inland Waterway Action and Development in Europe
NATO	North Atlantic Treaty Organization
NaviBulgar	Navigation Maritime Bulgare
NC MPA SA	National Company 'Maritime Ports Administration' SA, Constanza
NELI	Cooperation-Network for Logistics and nautical education focusing on Inland Waterway Transport in the Danube corridor supported by innovative solutions
NEWADA	Network of Danube Waterway Administrations
NGO	Non-Governmental Organization
NH	National Highway
nm	Nautical Mile (=1,852 metres)
NPLH	National Program for Harmonization of the Georgian Legislation
NRIC	National Railway Infrastructure Company (Bulgaria)
NSI	National Statistical Institute (Bulgaria)
NSW	National Single Window system
NYK	Nippon Yusen Kabushiki Kaisha, Chiyoda (Japan)
NYK	Nippon Yusen Kaisha, Tokyo
OECD	Organization for Economic Co-operation and Development
OOCL	Orient Overseas Container Line, Hong-Kong
OOCL	Orient Overseas Container Line, Hong-Kong
OOG	Out-of-gauge
OPEC	Organization of the Petroleum Exporting Countries
OSJD	Organization for Cooperation of Railways
OTIF	Intergovernmental Organization for International Carriage by Rail
p.a.	Per annum
PAG	Pirate Attack Group
PAIES	Pre-Arrival Information Exchange System
Pax	Passengers
PBOS	Planning Board for Ocean Shipping
PCA	Partnership Cooperation Agreement
PCC	Pure Car Carrier (vessel)
PCS	Port Community System
PHARE	Poland and Hungary: Assistance for Restructuring their Economies
PIARC	Permanent International Association of Road Congresses
PIL	Pacific International Lines, Singapore
PIL	Pacific International Lines



Logistics Processes and Motorways of the Sea II

PLATINA	Platform for the implementation of NAIADES
POL	Petroleum Products
PP	Polypropylene
PPP	Public Private Partnership
PRC	The People's Republic of China
PRSP	Poverty Reduction Strategy Paper
PSO	Public service obligation grants
RAKIA	Ras Al Khaimah Investment Authority
RECCA	Regional Economic Cooperation Conference on Afghanistan
RIA	Romanian Intermodal Association
RIS	River Information Services
RO	Romania
Ro-La	Rollende Landstraße (Rolling highway)
RON	Romanian Lei (national currency of Romania – 1 RON = about 0.226 Euro)
RORIS	Romanian River Information Services
Ro-Ro	Roll-on / Roll-off vessel
RoT	Republic of Tajikistan
RRSP	Regional Road Safety Plan (RRSP)
RTA	Regional Trade Agreement
RTSS	Regional Transport Sector Study
rw	Railway, rail wagon
RZD	Российские железные дороги, the national railway company of Russia
SAD	Single Administrative Document
SAR	International Convention on Maritime Search and Rescue
SBS	State Border Service
SCC	State Customs Committee
SCIBM	Supporting Integrated Border Management in the South Caucasus Program
SCO	Shanghai Cooperation Organization
SCR	South Caucasus Railway, the national railway company of Armenia
SEA	South-East Asia
SEA	South East Asia
SEE	South East Europe Transnational Cooperation Programme
SEETO	South-East Europe Transport Observatory
SIDA	Swedish International Development Cooperation Agency



**Logistics Processes and Motorways of the Sea II**

SLRP	Secondary and Local Roads Project
SMGS	Agreement on Direct International Goods Transport by Rail
SOE	State owned enterprises
SOLAS	The International Convention for the Safety of Life at Sea
SOP	Sectoral Operational Programme
Sqm	Square Metre (also abbreviated to m <sup>2</sup> )
SSMRT	State Service of Maritime and River Transportation of Turkmenistan
STCW	Standards of Training and Certification and Watchkeeping
SUA	The Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation
SWS	Single Window System
t	tonne
TA	Technical Assistance
TACIS	Technical Aid to the Commonwealth of Independent States
TAIEX	Technical Assistance Information Exchange
TALGO	Spanish manufacturer of intercity standard and high speed passenger trains
TAR	Trans-Asian Railway
TCDD	Türkiye Cumhuriyeti Devlet Demiryolları, the State Railways of the Turkish Republic
TDI	Türkiye Denizcilik İşletmeleri A.Ş, the Turkish Maritime Administration
TDY	Turkmen Demir Yollary, the Turkmen Railways
TEM	Trans European Motorway
Tenge (KZT)	The national currency of Kazakhstan (1 EUR is equal to 206.93 KZT October 2013)
TEN-T	Trans-European Transport Network
TER	Trans European Railway
TEU	Twenty-foot Equivalent Unit
TFFS	Transport and Trade Facilitation Strategy
THC	Terminal Handling Charge
TICSP	Turkmenbashi International Commercial Sea Port
TIR	Transports Internationaux Routiers
TJ	Tajikistan
TM	Turkmenistan
TONNAGE	The International Convention on Tonnage measurements of Ships
TOR	Terms of Reference



TRACECA	Transport Corridor Europe – Caucasus – Asia
TRAX	TRACECA corridor attractiveness index
UA	Ukraine
UAE	United Arab Emirates
UAH	Ukrainian Hryvnia (national currency of Ukraine – 1 UAH = about 0.1 Euro)
UAIS	Unified Automated Information System
UDP	Ukrainian Danube Shipping Company
UIC	International Union of Railways
Ukrzaliznytsia /UZ	The State Administration of Railway Transport of Ukraine
UN	United Nations
UNCOMTRADE	United Nations Commodity Trade Statistics Database
UNCTAD	United Nations Conference on Trade and Development
UND	Uluslararası Nakliyeciler Derneği, International Transporters Association of Turkey
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
USA	United States of America
USAID	United States Agency for International Development
USD	United States Dollar
USEC	The East Coast of the USA
USPA	Ukrainian Sea Ports Authority
USSR	Union of Soviet Socialist Republics
USWC	The West Coast of the USA
UTY	Uzbekistan Temir Yullari, the Uzbekistan Railways
UZ	Uzbekistan
UZ	Ukrzaliznytsia – The Ukrainian Railways
VAT	Value Added Tax
Vegoil	Vegetable Oil
veh.	Vehicle
VFC	Varna Ferry Complex
VLCC	Very Large Crude Carrier (an oil tanker)
VSA	Vessel Share Agreement
VTMS	Vessel Traffic Management System



**Logistics Processes and Motorways of the Sea II**

WANDA	Waste management for inland Navigation on the Danube
Wan-Hai	Wan Hai Lines Ltd, Taipei
WB	World Bank
WCO	World Customs Organization
WCSA	West Coast South America (Chile to Panama)
WEO	World Economic Outlook (IMF publication)
WE-WPRC	Western Europe–Western People’s Republic of China (highway)
WHO	World Health Organization
WTO	World Trade Organization
WWF	World Wildlife Fund (USA, Canada), World Wide Fund for Nature elsewhere
Yang Ming	Yang Ming Marine Transport Corporation, Keelung (Taiwan)
ZIM	ZIM Integrated Shipping Services Ltd, Haifa

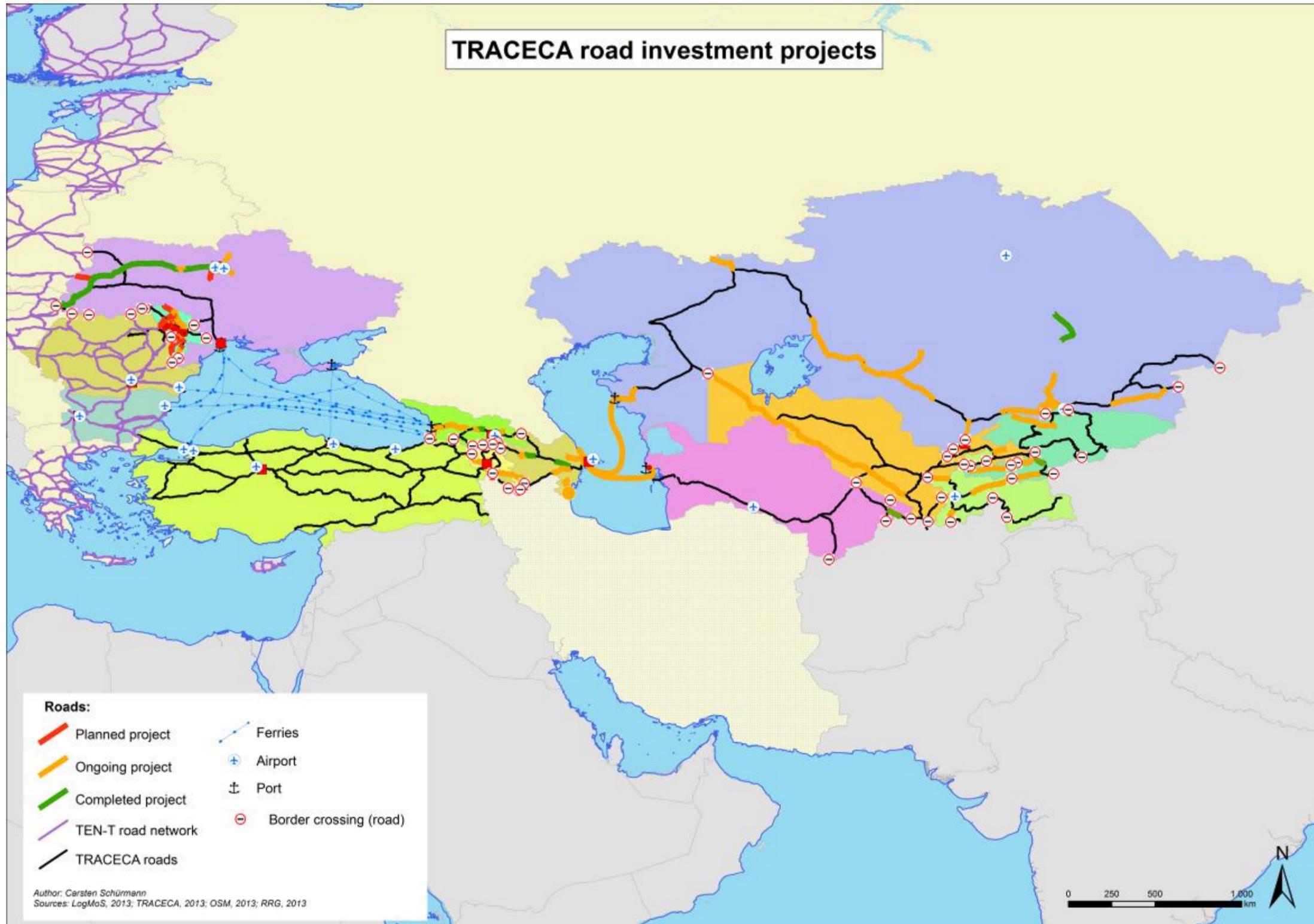


## APPENDIX B: MAPS





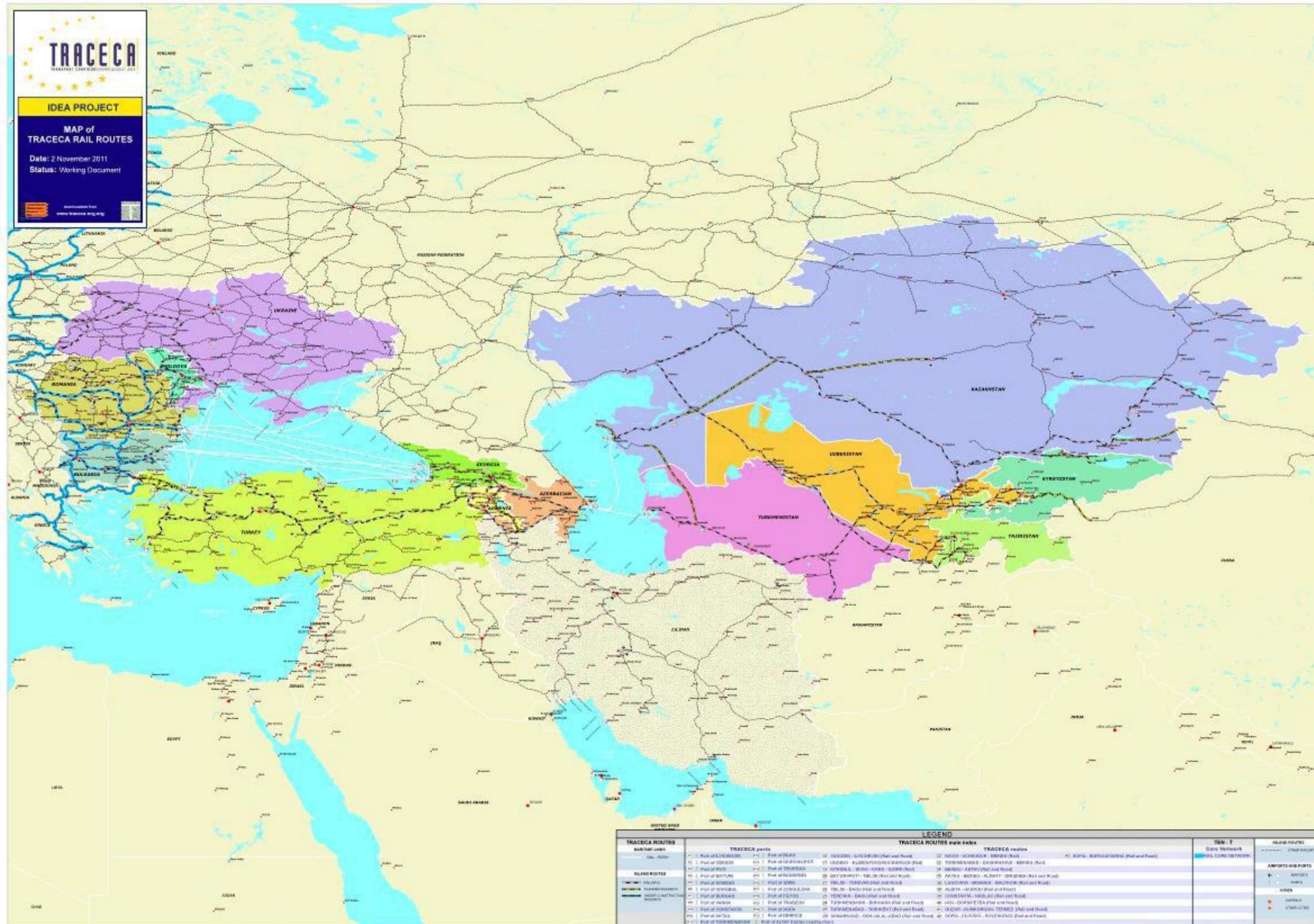
Map 3: TRACECA Road Routes, incl. IFI projects



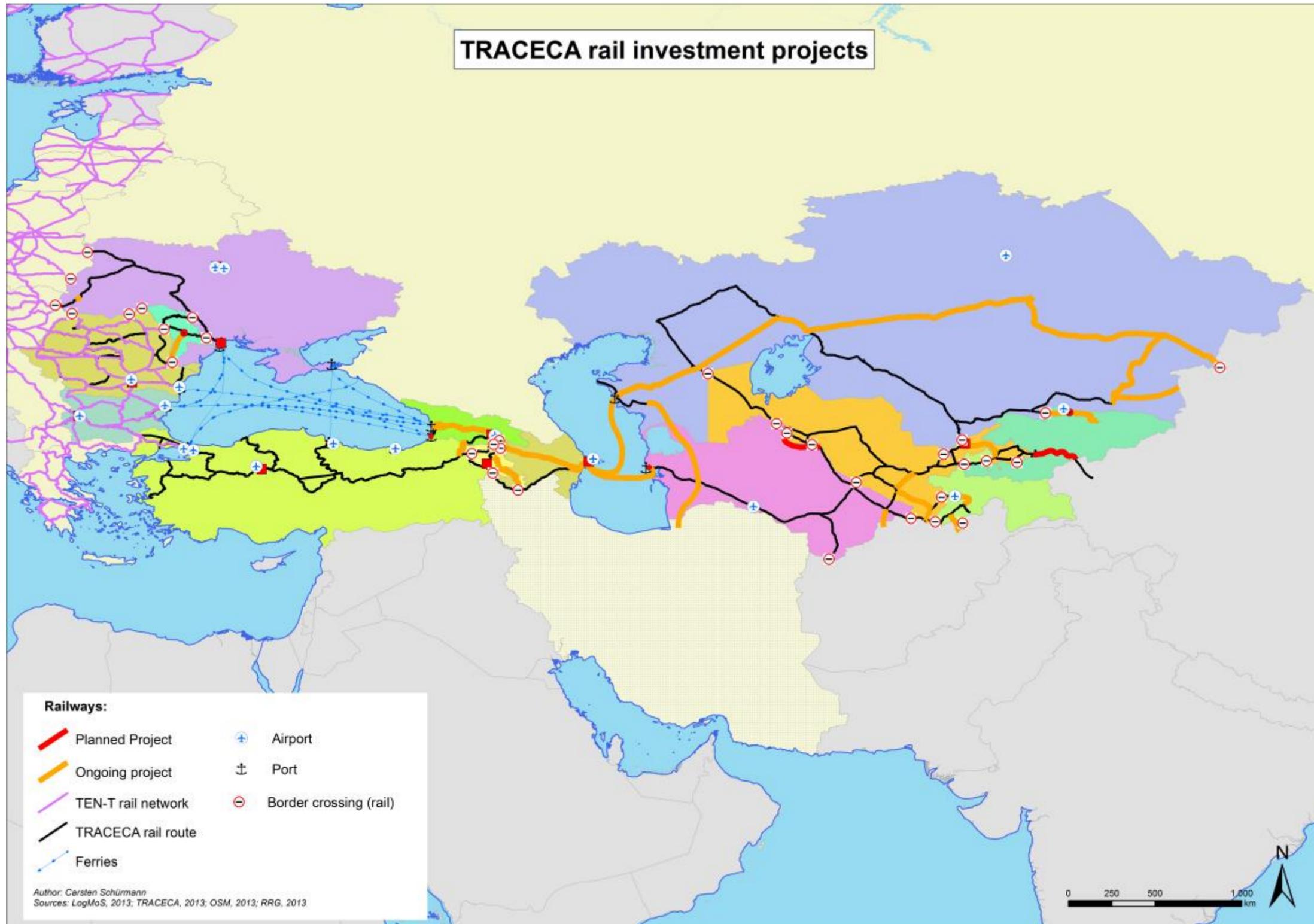


Logistics Processes and Motorways of the Sea II

Map 4: TRACECA Rail Routes

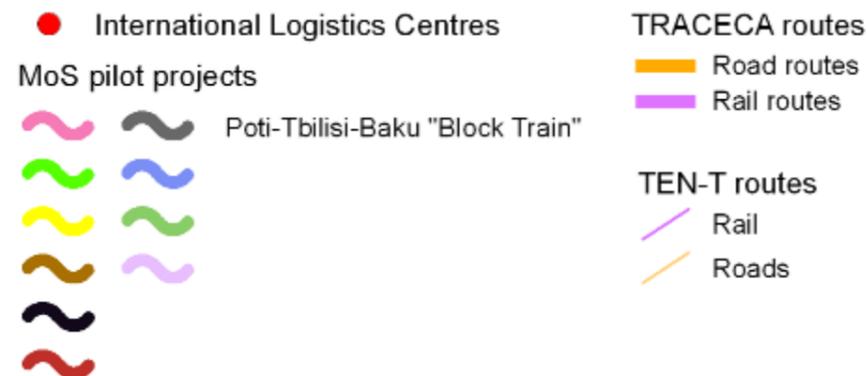
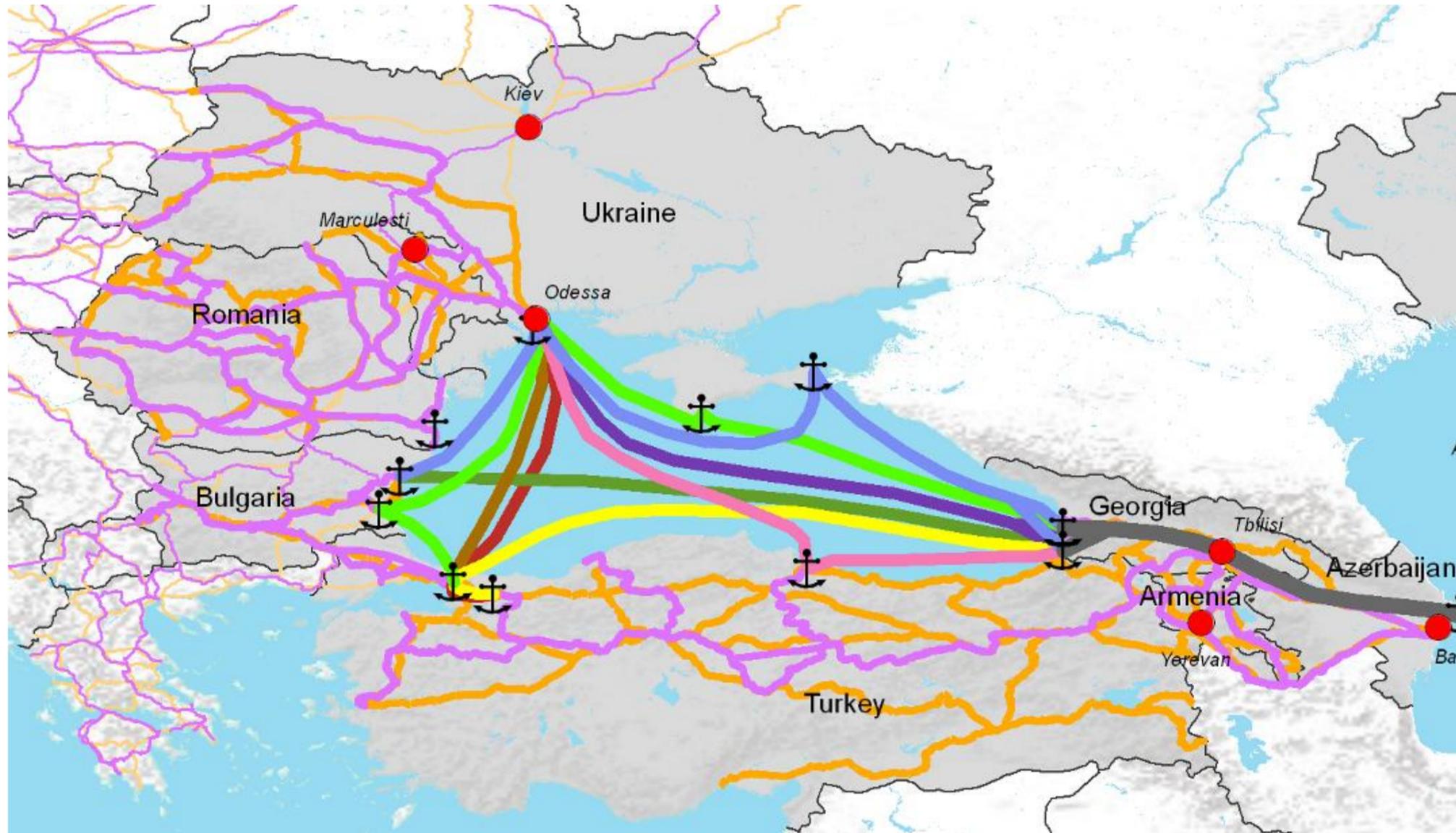


Map 5: TRACECA Rail Routes, incl. IFI projects

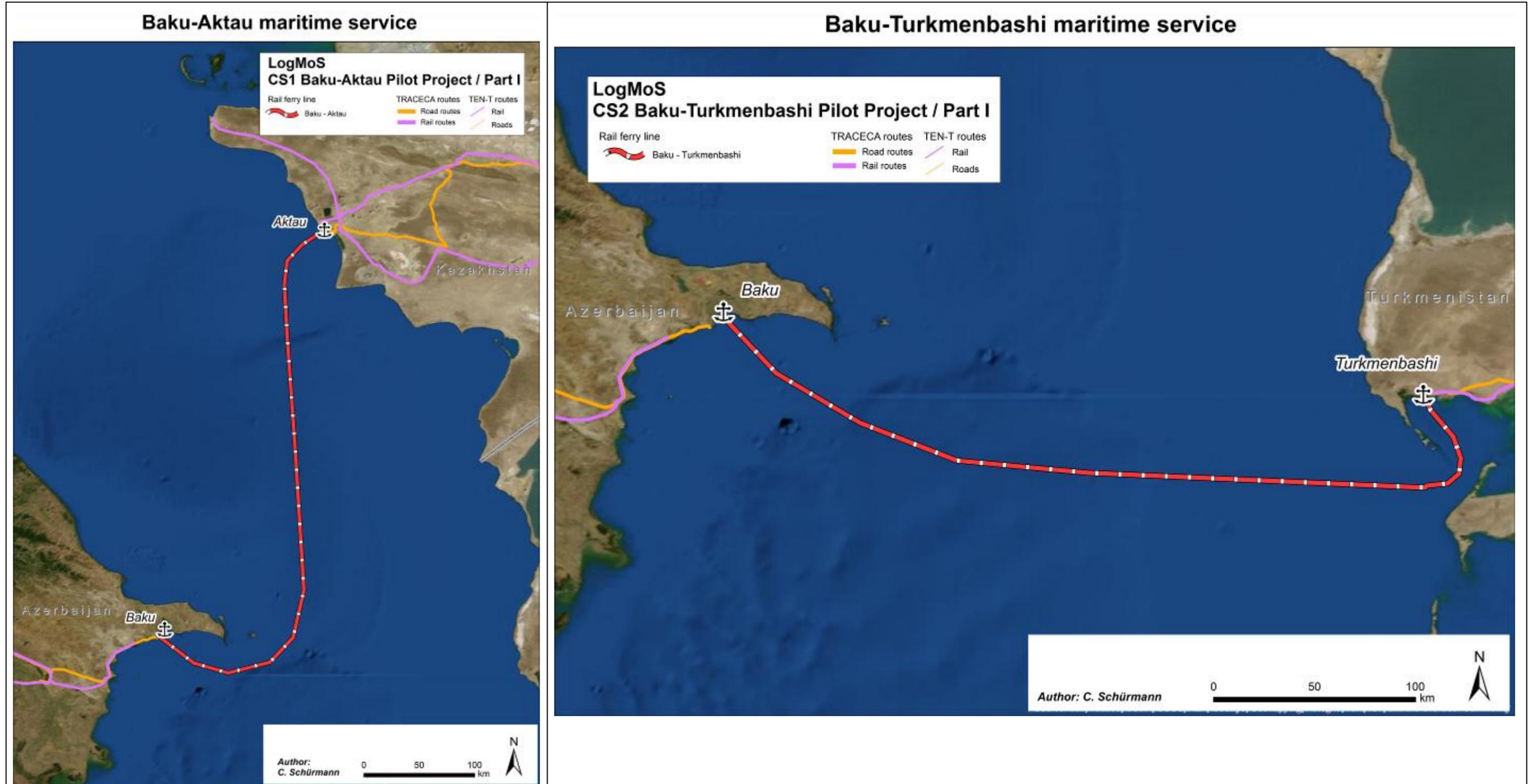


Logistics Processes and Motorways of the Sea II

Map 6: Maritime Links - Black Sea

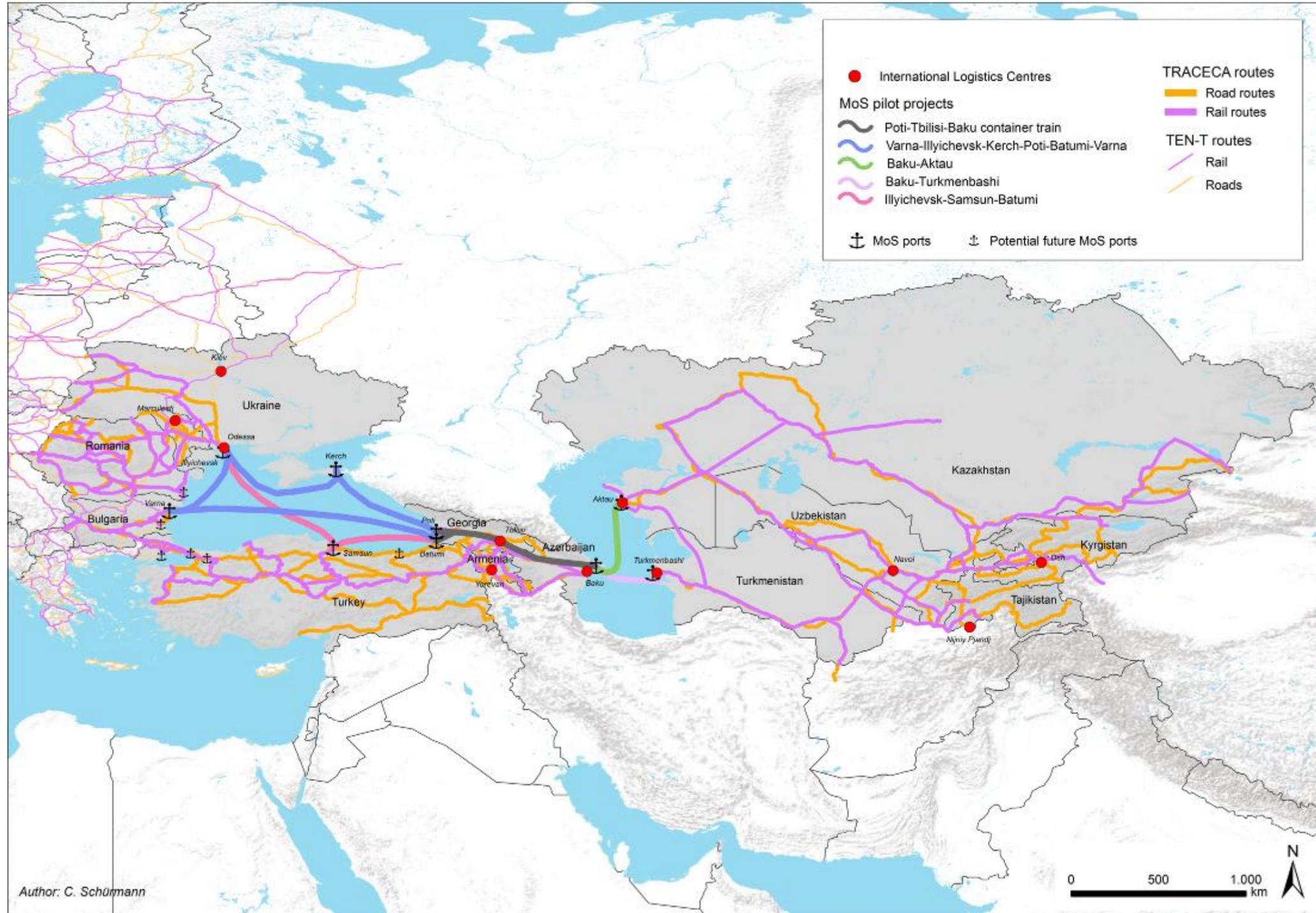


Map 7: Maritime Links - Caspian Sea

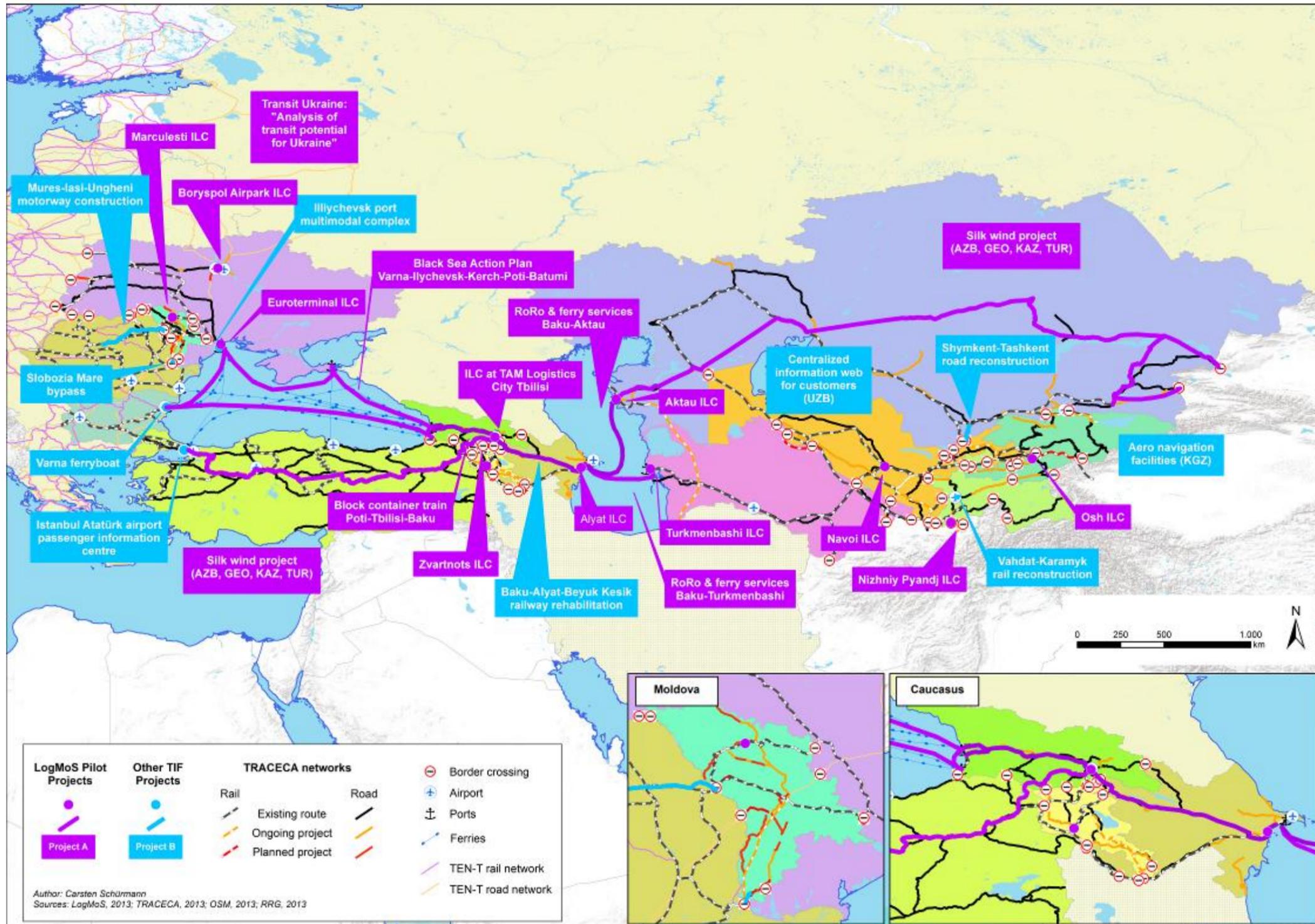


Logistics Processes and Motorways of the Sea II

Map 8: LOGMOS Pilot Projects



Map 9: TRACECA Core Network Implementation Status





Map 10: EaP Transport Network Roads Armenia, Azerbaijan, Georgia (endorsed on political level on 9 October 2013)



EASTERN PARTNERSHIP TRANSPORT NETWORK

Roads, airports and ports

Armenia, Azerbaijan, Georgia

Endorsed at a technical level on 30 April 2013 in the Eastern Partnership Transport Panel



Comprehensive Network			
	Road / Completed		Ports
	Road / To be upgraded		Airports
	Road / Planned		FRT
			NDPTL Network on Russian territory

Data for Turkey:  
 EC Proposal COM (2011) 650/Final 2 of 19/12/2011  
 © EuroGeographics 2001 for the administrative boundaries





Logistics Processes and Motorways of the Sea II

Map 11: EaP Transport Network Roads Moldova, Ukraine (endorsed on political level on 9 October 2013)



Map 12: EaP Transport Network Railways Armenia, Azerbaijan, Georgia (endorsed on political level on 9 October 2013)



EASTERN PARTNERSHIP TRANSPORT NETWORK

Railways, airports and ports  
Armenia, Azerbaijan, Georgia

Endorsed at a technical level on 30 April 2013 in the Eastern Partnership Transport Panel



Comprehensive Network		Legend	
	Conventional rail / Completed		Airports
	Conventional rail / To be upgraded		Ports
	Conventional rail / Planned		FRT
	High speed rail / Completed		To be upgraded to high speed rail
	To be upgraded to high speed rail		High speed rail / Planned
			NDPIL Network on Russian territory

Data for Turkey:  
EC Proposal COM (2011) 650/Final 2 of 19/12/2011  
© EuroGeographics 2001 for the administrative boundaries

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Logistics Processes and Motorways of the Sea II

Map 13: EaP Transport Network Railways Moldova, Ukraine (endorsed on political level on 9 October 2013)



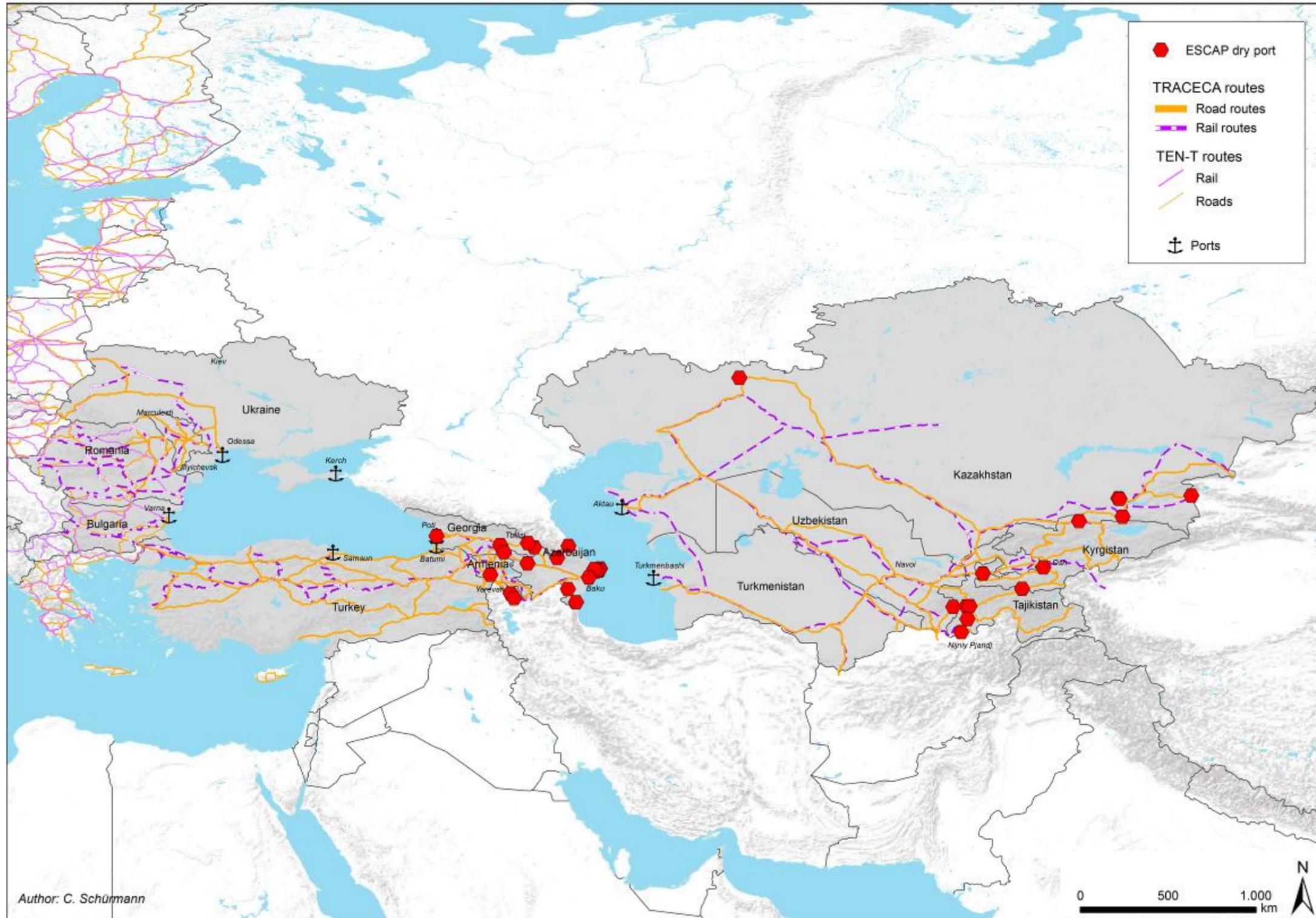
EASTERN PARTNERSHIP TRANSPORT NETWORK  
Railways, airports and ports  
Belarus, Moldova, Ukraine  
Endorsed at a technical level on 30 April 2013 in the Eastern Partnership Transport Panel



Compr.	Core	Compr.	Core	Compr.	Core
	Conventional rail / Completed		High speed rail / Completed		Airports
	Conventional rail / To be upgraded		To be upgraded to high speed rail		Ports
	Conventional rail / Planned		High speed rail / Planned		FRT
NDPTL Network on Russian territory					

Data for EU27: EC Proposal COM (2011) 650/Final 2 of 19/12/2011  
Data for Russia and Belarus from NDPTL  
© EuroGeographics 2011 for the administrative boundaries

Map 14: UN ESCAP Dry Ports in Caucasus and Central Asia  
ESCAP dry ports and TRACECA networks





Logistics Processes and Motorways of the Sea II

Map 15: Eastern Stretches of the Danube





Logistics Processes and Motorways of the Sea II

Map 16: Maritime Danube





## APPENDIX C: TABLES

Table 5: LPI Rankings for TRACECA Countries in 2007-12

	2007	2010	2012
ARMENIA	131	111	100
AZERBAIJAN	111	89	116
BULGARIA	55	63	36
GEORGIA	<i>na</i>	93	77
KAZAKHSTAN	133	62	86
KYRGYZSTAN	103	91	130
MOLDOVA	106	104	132
ROMANIA	51	59	54
TAJIKISTAN	146	131	136
TURKEY	34	39	27
TURKMENISTAN	<i>na</i>	114	<i>na</i>
UKRAINE	73	102	66
UZBEKISTAN	129	68	117



Logistics Processes and Motorways of the Sea II

Table 6: LPI Scores for TRACECA Countries for 2007, 2010 and 2012

	Overall			Customs			Infrastructure			International shipments			Logistics competence			Tracking & tracing			Timeliness		
	2007	2010	2012	2007	2010	2012	2007	2010	2012	2007	2010	2012	2007	2010	2012	2007	2010	2012	2007	2010	2012
ARMENIA	2,14	2,52	2,56	2,10	2,10	2,27	1,78	2,32	2,38	2,00	2,43	2,65	2,11	2,59	2,40	2,22	2,26	2,57	2,63	3,4	3,07
AZERBAIJAN	2,29	2,64	2,48	2,23	2,14	1,92	2,00	2,23	2,42	2,50	3,05	2,43	2,00	2,48	2,14	2,38	2,65	2,75	2,63	3,15	3,23
BULGARIA	2,87	2,83	3,21	2,47	2,50	2,97	2,47	2,30	3,20	2,79	3,07	3,25	2,86	2,85	3,10	3,14	2,96	3,16	3,56	3,18	3,56
GEORGIA		2,61	2,77		2,37	2,90		2,17	2,85		2,73	2,68		2,57	2,78		2,67	2,59		3,08	2,86
KAZAKHSTAN	2,12	2,83	2,69	1,91	2,38	2,58	1,86	2,66	2,60	2,10	3,29	2,67	2,05	2,60	2,75	2,19	2,70	2,83	2,65	3,25	2,73
KYRGYZSTAN	2,35	2,62	2,35	2,20	2,44	2,45	2,06	2,09	2,49	2,35	3,18	2,00	2,35	2,37	2,25	2,38	2,33	2,31	2,76	3,1	2,69
MOLDOVA	2,31	2,57	2,33	2,14	2,11	2,17	1,94	2,05	2,44	2,36	2,83	2,08	2,21	2,17	2,15	2,50	3,00	2,44	2,73	3,17	2,74
ROMANIA	2,91	2,84	3,00	2,60	2,36	2,65	2,73	2,25	2,51	3,20	3,24	2,99	2,86	2,68	2,83	2,86	2,90	3,10	3,18	3,45	3,82
TAJIKISTAN	1,93	2,35	2,28	1,91	1,90	2,43	2,00	2,00	2,03	2,00	2,42	2,33	1,90	2,25	2,22	1,67	2,25	2,13	2,11	3,16	2,51
TURKEY	3,15	3,22	3,51	3,00	2,82	3,16	2,94	3,08	3,62	3,07	3,15	3,38	3,29	3,23	3,52	3,27	3,09	3,54	3,38	3,94	3,87
TURKMENISTAN		2,49			2,14			2,24			2,31			2,34			2,38			3,51	
UKRAINE	2,55	2,57	2,85	2,22	2,02	2,41	2,35	2,44	2,69	2,53	2,79	2,72	2,41	2,59	2,85	2,53	2,49	3,15	3,31	3,06	3,31
UZBEKISTAN	2,16	2,79	2,46	1,94	2,20	2,25	2,00	2,54	2,25	2,07	2,79	2,38	2,15	2,50	2,39	2,08	2,96	2,53	2,73	3,72	2,96



Table 7: LPI Rankings per Subcategories for TRACECA Countries for 2012

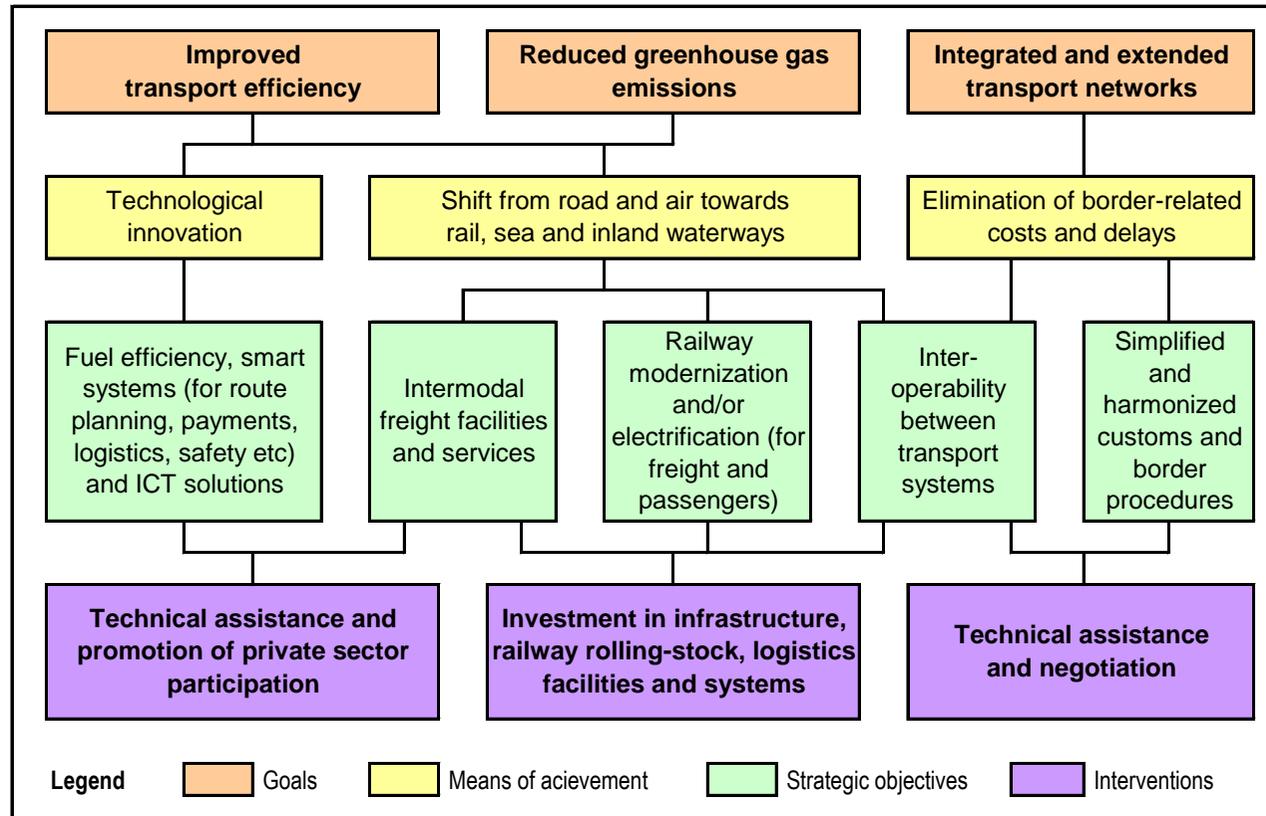
	LPI Overall Ranking	Customs	Infra- structure	Inter- national shipments	Logistics competence	Tracking & tracing	Timeliness
Armenia	100	116	110	96	115	99	92
Azerbaijan	116	147	101	120	143	80	74
Bulgaria	36	41	36	34	42	48	47
Georgia	77	44	58	91	70	93	115
Kazakhstan	86	73	79	92	74	70	132
Kyrgyzstan	130	84	90	147	129	132	135
Moldova	132	129	98	145	142	116	126
Romania	54	51	87	53	64	53	29
Tajikistan	136	85	138	135	130	143	146
Turkey	27	32	25	30	26	29	27
Turkmenistan							
Ukraine	66	88	70	83	61	50	68
Uzbekistan	117	118	120	127	117	105	101

\*Absence of data for Turkmenistan in 2012



APPENDIX D: FIGURES AND DIAGRAMS

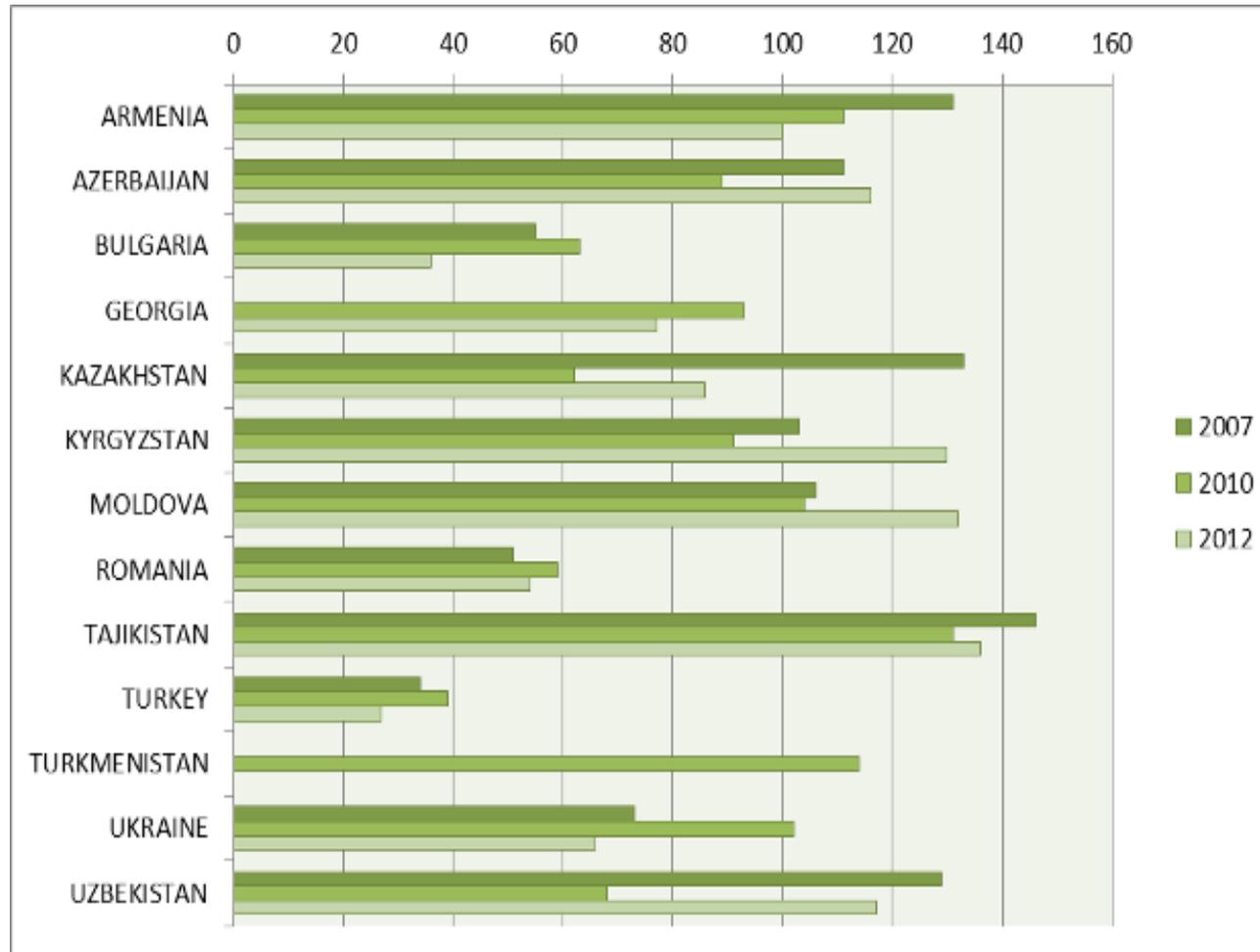
Figure 1: Logic Diagram: Realisation of EU Goals in the Transport Sector





Logistics Processes and Motorways of the Sea II

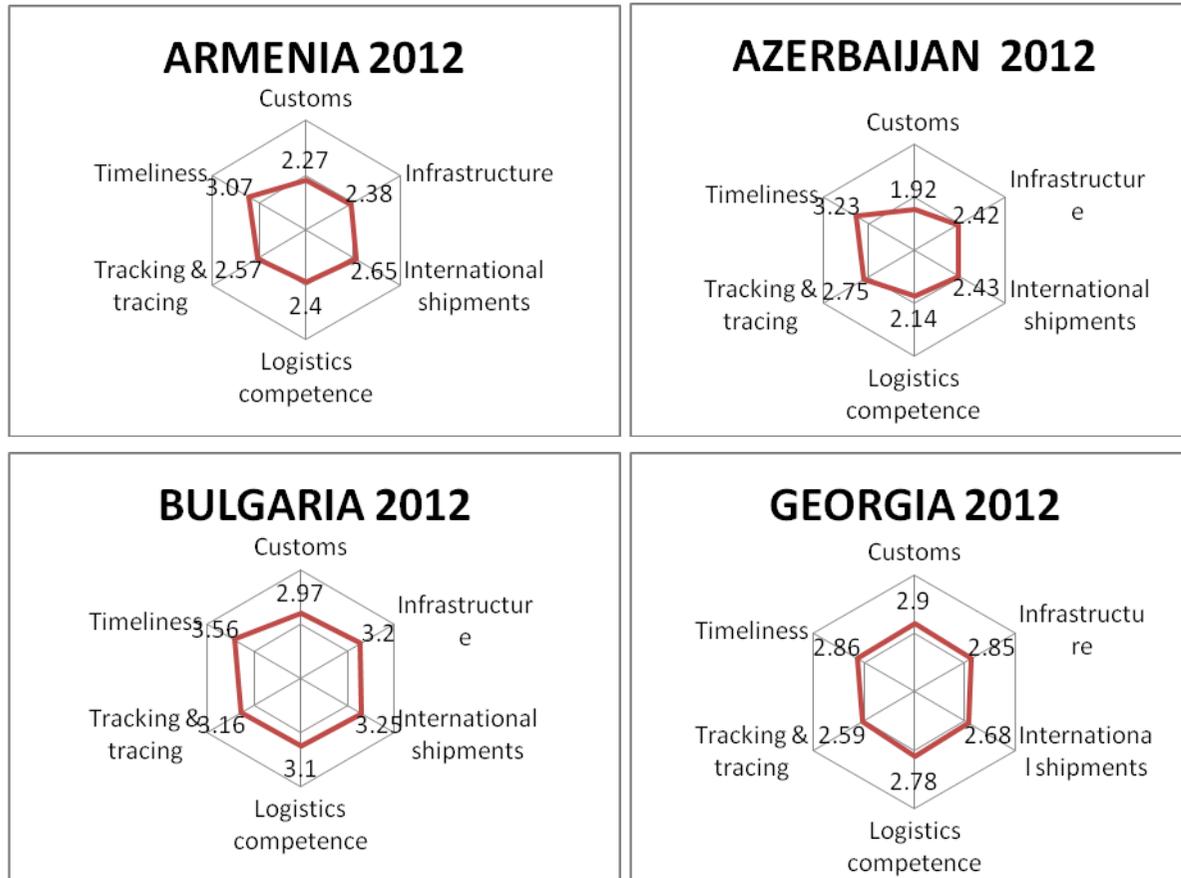
Figure 2: Evolution of TRACECA Countries' LPI Rankings, 2007-12





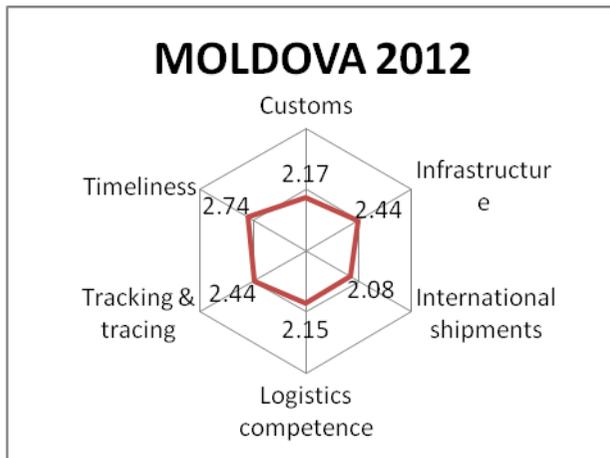
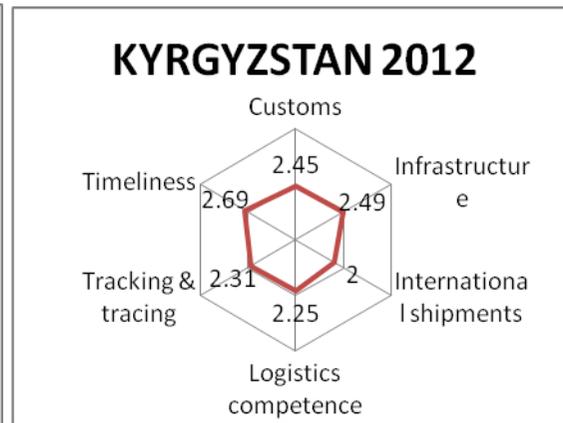
Logistics Processes and Motorways of the Sea II

Figure 3: LPI Rankings, 2012 per component



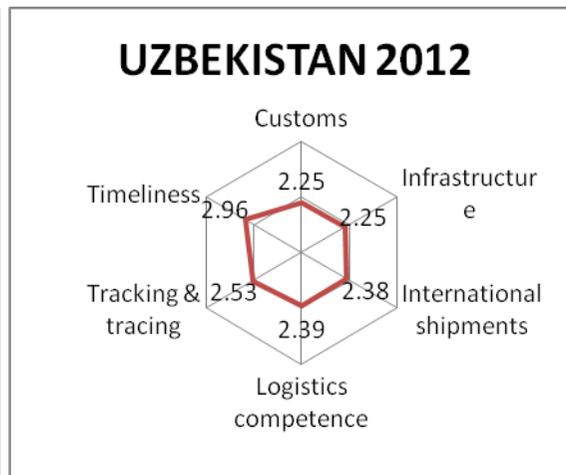
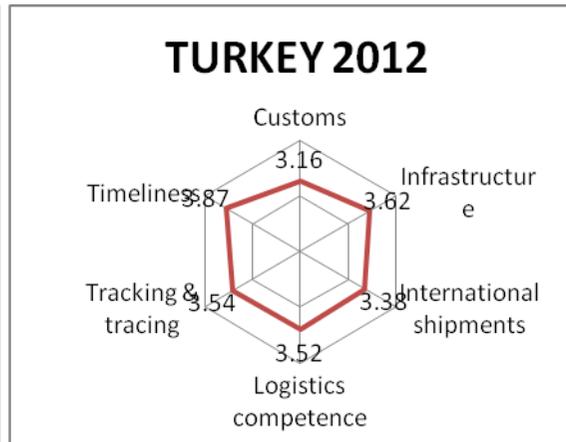


Logistics Processes and Motorways of the Sea II





Logistics Processes and Motorways of the Sea II





Logistics Processes and Motorways of the Sea II

Figure 4: Core Transport Network for the LOGMOS Master Plan



Figure 5: Comprehensive Network of TRACECA

