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# Logistics Processes and Motorways of the Sea II

## Country Profile

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## LIST OF ABBREVIATIONS

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ADU	Avtomobilni Dorohy Ukrainy
AETR	European Agreement concerning the Work of Crews of Vehicles engaged in International Road Transport
AGTC	European Agreement on Important International Combined Transport Lines and Related Installations
ATP	Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for such Carriage
BSEC	Black Sea Economic Cooperation
CMR	Convention on the Contract for the International Carriage of Goods by Road
COLREG	The International Regulations for Preventing collisions at Sea
EBRD	European Bank for Reconstruction and Development
EDI	Electronic Data Interchange
EIB	European Investment Bank
EU	European Union
EUBAM	European Union Border Assistance Mission for Moldova and Ukraine
GoU	Government of Ukraine
GUAM	Organisation for Democracy and Economic Development
IFC	International Finance Corporation
IFI	International Financing Institution
IFSP	Ilychevsk Sea Fishing Port
IGC	Intergovernmental Commission
ILC	International Logistics Centre
IMO	International Maritime Organisation
IMTP	Ilychevsk Maritime Trade Port
INMARSAT	International Maritime Satellite
INTERVENTION	International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties
IWW	Inland Waterways
LDC	Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter
LOGMOS	Logistics Processes and Motorways of the Sea
MARPOL	The International Convention for the Prevention of Pollution from ships
Mol	Ministry of Infrastructure
MOS	Motorways of the Sea



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OSJD	Organisation for Cooperation of Railways
PIARC	Permanent International Association of Road Congresses
Ro-Ro	Roll on – Roll off
RZD	Russian Railways
SAR	International Convention on Maritime Search and Rescue
SOLAS	The International Convention for the Safety of Life at Sea
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
TEN-T	Trans European Network – Transport
TEU	Twenty-foot Equivalent Unit
TIR	Transports Internationaux Routiers
TONNAGE	The International Convention on Tonnage measurements of Ships
TRACECA	Transport Corridor Europe Caucasus Asia
UAH	Ukrainian Hryvna
UN	United Nations
UNDP	United Nations Development Program
UNECE	United Nations Economic Commission for Europe
USAID	United States Agency for International Development
USD	United States Dollar
UZ	Ukrzaliznytsia – Ukrainian Railways
WB	World Bank
WTO	World Trade Organisation





Figure 1: General Map of Ukraine



Source: TRACECA (2011)



## 1 INTRODUCTION

Ukraine is one of the biggest markets in Eastern Europe and one of advanced economies in TRACECA region. It borders:

- by land with Belarus, Hungary, Moldova, Poland, Romania, Russia and Slovakia;
- by sea Bulgaria, Georgia, Romania, Russia and Turkey.

Owing to its geographical location, Ukraine benefits from the passage of a number of international transport corridors through its territory:

- 4 Pan-European corridors (III, V, VII and IX) – rail and road
- 6 OSJD corridors (No3, 4, 5, 7, 8 and 10) – rail
- Transport Corridor Europe - Caucasus - Asia (TRACECA) – multimodal
- TEN-T central transport axis – 3 rail and 4 road routes.

Ukrainian transport network covers 21.7 th km of railways, 169.5 th km of roads and 2.2 th km of inland waterways. Also the network includes 18 sea and 10 river ports. The existing capacity enables the handling of 1 bn t of cargo by rail and 160 M t through sea ports. Yet, this capacity is utilized at about 50% only. Among the problems identified in this connection are:

- for road transport: the insufficient availability of roads in good technical conditions, generating sub-standard speeds and long transit-times ;
- for rail transport: an obsolete rolling stock and frequent shortages of suitable rail cars in sufficient quantity due to inappropriate use / delayed, untimely return by users;
- at sea ports: the limited capacity of access roads and rail tracks, slow renewal of port infrastructure, low container turnover due to excessively long transit formalities

To address the above mentioned shortcomings, Ukraine became a member in several international organizations (e.g., UNECE, GUAM, BSEC, IMO, PIARC and OSJD). Since 1998 it takes part in IGC TRACECA. By that time the Basic Multilateral Agreement On international transport for development of Europe - Caucasus - Asia corridor was concluded by 12 parties, Armenia, Azerbaijan,, Bulgaria, Georgia, Kyrgyzstan, Kazakhstan, Moldova, Romania, Tajikistan, Turkey, Ukraine and Uzbekistan.



## 2 NATIONAL TRANSPORT POLICY

The policy of Ukraine in the field of transport is defined in the following documents:

- Ukraine Transport Strategy 2020 (approved in October 2010)
- Ukraine Maritime Doctrine 2035 (approved in October 2009)
- Ukraine Sea Ports Development Strategy 2015 (approved in July 2008)
- Ukraine Railway Transport Development Strategy 2020 (approved in December 2009)
- Concept for Ukraine National Transport Network Development and Operation (1997) supported by National transport network development program for the period of 2006-2010
- Concept for Ukraine Road transport development program (adopted in August 2011)

EU project “Support to the Integration of Ukraine to the Trans-European Transport Network TEN-T” and Twinning project “Support to Transport Policy Design and Implementation in Ukraine” assisted the Government of Ukraine (GoU) in preparing Ukraine Transport Strategy 2020, the purpose of which is:

*“to establish conceptual fundamentals for the development and implementation of sustainable and efficient state transport policy, create environment for social and economic development, increase competitiveness of national economy and population wealth.”*

As far as LOGMOS project is concerned, the most relevant provisions of the Strategy pertain to the following issues:

- development of transport infrastructure by means of expanding road network and constructing by-pass roads, increasing capacity of railways and at sea port terminals;
- renewal of rolling stock;
- improvement of investment climate by means of implementing public-private partnerships, leasing and concession arrangements;
- availability and quality of transport services by means of developing international transport corridors, widening the implementation of container and piggy-train techniques, increasing cargo throughput at sea ports, reducing delivery time and time spent at border crossing points, introducing electronic document exchange and “electronic customs”, adapting Ukrainian legislation to European one.

The Strategy also provides for specific priority measures in:

- rail transport: rehabilitation of infrastructure along international transport corridors, expanding capacity of railway stations, increasing cruising speed of trains and reducing delivery terms, widening logistics centers` network;
- road transport: widening road network and improvement of road transport technology;
- maritime transport: enhanced specialisation of port terminals, dredging and rehabilitation of port infrastructure, improvement of port logistics and operations;
- inland waterways (IWW): improvement of legal background, increasing capacity of IWW.



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Another important document is the Concept for Ukraine National Transport Network Development and Operation. It provides for:

- the integration of Ukrainian transport system into the European one by means of adapting EU standards and rules;
- effective transport support to foreign trade, increase of transit cargo flows;
- joint elaboration and implementation of transit transport technologies and through rates with neighbouring countries;
- support to intermodal transport and opening of new container transport routes;
- establishment of logistics centers for transport and storage, etc.



### 3 LEGAL ENVIRONMENT IN THE FIELD OF TRANSPORT

As from 1991 the national legal framework has been renewed in Ukraine. At present the national legislation of Ukraine covers all fields of transport and includes the following laws:

- On Transport
- On Freight Forwarder's Activity
- On Road Transport
- On Railway Transport
- On Transportation of Dangerous Goods
- Merchant Marine Code
- Waterways Code.

In general, Ukrainian transport legislation is well in line with international conventions:

- as a member of International Maritime Organization Ukraine (IMO) joined 14 legal instruments of IMO including SOLAS, TONNAGE, COLREG, SAR, INMARSAT, MARPOL 73/78, INTERVENTION, SUA, LDC, STCW as well as the International Convention for Safe Containers, Convention on Facilitation of International Maritime Traffic and Convention on Load Lines;
- Ukraine conforms to UNECE transport documents and is a party to 17 of them, including AGTC, AETR, ADR, ATP, Convention CMR, TIR Convention, and International Convention on harmonization of goods' border-crossing inspections and Customs convention on containers.

Besides, following the Guidelines for EU legal transport adaptation, which were adopted in 2006, Ukraine approves annual priority action plans for legal EU approximation. As a matter of fact, within the frames of abovementioned action plans in the field of transport:

- In 2009 the State Program of rail transport development for 2010-2015 was approved;
- The law "On Sea Ports of Ukraine" was signed by the President of Ukraine and officially published on June 13, 2012 in the newspaper "Voice of Ukraine";
- The law of Ukraine "On Sea Ports of Ukraine" provides for elaboration of a development strategy for the sea ports of Ukraine for 25 years, which includes short-term (5 years), medium term (10 years) and long term (25 years) development plans. The development strategy of the sea ports of Ukraine for 25 years contains the development plans of sea ports and maritime terminals, traffic projections, objectives, guidelines and sources of funding of the Strategy, the other main development parameters;
- Development programmes until 2015 for each sea port separately were approved by respective Decrees of the Ministry of Infrastructure;
- The draft law "On the navigation on inland waterways of Ukraine" was adopted at first reading by the Verkhovna Rada of Ukraine, as well as other important legal acts related to the inland water transport;
- Changes to be introduced to Merchant Shipping Code, the State Program of railway transport development in 2010-2015 and law of Ukraine "On road transport".



In addition to the national transport legislation, Ukraine has established bilateral relations with LOGMOS beneficiary countries (see Table 1).

**Table 1: Bilateral Agreements with LOGMOS Beneficiary Countries**

Countries	Transport issues				Customs
	Maritime	Road	Railway	General	
<b>Armenia</b>		On international road transport 22.07.1997	On cooperation in railway transport 24.12.1999		On cooperation and mutual assistance in customs issues 07.10.1994
<b>Azerbaijan</b>		On international road transport 01.07.1999	On cooperation in railway transport 24.03.1997	On international combined goods transport 07.09.2006	On cooperation on customs issues 24.03.1997
<b>Bulgaria</b>	On merchant shipping, 2002	On international road transport of passengers and goods 08.12.1994	On cooperation in the field of railway 08.12.1994		On cooperation on customs issues 24.03.1998
<b>Georgia</b>		On international road transport 13.04.1993	On activities of railway transport 21.10.2003		On cooperation on customs issues 14.02.1997
<b>Kazakhstan</b>		On international road transport 22.02.1993	On cooperation in the field of railway 22.02.1993	On general principles of cooperation in the field of transport 22.02.1993	On cooperation on customs issues 17.09.1999 On customs statistics sharing 06.06.2006
<b>Kyrgyzstan</b>		On international road transport 21.02.1993	--	On cooperation in the field of transport 23.02.1993	
<b>Moldova</b>		On international road transport 20.03.1993	On activities of railway transport 20.03.1993		On cooperation and mutual assistance in customs issues 18.08.1999
<b>Romania</b>		On international road transport	On cooperation in the field of railway		On cooperation and mutual assistance in customs issues





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		29.03.1996	21.10.2003		19.06.2000
<b>Tajikistan</b>		On international road transport of passengers and goods 06.12.2005		On cooperation in the field of energy, industry, transport and construction 25.04.2002	On cooperation on customs issues 06.07.2001
<b>Turkey</b>	On merchant shipping, 2004	On international road transport 30.05.1994	On cooperation in the field of railway transport 07.06.2005		On cooperation and mutual assistance in customs issues 27.11.1996
<b>Turkmenistan</b>		On cooperation in the field of international road transport 25.02.1993		On general principles of cooperation in the field of transport 10.10.1993	On cooperation and mutual assistance in customs issues 29.01.1998
<b>Uzbekistan</b>		On international road transport 20.02.1993	On cooperation in the field of railway transport 20.02.1993	On cooperation in the field of transport 20.02.1993 On cooperation in the field of goods transport 30.02.1994	On cooperation on customs issues 05.12.1996

Ferry connections are governed by specific agreements. A new agreement on setting up a direct rail ferry connection between Turkey and Ukraine was signed on 25.01.2011. It covers 4 rail ferry lines:

- Ilychevsk – Derince
- Skadovsk – Zonguldak
- Skadovsk – Istanbul
- Yevpatoria – Zonguldak

A bilateral agreement on rail ferry operations between Ukraine and Georgia was signed on 13.04.1993. The two countries are also the signatory countries of a trilateral agreement on rail ferry operations which was signed together with Bulgaria on 30.10.1997. Despite some initiative in the past to denounce this trilateral agreement, the legal background for rail ferry operations remains effective.



#### 4 NATIONAL POLICY AND LEGISLATION IN TRADE AND TRANSIT

Key documents regulating trade and transit operations in Ukraine include the Customs Code of Ukraine and the Law of Ukraine “On Transit”. The Customs Code is widely recognized to be in line with *acquis communautaire* and, in particular, with EU Customs Code. In addition to this, in order to support country’s intention to attract additional transit cargo flows to pass through the territory of Ukraine, in 2002 the GoU adopted the National program “On promoting Ukraine as a transit country”. However, in spite of these efforts, many operators report on prevailing discrepancies in customs formalities, e.g. between the provisions of TIR Convention and effective rules and regulations, which they need to follow even though creating additional “paper work”. Provided the number of border-crossing checks (e.g., phyto-sanitary, veterinary and/or radiological services), delays and duplication of customs inspections (cargo is usually checked both at the border crossing point and inland custom office) there is an obvious need to simplify existing procedures and regulations.

The adaptation and implementation of international customs conventions is a core issue for Ukraine in the field of legal approximation to EU. The list of key international conventions for Ukraine includes now:

- On temporary import regime (dated of 26th June 1990, joined on 24th March 2004);
- On simplification and harmonisation of customs procedures (dated of 18th May 1973, joined on 5th of October 2006);
- On simplification of formalities in trading goods (dated of 25th March 2003);
- On joint transit procedure (dated of 20th May 1987).

Ukraine has already joined 2 conventions and now the issue is to bring the national norms and regulations in line with the international ones. And the remaining two conventions are a mid-term priority for Ukraine.

On top of that, Ukraine makes a stepwise progress in introducing electronic data exchange at customs. In 2008 GoU approved the concept for a comprehensive “electronic customs” system. The very system should be put into operations by 2014. At present, it is approbated by potential users in order to uncover its potential technical malfunctions. E-customs system should help to speed up clearance procedures at the border, eliminate possible mistakes while filling-in customs declarations, etc.

The bilateral relations of Ukraine in the field of customs cooperation are presented in Table 1 above.



## 5 INVESTMENTS IN TRANSPORT AND LOGISTICS SECTOR IN UKRAINE

IGC TRACECA recognizes the trade and transit potential of Ukraine and actively supports the ongoing initiatives via technical assistance and investment projects. More details of the projects can be found here: [TRACECA projects for UA.doc](#)

Beside TRACECA, the World Bank, IFC, EBRD and EIB invest into development of transport and logistics infrastructure in Ukraine.

**Table 2: IFI Supported Projects in Ukraine**

Title of project	Year of approval	Sub-sector	Total project cost	IFI funding
European roads Ukraine II	2011	Road (rehabilitation)	n/a	450 M € (EIB)
Pan-European corridors	2010	Road (rehabilitation, upgrade and maintenance)	1 150 M €	up to 450 M € (EBRD)
Road and safety improvement	2009	Road (rehabilitation)	500 M USD	400 M USD (WB)
Euroterminal Odessa	2009	Logistics (dry port facility, warehouses, customs and parking slots)	38 M USD	27 M USD (EBRD)
Odessa Terminal Holdco	2009	Port container terminal (construction)	130 M USD	37 M USD + 5% equity (EBRD)
Ukraine railways rolling stock renewal	2008	Railway (acquisition of general purpose freight wagons)	441 M USD	125 M USD (EBRD)
Illichivsk Sea commercial port infrastructure development project	2007	Port infrastructure (berth reconstruction, procurement of cargo handling equipment, dredging)	38.6 M USD	26 M USD (EBRD)
European roads Ukraine	2007	Road (rehabilitation of M06)	n/a	200 M € (EIB)
Ukraine 3 <sup>rd</sup> Kiev-Chop M06 road rehabilitation project	2006	Road (rehabilitation)	486 M €	200 M € (EBRD)
Black Sea shipping management co Ltd	2006	Shipping (acquisition / construction of 5 dry cargo ships)	34 M USD	20 M USD (EBRD)
Asnova	2006	Construction of warehouse and customs terminal, acquisition and renovation of warehouse, investment in vehicles and MIS	18.6 M USD	8 M USD (IFC)



## 6 STRATEGIC CHALLENGES

### 6.1 Market Challenges

#### 6.1.1 National Trade: Exports and Imports

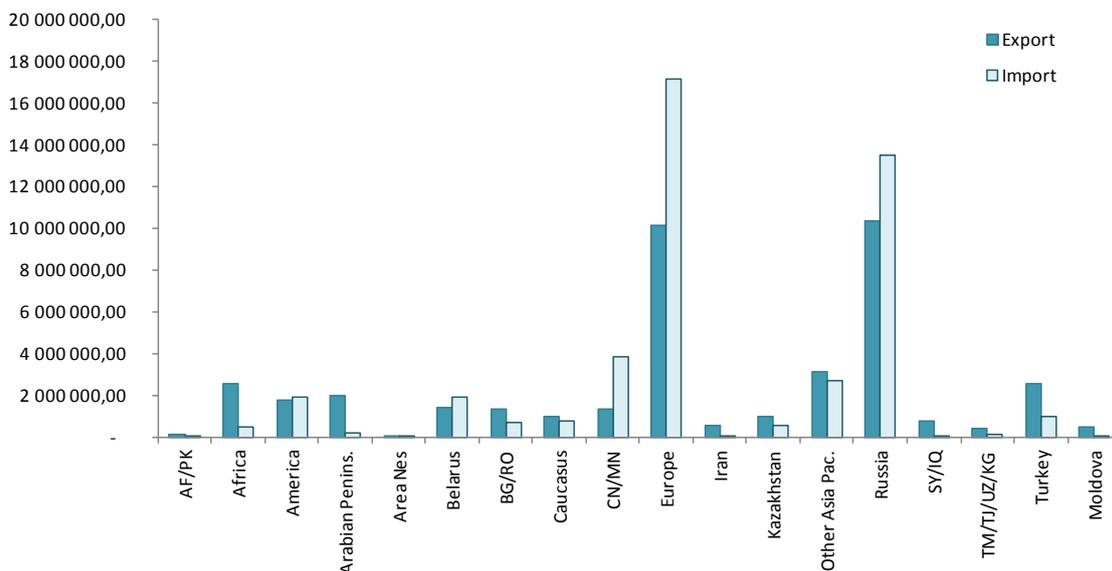
##### World Trade Partners

Strategically located between the European Union and Russia, at the North West of TRACECA area, Ukraine generates almost 86 billion Euros of external trade in 2010. Total imports accounted for approximately 45 bn Euros, out of which Europe (38%), Russia (30%) and China/Mongolia (9%) shared the largest part, while exports reached the amount of 41 bn Euros. Major partners as far as exports are concerned were Russia and Europe with both a share of 25% of the total volume. Trade with other TRACECA countries is rather low and represents only 12% of the total trade volumes.

Comparing with 2008 data, the global trade volumes and their distribution among all trade partners were not significantly modified. Nonetheless it can be noticed a significant drop of the imports volumes from South-East TRACECA Countries (from 7 bn Euros to less than 1 bn Euros).

Russia and Europe remain therefore by far the main commercial partners of Ukraine. Given the fact there is a land border between Ukraine and Russia, the trade between these two countries happens outside of TRACECA corridor. The trade with Europe can be performed by land, but also by sea, e.g. in case of long distance haulage, both of which are outside of the TRACECA scope.

Figure 2: Ukraine Trade Partners, 2010, th. euros



Source: Computation based on Eurostat and UN Comtrade databases

The analysis of the potential trade between Ukraine and its partners, as shown in Figure 3, leads to underline several points. The term “Potential trade” includes only exclusive or partially containerizable goods and logically excludes all products such as oil, natural gas, coal that are transported in bulk.



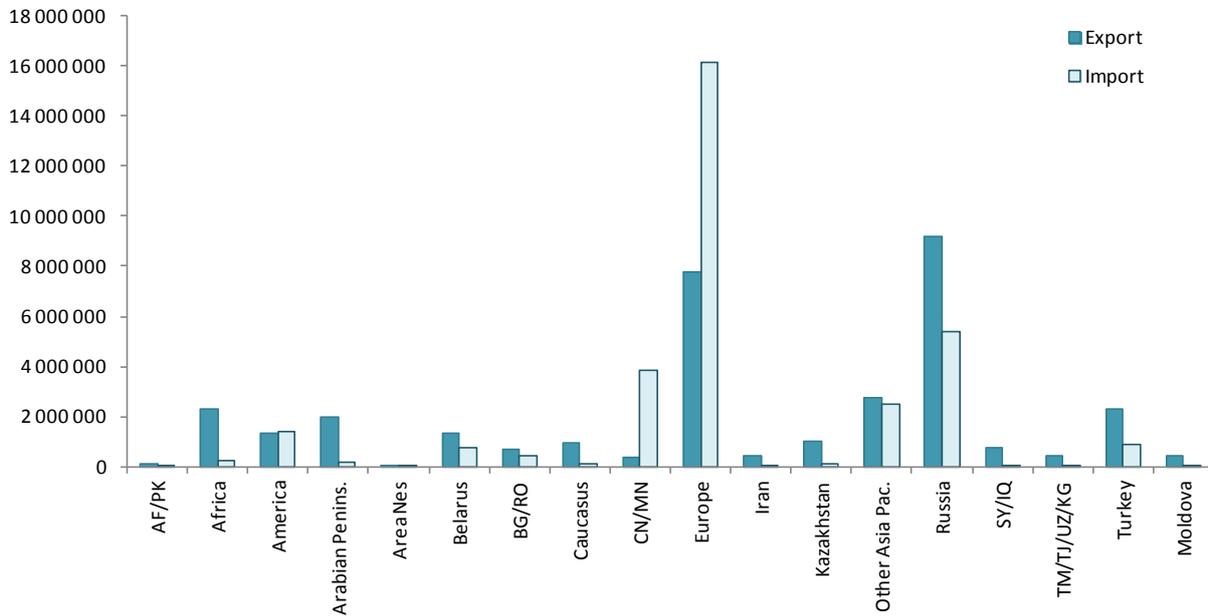


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- Ukraine’s total potential trade is estimated at 66 bn Euros (32 bn Euros for imports and 34 bn Euros for exports). Bulk transported goods represent one third of all trade.
- Imports from Russia mainly consist in raw materials as can be noted from the drop from 14 bn Euros to 5 bn Euros. Similarly, exports to Europe also decrease almost by one third (from 10 bn Euros to 7 bn Euros).
- Bulk commodities left aside, the main trade partners of Ukraine remain Russia and Europe. Trade with TRACECA countries is not significant and represents only one sixth of Ukraine external trade (10 bn Euros - export 7 bn / import 3 bn) compared to trade with Europe and Russia (50 bn Euros).

Those volumes confirm the position of Ukraine as a minor country involved in TRACECA trade.

**Figure 3: Ukraine Trade Partners, Potential Trade, 2010, th. euros**



Source: Computation based on Eurostat and UN Comtrade databases



**Table 3: Distribution of Ukraine Potential Trade Partners, 2010, % in Trade Value**

Zones	All products		Total all products	No min. fuel & ores		Total no min. fuel & ores
	Import	Export		Import	Export	
Afghanistan-Pakistan	0.10%	0.22%	0.16%	0.14%	0.24%	0.19%
Africa	1.12%	6.17%	3.53%	0.68%	6.83%	3.83%
America	4.20%	4.28%	4.24%	4.39%	3.99%	4.18%
Arabian Peninsula	0.42%	4.89%	2.55%	0.56%	5.77%	3.23%
Area Nes	0.00%	0.13%	0.07%	0.00%	0.16%	0.08%
Belarus	4.29%	3.47%	3.90%	2.35%	3.84%	3.11%
Bulgaria-Romania	1.62%	3.29%	2.41%	1.35%	2.01%	1.69%
Caucasus	1.77%	2.41%	2.07%	0.36%	2.71%	1.57%
China-Mongolia	8.59%	3.26%	6.06%	11.96%	1.07%	6.38%
Europe	38.09%	24.83%	31.78%	50.03%	22.76%	36.04%
Iran	0.08%	1.39%	0.71%	0.11%	1.23%	0.69%
Kazakhstan	1.20%	2.44%	1.79%	0.41%	2.91%	1.69%
KY-TJ-TM-UZ	0.20%	1.09%	0.62%	0.21%	1.29%	0.76%
Moldova	0.14%	1.14%	0.62%	0.20%	1.18%	0.70%
Other Asia Pacific	6.02%	7.60%	6.77%	7.71%	8.11%	7.92%
Russia	29.92%	25.26%	27.70%	16.65%	27.02%	21.97%
Syria-Iraq	0.08%	1.82%	0.91%	0.10%	2.19%	1.17%
Turkey	2.14%	6.31%	4.12%	2.78%	6.70%	4.79%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: Computation based on Eurostat and UN Comtrade databases

Regarding the tonnage of Ukraine's trade, four features may be observed:

- Tonnages of exports are more than three times higher than those of imports.
- Predominance of the trade with Europe with more than two-third in tons in both directions. This flow does not concern LOGMOS.
- An important North-South flow with Turkey, Bulgaria and Romania particularly for exports (25% of total trade in tons).
- A lesser but non negligible westbound flow with other TRACECA countries particularly for imports from Kazakhstan.

East and West bound flows affecting Ukraine are represented in Figure 4 below.





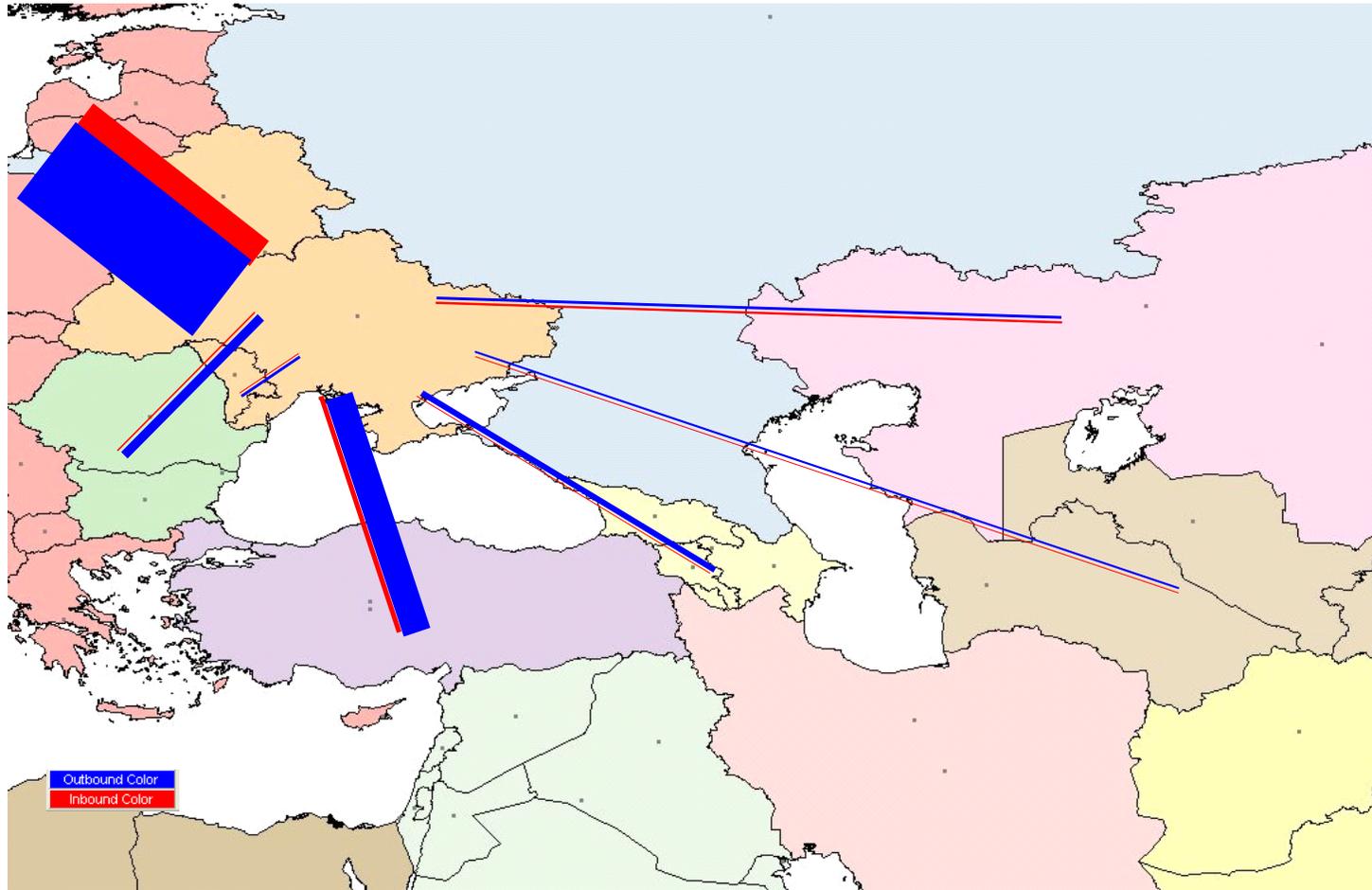
**Table 4: Ukraine Potential Trade with TRACECA Countries and Europe, 2010, in Tons and %**

Zones	Tonnage		Share in trade with TRACECA countries and Europe	
	Export	Import	Export	Import
Bulgaria-Romania	1 814 778.5	275 317.2	6.24%	3.34%
Caucasus	1 156 106.8	129 031.6	3.98%	1.56%
Europe	19 048 457.8	6 258 254.1	65.54%	75.87%
Kazakhstan	572 972.9	471 237.5	1.97%	5.71%
KY-TJ-TM-UZ	400 802.6	76 251.1	1.38%	0.92%
Moldova	535 689.5	68 784.1	1.84%	0.83%
Turkey	5 536 165.0	969 955.8	19.05%	11.76%
<b>Total</b>	<b>29 064 973.1</b>	<b>8 248 831.4</b>	<b>100%</b>	<b>100%</b>

Source: Computation based on Eurostat and UN Comtrade databases



Figure 4: Ukraine Potential Trade with TRACECA Countries and Europe, 2010, in Tons



Source: Computation based on Eurostat and UN Comtrade databases





### 6.1.2 Regional TRACECA Trade

The trade analysis with other TRACECA countries per group of commodity and per direction is illustrated in the figures and tables hereafter. Only fully or partly containerizable products are considered. Although trade between this zone and Europe is not relevant for the LOGMOS project, it has been kept in the analysis so as to ease the comparison of data with other TRACECA countries.

The analysis of imported commodities (Figure 5 and Table 5) from TRACECA countries and Europe to Ukraine shows:

- The commodity structure of imports to Ukraine is balanced. The eight following commodities have almost equally the same share: “Mineral products”, “chemical products”, “Plastics”, “Base metal equipment”, “Live animal & animal products”, “vegetal products”, “pulp/waste wood equipment” and “stone, cement, ceramic”.
- However, this does not apply for each trade partner. Imports from Turkey and Kazakhstan are mainly composed of “mineral products”. “Chemical products” is the main commodity in the composition of imports from TRACECA South-East countries (inorganic chemicals and fertilizers mainly). Most of these products are classified as dry bulk commodities but could be partly containerized. «Foodstuffs, beverage and tobacco” prevail in the imports from Caucasus.
- Imports from Europe represent the largest share with 6, 258 th. tons, which most probably are transported outside of TRACECA.
- A domination of imports of mineral products both from Turkey (mainly construction raw material such as plaster and cements) and Kazakhstan (mainly chemical raw material such as sulphur).

As far as exported commodities are concerned (Figure 6 and Table 6), the following points should be emphasized:

The high proportion of base metal equipment in all directions but particularly to Turkey, Romania and Bulgaria, with more than half of fully or partly containerizable product exports, most of this being iron and steel products and articles thereof.

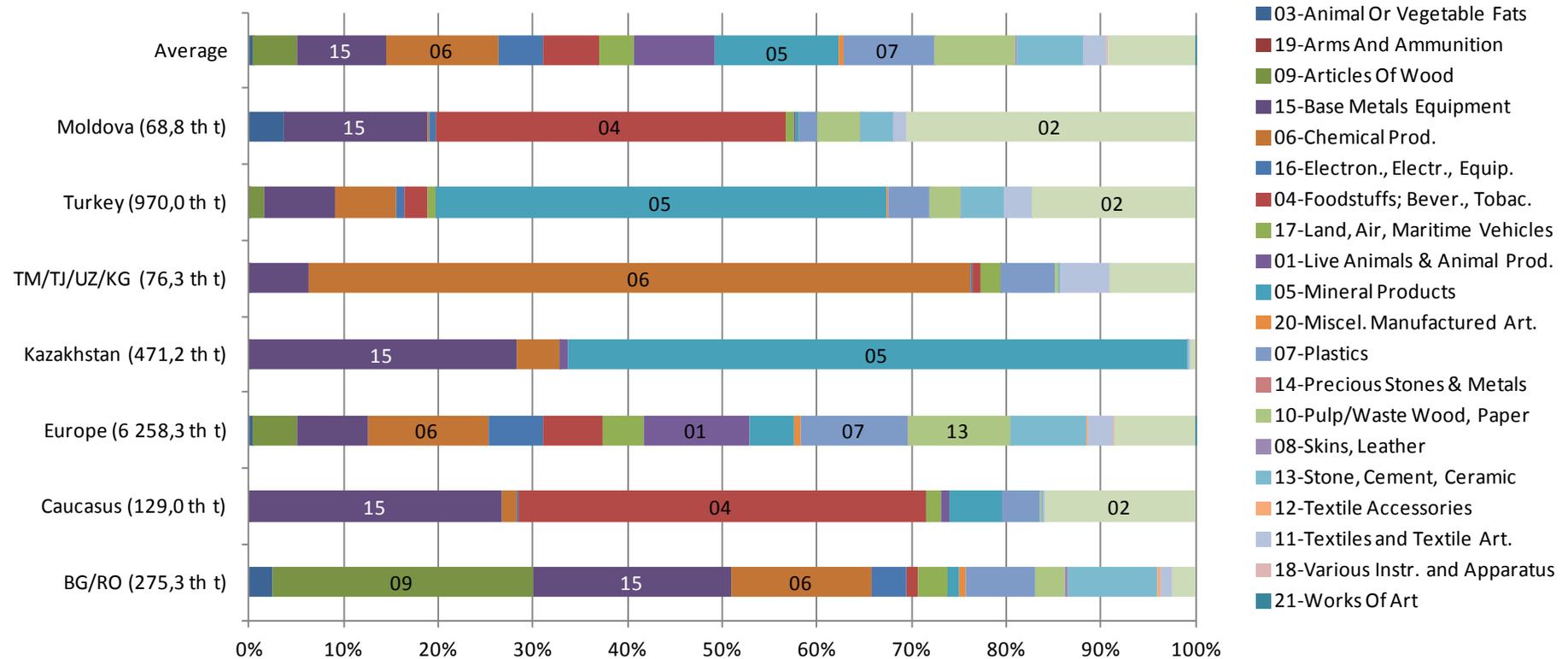
The same observation, in a minor key, is to be made with the commodities “articles of wood”, “vegetal products” and “mineral products”.

Exports of mineral products in a rather important quantity are oriented towards Europe and Moldova.



Logistics Processes and Motorways of the Sea II

Figure 5: Potential Trade with TRACECA Region – Commodity Structure of Imports to Ukraine, 2010, in Tons and %



Source: Computation based on Eurostat and UN Comtrade databases





Logistics Processes and Motorways of the Sea II

**Table 5: Potential Trade with TRACECA Region – Commodity Structure of Imports to Ukraine, 2010, in Tons**

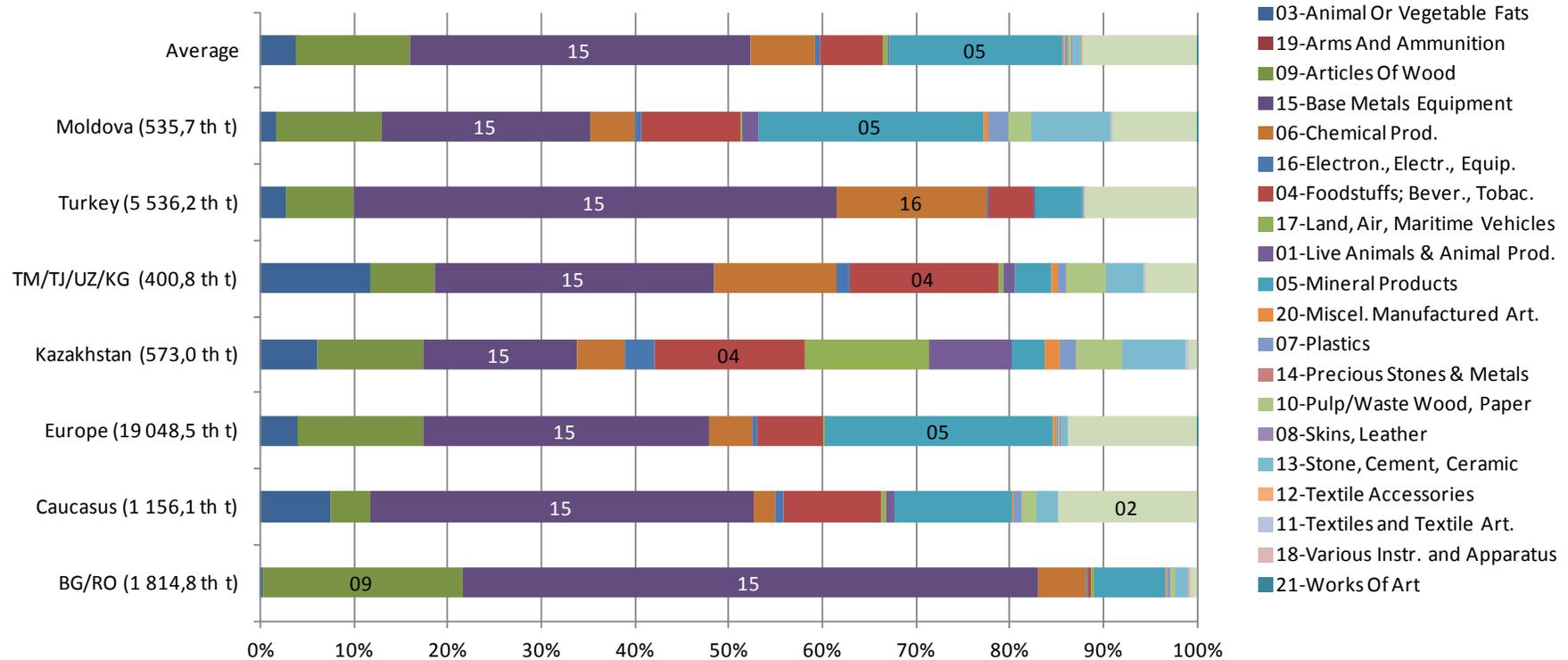
Commodity Groups	Bulgaria-Romania	Caucasus	Europe	Kazakhstan	KY-TJ-TM-UZ	Moldova	Turkey
Animal Or Vegetable Fats	6 672.00	0.06	27 002.30	80.58	3.13	2 553.53	745.56
Arms And Ammunition	n/a	n/a	492.64	n/a	n/a	n/a	175.86
Articles Of Wood	76 271.80	106.67	290 509.05	1.02	0.70	56.98	15 057.74
Base Metals Equipment	57 527.80	34 470.56	467 156.57	133 289.56	4 834.22	10 326.15	73 226.28
Chemical Prod.	40 878.90	1 990.71	799 239.97	21 097.46	53 331.76	172.88	61 140.86
Electron., Electr., Equip.	9 674.50	119.12	360 088.26	231.51	83.91	468.15	8 760.70
Foodstuffs; Bever., Tobac.	3 523.30	55 569.17	390 726.20	129.51	688.81	25 495.92	24 474.67
Land, Air, Maritime Vehicles	8 764.50	2 000.18	277 006.30	263.56	1 539.14	494.25	8 779.26
Live Animals & Animal Prod.	19.60	1 220.23	700 139.69	3 893.61	10.10	150.46	0.52
Mineral Products	3 402.70	7 233.60	289 726.41	308 076.90	14.63	203.54	461 078.79
Miscel. Manufactured Art.	1 767.60	2.92	49 029.87	1.33	30.59	60.06	2 365.08
Plastics	20 292.50	5 232.17	709 288.36	68.92	4 340.03	1 344.60	42 278.36
Precious Stones & Metals	1.10	0.00	108.30	0.50	0.00	0.00	15.88
Pulp/Waste Wood, Paper	8 689.00	106.89	669 848.34	0.59	297.80	3 084.42	31 505.59
Skins, Leather	761.50	0.11	6 768.07	0.00	27.98	31.11	404.08
Stone, Cement, Ceramic	26 037.90	297.08	502 836.05	439.53	110.98	2 330.81	43 186.73
Textile Accessories	1 064.70	0.00	5 679.41	0.01	n/a	40.84	365.92
Textiles and Textile Art.	2 993.10	233.62	163 984.34	1 051.15	4 033.67	943.85	28 695.11
Various Instr. and Apparatus	18.90	3.11	7 668.09	3.28	0.42	11.78	27.97
Vegetable Products	6 955.80	20 445.43	540 926.28	2 608.44	6 903.25	21 014.75	167 670.80
Works Of Art	n/a	0.00	29.60	0.01	n/a	n/a	0.01
<b>Total imports</b>	<b>275 317.20</b>	<b>129 031.61</b>	<b>6 258 254.11</b>	<b>471 237.47</b>	<b>76 251.14</b>	<b>68 784.09</b>	<b>969 955.76</b>

Source: Computation based on Eurostat and UN Comtrade databases



Logistics Processes and Motorways of the Sea II

Figure 6: Potential Trade with TRACECA Region – Commodity Structure of Exports from Ukraine, 2010, in Tons and %



Source: Computation based on Eurostat and UN Comtrade databases





Logistics Processes and Motorways of the Sea II

**Table 6: Potential Trade with TRACECA Region – Commodity Structure of Exports from Ukraine, 2010, in Tons**

Commodity Groups	Bulgaria-Romania	Caucasus	Europe	Kazakhstan	KY-TJ-TM-UZ	Moldova	Turkey
Animal Or Vegetable Fats	4 590.70	86 469.07	752 240.26	35 324.44	47 266.71	9 357.63	152 892.39
Arms And Ammunition	n/a	n/a	2 417.50	n/a	n/a	n/a	n/a
Articles Of Wood	386 902.30	49 075.84	2 552 404.92	64 590.64	27 310.48	60 565.20	398 699.12
Base Metals Equipment	1 114 311.70	473 623.29	5 819 643.63	93 543.16	119 353.68	118 456.30	2 855 940.30
Chemical Prod.	93 960.50	26 893.20	863 295.27	29 208.96	52 359.91	25 743.19	890 230.30
Electron., Electr., Equip.	4 378.50	9 666.96	110 048.88	18 902.98	5 969.86	3 437.94	1 090.92
Foodstuffs; Bever., Tobac.	5 085.50	120 052.19	1 351 621.62	91 570.30	63 434.87	57 454.66	272 907.07
Land, Air, Maritime Vehicles	6 631.10	6 213.32	38 785.79	75 829.80	2 342.79	592.45	323.58
Live Animals & Animal Prod.	57.20	9 743.28	4 356.41	50 879.96	4 649.74	9 720.25	2 210.29
Mineral Products	137 373.50	145 083.28	4 635 934.86	20 071.96	15 993.75	127 930.08	276 143.67
Miscel. Manufactured Art.	4 214.80	2 218.54	40 624.94	8 864.77	2 411.03	3 419.05	40.91
Plastics	6 699.00	10 650.67	35 068.65	10 215.23	3 769.80	11 394.38	10 012.59
Precious Stones & Metals	0.30	0.91	89.80	4.08	1.18	1.58	0.11
Pulp/Waste Wood, Paper	6 797.10	18 952.08	49 678.88	28 551.27	16 598.84	13 187.99	2 903.55
Skins, Leather	182.50	16.39	20 801.19	1.22	0.27	71.41	45.92
Stone, Cement, Ceramic	27 296.10	25 263.89	132 034.13	38 123.30	16 480.57	45 103.68	4 556.24
Textile Accessories	2 629.70	38.00	2 766.32	204.84	30.76	85.71	19.37
Textiles and Textile Art.	1 004.10	1 231.96	23 240.02	1 519.31	721.51	738.72	125.48
Various Instr. and Apparatus	10.50	124.37	186.84	120.81	84.29	44.33	13.31
Vegetable Products	12 653.30	170 789.60	2 613 188.90	5 445.79	22 022.57	48 384.87	668 009.88
Works Of Art	0.10	0.00	28.99	0.02	n/a	0.07	0.00
<b>Total exports</b>	<b>1 814 778.50</b>	<b>1 156 106.84</b>	<b>19 048 457.80</b>	<b>572 972.86</b>	<b>400 802.61</b>	<b>535 689.49</b>	<b>5 536 164.99</b>

Source: Computation based on Eurostat and UN Comtrade databases



## 6.2 Intermodal Maritime Based Transport Challenges

LOGMOS aiming at developing seamless door-to-door intermodal services, all components of the transport chain may be considered as possible segments of LOGMOS projects, depending on their relevance for potential LOGMOS trade flows.

Port interfaces for operations, services, procedures etc. between land and sea are among the most critical points.

### 6.2.1 Port System and Maritime Links

All Ukrainian sea ports are state-owned. At present many port administrations have concluded lease agreements with private port operators, e.g. Hamburg Port Consulting Ukraine and CMA-CGM at port of Odessa, Trans Invest Service (TIS) at port of Yuzhniy, Ukrtranscontainer (UTK) at port of Ilychevsk.

Except for the two main Odessa container terminals (HPC and CMA-CGM) and Ukrtranscontainer (UTK) at port of Ilychevsk, terminal operations are performed by the Ports.

The multi port-system of Odessa Region (Ilychevsk, Odessa, Yuzhniy) accounts for the large majority of total relevant trade volumes handled by all 18 Ukrainian commercial sea ports.

There is no port specialization whereby the 3 above-mentioned ports, located within a total distance of less than 80 kms along the Black Sea coast, compete with each other for market shares.

Rail-ferry operations are performed at ports of Ilychevsk and Kerch. Rail being the altogether preferred mode of inland transportation, rail ferry connections across the Black Sea are expanding.

The bulk of the container trade is handled between Ilychevsk and Odessa. The deliberate diverging reading of the Ukrainian Customs Code by Ilychevsk and Odessa Customs and port administrations – going on ever since Ukraine became independent – results in a split of the trade between the 2 ports and the obligation for container shipping lines to have their vessels calling at both of them to ensure a full market coverage. This, in turn, entails the payment of 2 disbursement accounts and the necessity to maintain 2 different container stocks and logistics operations. The corresponding accrued expenses add heavily on the container transport costs. Another adverse effect of this situation is the decision by some major container shipping lines to serve Ukraine only by feeder vessels carrying containers back and forth from other hubs (in Istanbul Marmara region and mostly) where the Mother (larger) vessels call at.

Container flows grew steadily up to 22% of total port tonnage (2007): 51% import laden, 8% export laden, 40% export empty, until the trend was interrupted for 2 years. In 11 months of 2010, Ukrainian ports handled 595 197 TEUs, which is by 26.9% higher than in 2009 but still 52 % lower than 2008

Port due tariffs (vessels' disbursement accounts) are fixed unilaterally by the Mol (Ministry of Infrastructure). In the absence of any benchmarking Ukrainian port due tariffs are among the highest in the world.

The absence of proper legislation, improper application and ad-hoc changes in customs rules and non-competitive tariffs make the transshipment of containers to other ports practically impossible at Ukrainian ports.

Apart from the above-named ports and river ports described in other specific LOGMOS reports, the other seaports relevant to LOGMOS, at present, are:

- Skadovsk and Yevpatoria where Turkish and Russian shipping companies play regular Ro-Ro services to Turkish Black Sea port of Zonguldak,



## Logistics Processes and Motorways of the Sea II

- Kerch wherefrom UkrFerry and partner NaviBulgar maintain a railferry/Ro-Ro service to Poti,
- TIS in Yuzhnyi port where Maersk started calling with one of its WCSA service for reefer cargoes and where TIS plans the building of a logistics center,
- Kherson where various projects could turn the port in a major hub for container trade along the Denpr,
- In addition, while adopting the new tariff policy for 2011, Ukrainian Railways (Ukrzaliznytsia) expanded the list of railway stations for direct rail ferry connection. Now besides Ilychevsk and Kerch commercial sea ports, the port of Krym and Ilychevsk fishing sea port are opened for direct rail ferry transport.

Ro-Ro tonnage amounts to 10% of the global Ukrainian port tonnage (2.2 M tons in the first semester of 2010).

Ukraine having produced so far no Master Plan for the development of its ports and therefore not decided upon their specialization as mentioned above, each and every port has its own investment plan which, in most cases, includes the erection of container facilities – sometimes huge. Meantime some brand-new terminals (TIS, port of Yuzhnyi) remain empty due to the slow recovery of trade after the peak of the 2008 financial crisis. Smaller ports join the main stream endeavoring to attract medium-small size traffics of local/regional interest. If not addressed timely these inconsistent and irrational trends may result in a (deeper) sub-optimal asset-management, wasted investments, dispersion of container traffics and overall increase of transport expenses for the Ukrainian sea-borne foreign trade.

### Ukrainian Shipping Companies

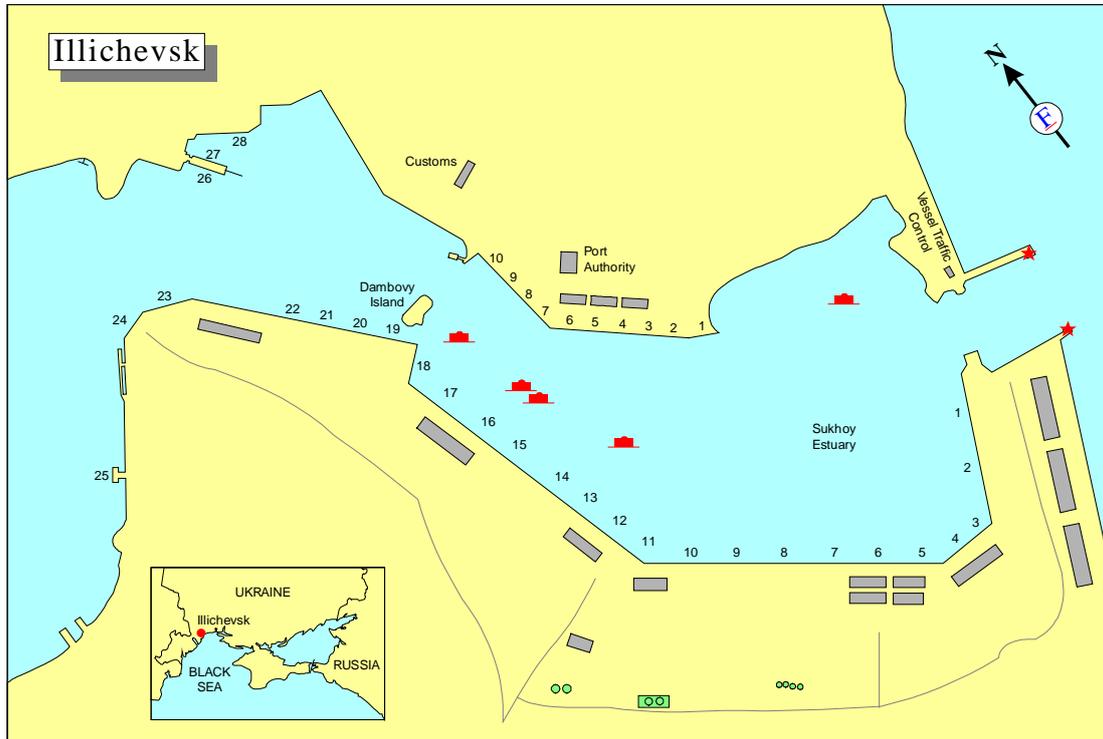
UkrFerry is the National Ukrainian Carrier relevant for LOGMOS. It offers sailings in joint-service with Bulgarian company NaviBulgar from Varna, Ilychevsk and Kerch to Derince, Poti and Batumi deploying a total fleet of 5 versatile rail ferries.

The focus today is on TIR-truck traffic which is gaining momentum, especially from/to Bulgaria and on establishing link(s) with Turkish Black Sea ports.

To reach these goals both shipping companies have embarked on the rationalization of their existing services in order to improve frequency, transit-times and offer fixed-day sailings. Reportedly uncompetitive sea-freight tariffs remain an issue to be addressed.



Figure 7: Ilyichevsk Fishing Sea Port Layout



A combined rail ferry and Ro/Ro yearly capacity of 4.5 M tons, 4,300 trucks and 250,000 passenger cars.

A large area available for port activities and development.

Operational limitations for feeder vessel operations (cranes/height).

Ukrtranscontainer (a subsidiary of Russian National Container Company, and a former operator of Commercial Port Container Terminal) helped the port to expand capacity and build new container berths for an additional 850,000 TEU.

Current handling capacity of Commercial Port (IMTP) is 1,150,000 TEU; the storage capacity is 18,000 full TEUs, 8,000 empty TEUs and 606 reefer units.

Ilyichevsk Sea Fishing Port (ISFP) is carrying out the up-grading/lengthening/dredging of its berths n.2, 3 and 4 at respectively 296,4 / 290 / 390 m long and 15 m draft. ISFP is planning a 1,000,000 TEU capacity terminal.

Current Ilyichevsk Sea Fishing Port storage capacity is 7,000 TEUs and 300 reefer units.



**Table 7: Berth Data**

Terminal 1		Berth Length (m)	Max Draft (m)	Capacity TEUS/year
<b>Berth</b>	<b>Vessel types</b>			
1	Containers (up to 6,000TEU)	306	13.0	300,000
3	Containers (up to 5,000TEU)	200	13.5	
4	Containers (up to 5,000TEU)	120	13.5	850,000
5	Containers (Feeder vessels)	155	13.0	
6	Containers (Feeder vessels)	181	13.0	
<b>Terminal 3</b>				
<b>Berth</b>				
26	Rail Combi ferry (Russian gauge)	210	9.6	
27	Rail Combi ferry (Russian gauge)	210	9.6	
28	Ro-Ro	270	9.6	
<b>Fishing Port</b>				
1	Containers	154	11	
2-3	Containers	240	11	

**Table 8: Throughput of IMTP**

Throughput	2006	2007	2008	2009	2010	2015* (Port est.)
TEU	291,127	532,766	670,556	256,825	301,508	2.5- 4.5 M

**Maritime Services**

LOGMOS relevant shipping services are of 2 types:

- those connecting directly one TRACECA port to another/other TRACECA port(s) – marked (a);
- those connecting one TRACECA port to non-TRACECA port(s) whose traffic, totally or partially, is destined to/originates from the ILCS and from other LCs/hubs/urban centres which could be selected for inclusion in the LOGMoS network. This traffic is all the more significant as it generates a greater use of specific hinterland connections which contributes to and enhances the corridor dimension of the network – marked (b).

Regular services calling at Ilychevsk include the following.

Railferry

- UkrFerry-NaviBulgar joint service to/from Turkey, Bulgaria and Georgia (a)

**Figure 8: Ilyichevsk Railferry Terminal, Berths n°26, 27**



Source: Port of Ilyichevsk

Ro-Ro and Car-Carriers

- UkrFerry-NaviBulgar joint service to/from Turkey, Bulgaria and Georgia (a)
- Sea Lines to Turkey (pure TIR truck service) (a)
- Neptune to Turkey, Med (PCC, PCTC) (a)
- Cenk Group to Turkey (PCC) (a)

**Figure 9: Ilyichevsk Car Terminal, Berths n°28**



Source: Port of Ilyichevsk



### Containers

- UkrFerry-NaviBulgar joint service to/from Turkey, Bulgaria and Georgia (a)
- CMA-Maersk VSA to/from Far-East (b)
- COSCO, Wan-Hai, PIL, K-Line, Yang-Ming, CSCL VSA to/from Far-East (b)
- NORASIA to/from Far-East (b)
- CMA feeder to other Black Sea ports, Mediterranean (a)
- Maersk feeder to Bulgaria, Mediterranean (a)
- MSC feeder to Turkey (a)
- ZIM liner service to Bulgaria, Turkey and Mediterranean (a)

**Figure 10: Ilyichevsk Container Berths, General View**



Source: Port of Ilyichevsk

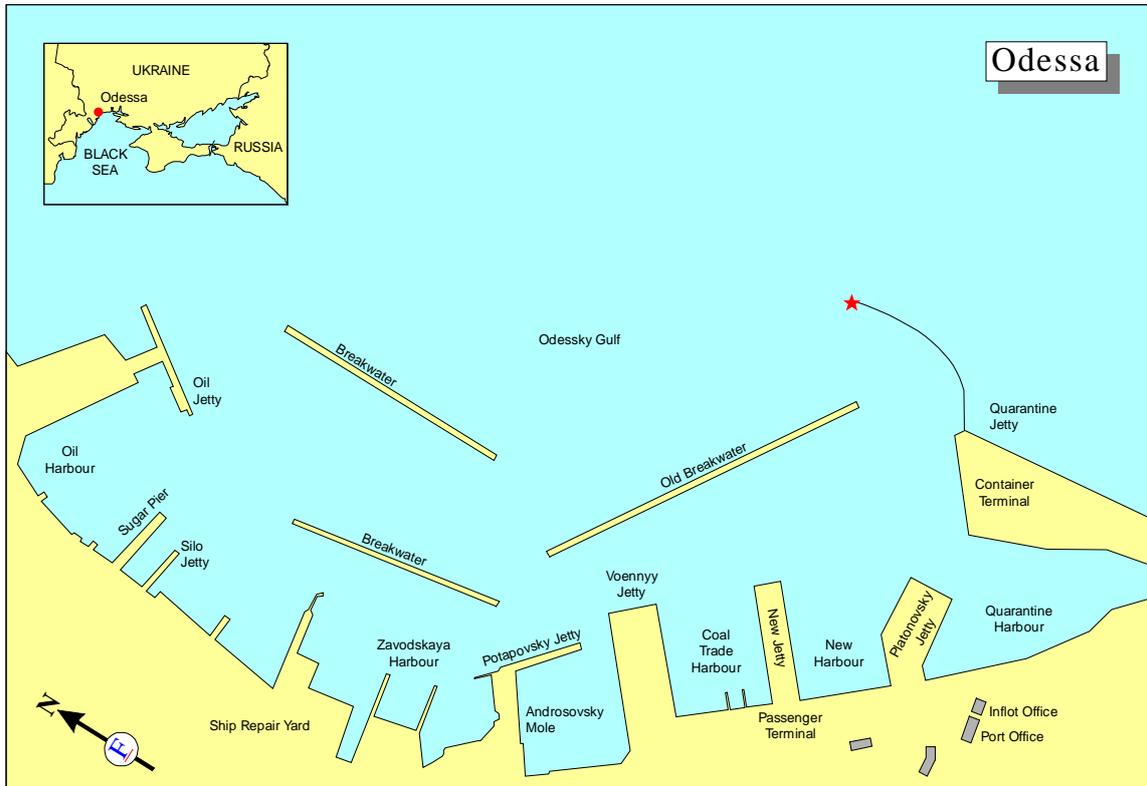
Additionally unscheduled / voyage-chartered vessels of different types (sea-river, general cargo, heavy lift, etc.) deliver oversized/heavy lift/project cargoes/construction material and parts which are delivered to final destinations in Ukraine using the same hinterland connections as the regular lines.

### **Intermodal Facilities**

The port is served by two railway stations (Ilyichevsk port station and Ilyichevsk ferry station) and has 5 approach tracks. The overall carrying capacity of the two rail stations equals 1,960 rail cars per day. It is considered to be well enough provided the existing and prospective traffic.

As for road access, the sea port has 6 road entries, but their carrying capacity is restricted by existing access road infrastructure of Ilyichevsk. In 2008 EBRD approved the funding for its rehabilitation. However, further works are needed to better connect the port and, in particular, the Ro-Ro terminal to the public road network.

Figure 11: Port of Odessa



Located in the heart of the 5th urban metropolis in Ukraine, which also stands as one of the country's main industrial and trade hub as well as one of the most popular touristic destination (Odessa has the largest Passenger Ship Terminal in Ukraine – and one of the largest in the Black Sea - with an annual capacity of 4 M Pax).

A Port management fostering cooperation with private operators, attracting foreign investors.

A limited landlocked port area but significant land plots available in the vicinity (Dry port EuroTerminal) for shore activities and further development.

No rail ferry facilities; Ro-Ro berth set into operation at the end of 2009.

### Container handling

Progressive extension of container ship yard

Several recent and future plans:

- HPC terminal started to invest into the extension of container facilities at the Quarantine Mole. The construction should be completed by 2014 and will allow the port of Odessa to expand its overall container handling capacities up to 1,300,000 TEU
- CMA-CGM terminal: 250,000 TEU
- Next development: 2 M TEU (on hold)

Other indicators:

- storage above 13,500 TEU, 10-13 days average
- 60% physical inspection by Customs bodies



**Table 9: Berth data**

Container Terminal	Vessel types	Storage capacity	Berth Length (m)	Max Draft (m)	Capacity TEUS/year
<b>HPC terminal</b>					
<b>Berth</b>					
<b>2</b>	Containers (up to 5,000 TEU)	13,500 TEUs plus 400 reefer plugs	310	13.0	650,000
<b>3</b>	Containers (1,500-2,000 TEU)		230	11.8	
<b>4</b>	Containers (1,500-2,000 TEU)		270	11.5	
<b>Brooklyn-Kiev terminal</b>					
<b>42</b>	n/a	4,823 TEUS plus 328 reefer plugs	225	13.5	200,000
<b>43</b>			255	13.5	

**Table 10: Throughput of Odessa**

Throughput	2006	2007	2008	2009	2010	2015* (Port est.)
<b>Containers TEU</b>	395,564	523,881	572,142	255,461	351,568	ca 2 M

### Ro/Ro Traffic

A small ferry terminal was used for a Ro-Pax line operated by UkrFerry to Istanbul. The service was suspended in 2010.

That same year the port planned to develop its Ro-Ro activities and a car-carrier called for the first time on February 2010 to discharge 630 Hyundai passenger cars from Turkey.

The first phase of a new Ro-Ro terminal has been completed in September 2010 and test calls have been performed. However few technical Customs issues remain to be solved allowing the vessel's call at Odessa to not exceed 6-8 hours and a regular service to Istanbul to start. The private operator EuroTerminal – which can provide all necessary storage/parking/customs check areas at his BCP facilities few kilometres from the Ro-Ro ramp – is a leading member of this project.

### Maritime Services

LOGMOS relevant shipping services are of 2 types:

- those connecting directly one TRACECA port to another/other TRACECA port(s) – marked (a);
- those connecting one TRACECA port to non TRACECA port(s) whose traffic, totally or partially, is destined to/originates from the ILCs and from other LCs/hubs/urban centers which could be selected for inclusion in the LOGMOS network.

These traffics are all the more significant as they generate a greater use of specific hinterland connections which contribute to and enhance the corridor dimension of the network – marked (b).



Regular services calling at Odessa include the following.

Containers

- CMA-Maersk VSA to/from Far-East (b)
- NORASIA to/from Far-East (b)
- Wan-Hai – PIL VSA to/from Far-east (b)
- CMA feeder to other Black Sea ports, Med (a)
- Maersk feeder to Bulgaria, Med (a)
- MSC feeder to Turkey (a)
- ZIM liner service to Bulgaria, Turkey and Med (a)
- UFS-Arkas liner+feeder service to Romania, Bulgaria and Med (a)
- Admiral Container Lines liner service to Turkey, Med (a)

**Figure 12: Port of Odessa – General View of the Container Terminals**



Source: Port of Odessa

**Intermodal Facilities**

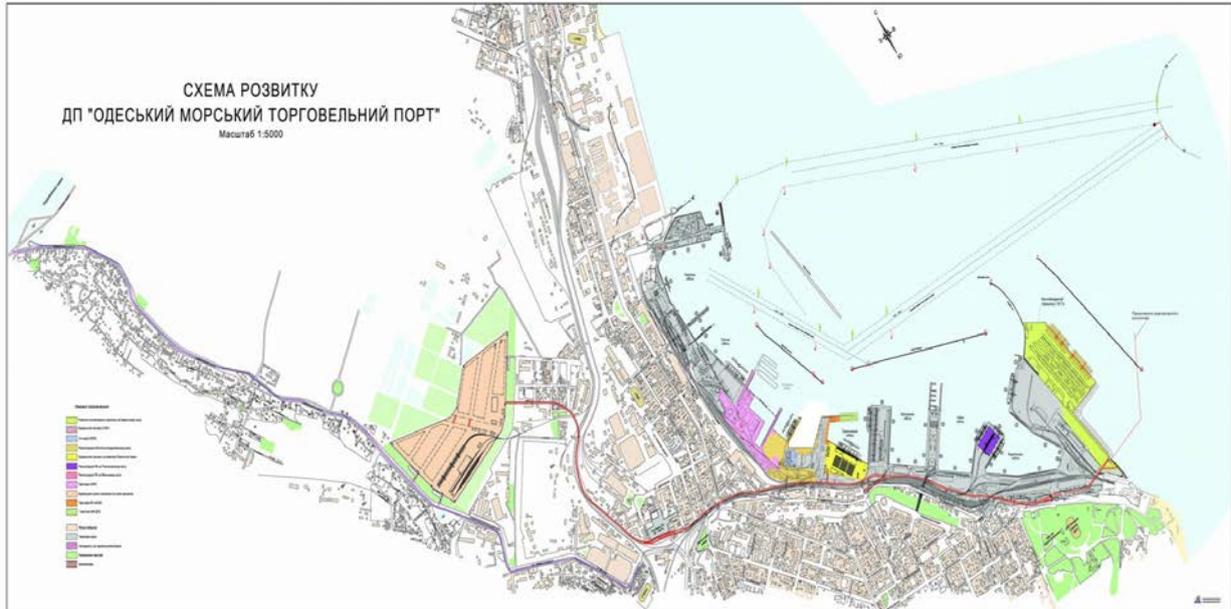
The port has one rail entry (720 rail cars per day) which is connected with the marshalling yard. Its railway station has almost exhausted its capacity (it is capable of handling 12 pairs of trains per day and now it handles 10). At present, there is no possibility to expand the railway infrastructure due to the lack of free space nearby the port rail facilities and a weak competitiveness of the terminal Lisky. The only possibility will be to improve the technology of trains` handling (simplifying the operations and shortening the inspections` time).



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As for the road access, the port has one main entrance (125 cars per day) and five additional (technological) entries. An elevated roadway (in red on the map below) linking the port to the dry port LLC Euro Terminal (in pink, on the left) became operational in 2009.

**Figure 13: Port of Odessa – General Plan of Development**



Source: Port of Odessa



## 6.2.2 Inland Transport Mode: Railways

Figure 14: Ukraine Railway Map



Source: TRACECA (2011)

Ukrainian railways have a well-developed infrastructure and form the basis of the transport system of Ukraine. The railways account for 82.7% of cargo turnover (excluding pipelines) and 42.5% of passenger traffic.

The Ukrainian railways network is one of the most developed in Europe, its length in use makes up more than 22 thousand km (over 46% of tracks are electrified), the total length of track constitutes about 30 thousand km.

Ukrainian railways interact with the railways of seven neighbouring countries (Russia, Belarus, Poland, Slovakia, Hungary, Romania and the Republic of Moldova) through 56 border crossings. Interaction with the Mediterranean countries is being performed through 18 commercial seaports on the Black Sea and Azov Sea, and through river ports of the Dnieper and the Danube.

### State Administration of Railways Transport / Ukrzalisnytsia

The State Administration of Railway Transport of Ukraine, founded in 1991 and headquartered in Kiev, is managing 6 railways: Lvivska (Western part of Ukraine), Pivdenno-Zakhidna (Central and Northern part), Odes'ka (Southern part), Pivdenna (North-Eastern part), Donetska (Eastern part) and Prydniprovaska (South-Eastern part).

403,000 people are employed in the core operation fields of Ukrainian Railways.

It should be noted that there is an extensive network of both private and state-owned shipping organizations acting as intermediaries between cargo owners and carriers. They take part in



## Logistics Processes and Motorways of the Sea II

preparing goods for transportation, accompany them en route, make sure that the delivery terms of shippers are met. In this context, an agreement on cooperation in the field of freight forwarding activities related to the organization and performance of international railroad transportation has been concluded between Ukrzaliznytsya, International Freight Forwarders Association and "Ukrvneshtans" in order to coordinate activities and create favorable conditions for the organization of transport on Ukrainian roads.

Besides, political considerations have led to an unclear priority setting and the involvement of UZ in the financing and implementation of public non-railway-related projects over the past years not always and fully conducted based on commercial prospects.

This largely erased the benefits of substantial structural changes.

Under the prevailing economic circumstances, the freight transportation (71.7% of the company's revenues in 2008) is no longer able to cross-subsidize the passenger traffic where tariffs are regulated by the government (10.1% of the company's revenues in 2008), while the maintenance of the network including its seldom used segments brings about an unaffordable financial burden depriving UZ of flexibility in their tariff-policy.

The policy of sharp increases in freight tariffs (as well as the transport and logistics policy of the Russian Federation) spurred many Russian and Central Asian shippers to divert their cargo to Russian ports which resulted in a drop of 1/3 of transit via Ukraine entailed a loss of about 9 bn UAH in 2009 for UZ which, additionally, missed on its external debt payments.

A joint project "Introduction of high-speed passenger trains on the Ukrainian railways" is being implemented with participation of the European Bank for Reconstruction and Development (hereinafter - EBRD).

The total value of the project amounts to \$ 200 million, including the EBRD loan of \$ 120 million.

\$ 80.47 million have been utilized so far for the purchase of railway equipment and consulting services. The remaining part of credit will be used for design and construction of Beskidsky rail tunnel as well as its technical supervision.

EBRD has agreed to allocate additional funding to the project of rolling stock renovation in the amount of \$ 62.5 million, the loan agreement to be signed in the near future.

Historically, after gaining independence, a legal framework for privatization was elaborated.

However, the dubious and opaque implementation of the corresponding program and the resistance to change manifested by the Government, as well as that of a major part of the country's population have blocked reform efforts, so that many state-owned companies as UZ have been exempted from privatization.

Since the 2010 elections, new proposals for partial privatisation of UZ have been brought forward.

Under the plan presented to the Parliament, UZ would be restructured as a joint stock company seven years sooner than envisaged by the previous administration. The infrastructure and motive power would remain under state control, while the six regional companies would be merged into a single legal entity. The rolling stock would be handed over to private companies responsible for investing in renewals.

Many of UZ's 1855 electric and 928 diesel locomotives are obsolete or life-expired.

A study published in June 2010 found out that UZ should invest an annual average exceeding 4.4 bn UAH (575 M Euros) for replacing worn equipment. Other 15 bn UAH (1.9 bn Euros) per year would be needed to rehabilitate and modernize the existing fleet of vehicles.

In September 2010 plans have been outlined for the purchase of new locomotives. Selected plants are Luhanskteplovoz (Ukraine) and Tbilisi locomotive plant.



In general UZ intends to replace 400 units of mainline electric locomotives. Orders should be placed for the purchase of 10 locomotives by the end-2011, then for up to 50-80 units annually.

At the same time the MoI wants to turn local rail transport –which bears heavily on UZ’financial results- profitable in three or four years. Working groups with the governors and regional state administrations (that want to have routes but do not want to pay money) have been set up to develop system solutions, create separate transportation sections, agree on the routes, optimize the schedule, and reduce/erase losses.

**Table 11: Features of Ukraine Railway Network**

Total route length (km)	Gauge (mm)
21 665,4 *	1,520
Electrified lines (km)	Electrification system
5 325,2	25kV AC - 50 Hz
4 763,0	3kV DC
* 350,1 km of 1,435 mm gauge track across the western borders	

As of 01.01.2012 the total operational length of railways of Ukraine constituted 21,665.4 km, which makes Ukrainian railroad network the 14th in the world. Ukrzaliznytsia is also the world's 6th largest rail passenger transporter and world's 7th largest freight transporter. Some 47% of the network is electrified, divided almost equally between 25kV AC and 3kV DC.

Of its 7 neighbours, only the Russian Federation, Belarus and Moldova have 1,520 mm gauge lines. Although there are a few short cross-border 1,520 mm gauge lines, most freight is transhipped to standard (1,435) gauge when it passes to and from Polish, Slovakian, Hungarian and Romanian railways.

Rail transport in Ukraine plays the role of connecting all major urban areas, port facilities and industrial centres with neighbouring countries.

Railway density (length of the railway infrastructure in metres per 1,000 inhabitants) of Ukraine is one of the highest among other CIS countries and is close to France, Italy and Romania. The heaviest concentration of railroad track is located in the Donbass (Eastern) region of Ukraine. Especially the Western part of the country is well integrated in regional rail networks.

Ukraine is crossed by three Pan-European Corridors.

- **Corridor III** (Brussels - Aachen - Cologne - Dresden - Wrocław - Katowice - Kraków - Lviv - Kiev). The Organization for Railway Cooperation (OSJD) has extended the corridor (Kiev - Konotop - Bryansk) to Moscow through the checkpoint Zernovo (ITC No. 3)
- **Corridor V** (East-West: Venice - Trieste/Koper - Ljubljana - Maribor - Budapest - Chop - Lviv). The Organization for Railway Cooperation has extended this corridor from Lviv to Zhmerinka, Kyev, Poltava, Kharkov and the checkpoint Topoli, further through the territory of Russia to the Asian continent (OSJD ITC No. 5).
- **Corridor IX** (Helsinki - Vyborg - St. Petersburg - Pskov - Moscow - Kaliningrad - Kiev - Rozdilna (Ukraine) - Chişinău - Bucharest - Dimitrovgrad - Alexandroupolis. A branch running from Rozdilna to Odessa) connects Odessa to Kiev on the North side and to Bucharest on the South side.
- ITC "Baltic Sea - Black Sea" (OSJD Corridor No. 7) runs along the route Gdansk - Lublin - Yagodin - Kovel - Kazatin - Jmerinka - Odessa. In Ukraine, the length of the corridor is 927 km.





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- ITC "Europe - Asia" (OSJD Corridor No. 8) runs along the route Fastow - Znamenka – Nizhnedneprovsk - Uzel - Chaplin - Krasnoarmeysk - Gorlovka - Debaltsevo – Krasnaya Mogila - Likhaya - Makat - Navoi. In Ukraine, the length of the corridor is 939 km;
- ITC TRACECA (OSJD No. 10); TRACECA is a transport corridor stretching from China to the European Union. The corridor runs along the route Druzhba - Aktogai - Almaty - Aris - Tashkent - Samarkand - Bukhara - Chardzhou - Mary - Ashgabat - Turkmenbashi - ferry - Baku - Boyuk Kyasik - Tbilisi - Samtredia - Poti / Batumi - ferry - Varna / Burgas / Constanta / Ilyichevsk. The corridor is a combination of rail lines of 7 countries and rail ferry crossings of the Black Sea and the Caspian Sea. TRACECA corridor is officially recognized by international organizations (UN ESCAP, ECMT, UIC, OSJD and other) as a natural bridge between Europe and Asia. It is defined by the Organization for Cooperation of Railways as OSJD ITC No. 10, with the ports of Ilyichevsk (Ukraine), Varna (Bulgaria) and Constanta (Romania) being its end points in Europe.
- The route of this corridor was finally coordinated and approved by the European Union at the Meeting of the Intergovernmental Commission of TRACECA in December 2001. On the territory of Ukraine, it runs along the route Odessa / Ilyichevsk – Zhmerinka - Kazatin - Zdolbunov - Kovel - Yagodin, which coincides with the OSJD ITC No. 7 "The Baltic Sea - Black Sea".

Kovel is located in north-west Ukraine close to the border with Poland (66 km) and Belarus (64 km) and is directly situated on TRACECA.

1,759 thousand tons of goods were transported through Kovel station in 2011. The goods transported were mainly bulk cargo: construction materials, oil and grain. Containers account for less than 5% of transit volume. About 78% of all cargo flows passing through Kovel are crossing from Ukraine to border stations in the west, about 22% are incoming from the west. About 75% of outbound cargo is transported through Dorogohust to Poland, about 25% through Malaryta to Belarus.

Due to different rail gauges of Ukraine (1520 mm) and Poland (1435 mm) gauge change is carried out at the gauge interchange station Yagodin. The gauge change procedure for a train (40-45 cars) takes about 8 hours. This station is not used for transshipment of goods or container handling.

Kovel is also a customs point where goods coming from or going to Poland are cleared (average duration: 12 hours).

Inter-modal train services are operating with simultaneous transportation of universal and specific containers, trucks, detached automotive bodies and semi-trailers.

In the context of dynamic development of trade and economic cooperation between the countries of Europe and Asia, increasing trade volumes require nowadays a new approach to organization of transportation of goods, in particular the organization of combined transport on the railways of Ukraine. To speed up delivery of goods several container trains and combined transport trains were introduced.

Together with the railway authorities interested in using such transport, combined transport train "Viking" was launched in 2003 on the route Ilyichevsk - Klaipeda - Ilyichevsk.

The container trains system using international transport corridors has been enabled on the following routes: Budapest (Hungary) - Chop - Zernovo - Moscow (Russia) - "Czardas"; Dorneshty (Romania) – Vadul -Siret - Zernovo- Moscow (Russia); Hungary / Slovakia - China - "Land Bridge" (via Zabaikalsk), Pescara (Italy) - Chop - Zernovo - Tikhonovo (Russia) – a FIAT



project; Odessa - Moscow - "Odessa"; Sławków (Poland) - Izov - Zernovo - Bryansk-Lgovski (Russia) - "Slavic Express".

Since January 2011, container train "Odessa" circulates on the route Turkey (Gemlik - Istanbul) - Ukraine (Odessa Port - Zernovo) - Russia (Suzemka - Moscow-Cargo-Paveletskaya). In 2011, 3546 TEU were transported by container trains "Odessa" on the route Odessa – Moscow, 3001 TEU in the first 8 months of 2012. No goods were transported in the opposite direction. Cargo consists of car assembly sets.

Along with already functioning trains in international traffic, special trains were organized taking into account the interests of consumers to accelerate the delivery of goods in multi-tonnage containers arriving in Ukraine through the ports of the Black Sea on the routes Odessa / Ilyichevsk - Kiev ("Khreschatyk"), Odessa / Ilyichevsk - Dnepropetrovsk ("Dneprovets"), Odessa / Illichivsk – Khmelnytsky ("Podolye"), Ilyichevsk - Nikopol ("Nika"). Their formation and dispatching is performed upon arrival of containers at the ports. Potential of Ukrainian railways and sea ports allows to increase transshipment volumes and organize trains in new directions.

This potential is real and to be unleashed needs first and foremost the implementation of a fully-fledged Port Community System facilitating the exchange and treatment of information between various State agencies (Port Authorities, Customs, etc.), shipping companies, Terminal and Railway operators (including UZ and Liski) at the ports of the Odessa Region

Some of the above trains plus other block container trains within Ukraine are operated by Liski, a structural division of UZ created in 1995: "Khreschatik" from Ilyichevsk and Odessa to Kiev, "Dneprovets" from Ilyichevsk and Odessa to Dnepropetrovsk, "Podolye" from Ilyichevsk and Odessa to Khmelnytsky, Mariupol and Kiev.

Liski has a full prioritized access to the 4000-container fleet of UZ. It manages 6 intermodal hubs across the Ukraine equipped with handling, warehousing and own trucking facilities (Kiev, Chop, Odessa, Kharkov, Lugansk and Donetsk).

The overall depletion of the railway assets are reflected in the low quality of freight transportation and the recurrent difficulties in providing freight customers with waggons.

The renewal of an ageing and diminishing fleet of waggons and locos is therefore one of UZ main challenges, especially container platforms (for which there was a shortage before the 2008 crisis) since the Ukrainian production is mostly controlled by Russian interests and entirely bought over by RZD (the Russian Railways) – sometimes years in advance – and by the Ukrainian subsidiary of RZD affiliated railway container operator TransContainer.

Integrity issues at UZ, resulting from its monopoly situation, which represented a major threat for the activities of a number of private operators, have recently been successfully addressed.

The problem of thefts remains another pending issue. According to a press release, UZ lost 5 M UAH in 11 months in 2009. While the Criminal Code and Code on Administrative Law Infringements have been revised to strengthen the penalties for property theft, the image of railway transport is enduringly tarnished and many users underline this as the key reason why they resort to road transport.

The on-going project Support to the Integration of Ukraine in the Trans-European Transport Network TEN-T will identify investment projects necessary to facilitate integration of Ukrainian railways with TEN-T network in the EU. The TEN-T network in Ukraine was defined in a high level group chaired by Loyola de Palacio in 2006.

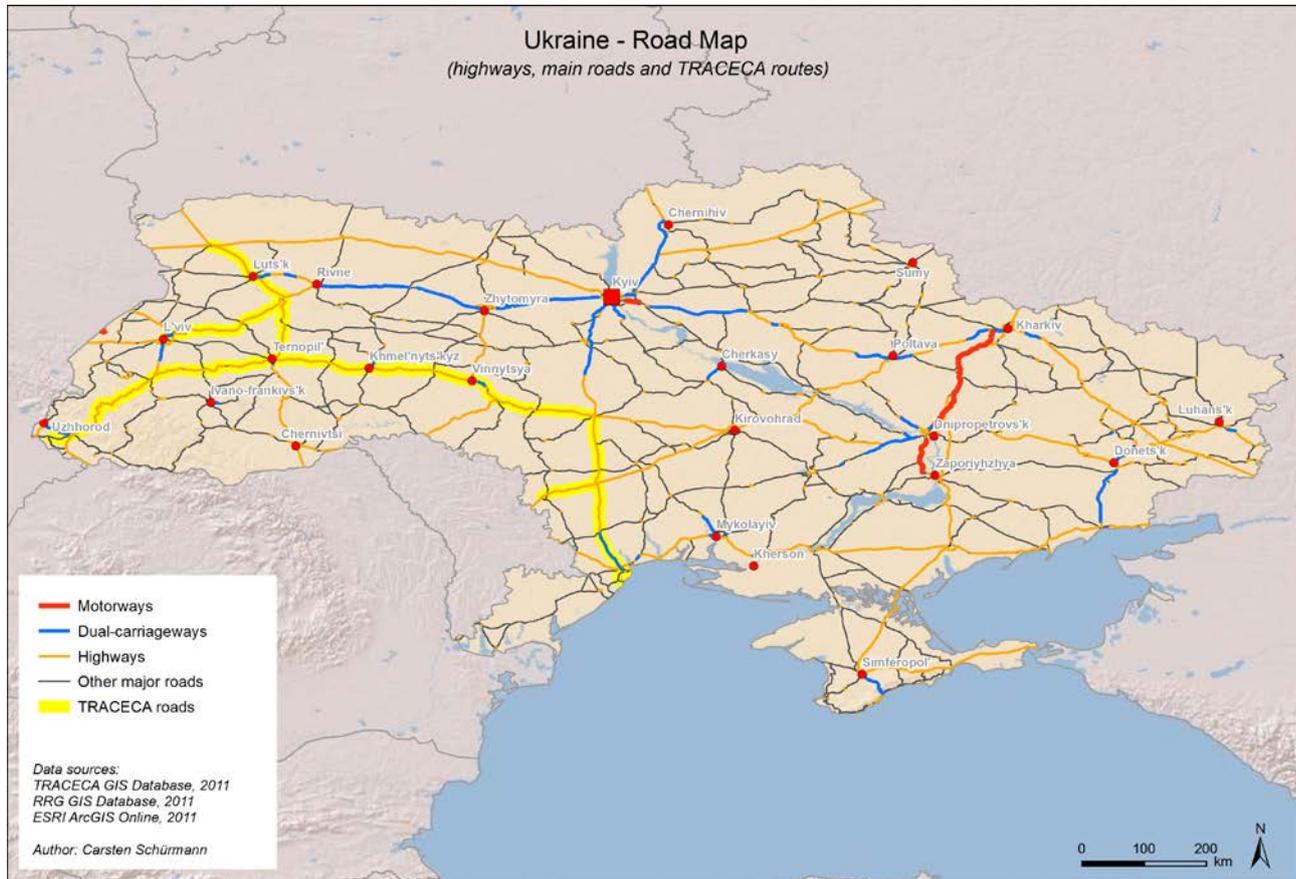
Of the 188 transport investment projects identified by the MoI (at an estimated cost of 36 bn Euros), 64 proposals with a total value of 4.8 bn Euros are for the railways. These projects will be evaluated and prioritized by the above-mentioned project.



A detailed case study for Odessa port railway station can be found here: [Odessa port rail station case study.doc](#)

### 6.2.3 Inland Transport Mode: Roads

Figure 15: Ukraine Road Map



Source: TRACECA (2011)

Road is the second mode of transport with a share of about 73% of the overall freight traffic.

Ukraine has a developed public road network covering 172,400 km (95.19% having a hard surface). The indicator of road density stands at 280.6 km/th. sq. km, which is considered to be quite low, especially if compared with Western European countries. The majority of public roads in Ukraine are local; and only 20,200 km (slightly above 12%) belong to the State. This figure also includes the international roads.

Ukravtodor is the State Road Administration of Ukraine. It is supervised by the MoI and supplemented by a project institute, Ukrhiprodor, which designs objects of road management. The state owned joint-stock company “Avtomobilni dorohy Ukrainy” (ADU), created in 2001, is directly involved in road construction and maintenance. It consists of 32 daughter-companies in each oblast, Crimea, and the cities of national importance. The annual budget of ADU is around 4 bn UAH.

The privatization of the road transport sector has been a positive development which helped upgrading and improving the number and quality of services offered to the users.

Road infrastructure, particularly the motorway, keeps a mainly North-South orientation dating back from Soviet times and lacks consistency.



As defined in the Law of Ukraine "On the motor roads", international roads are those that are linked to the international transport corridors and are integrated into the European transport network. The following three Trans-European (road) transport corridors cross the territory of Ukraine:

- **corridor III** (Berlin/Drezden – Wroclav – Krakovets – Lviv – Rivne – Zhytomyr – Kyiv);
- **corridor V** (Trieste – Liubliana – Bratislava – Chop – Uzhgorod – Lviv); and Va (Strozhnysia – Uzhgorod – Mukachevo);
- **corridor IX** (Helsinki – Kyiv/Moscow – Odessa/Chisinau/Bucharest – Gornostaivka – Alexandropolis); IXa (Lubashivka – Platonove), IXb (Lubashivka – Odessa) and IXc (Kopti – Bachivsk).

The total length of international roads in Ukraine amounts to 8,100 km (5% of public roads). These include international roads E40, E50, E85, E95 and E105, as well as some supplementary and auxiliary roads. Only 2,100 km of international roads lay along the above mentioned Trans-European transport corridors. These are the roads that meet the requirements of category I (4 lanes, with a design speed of 120-150 km/h). Driven by the coming football championship Euro 2012, Ukraine has set an ambitious program for the construction of highways. So far, however, only some road segments (up to 280 km) are designed as (divided) highways: M03 (Kyiv-Boryspil), M18 (Kharkov-Dnipropetrovs'k) and M05 (some sections along Kyiv-Odessa road).

Approved projects of Ukravtodor include:

- Brody-Rivne – 94,8 km / Toll road/ Category I / estimated cost 3,6 bn UAH 2007. Crossing the territory of Lviv and Rivne regions, it coincides with the direction of Pan-European Corridors 3 and 5.
- Vinnytsia-Kiev – 146 km / Toll road/ Category I / estimated cost 5,1 bn UAH 2007. The road will pass through the territory of Vinnitsa, Zhitomir and Kiev regions and coincides with Corridor № 3.
- Dnepropetrovsk-Reshetilovka – 167,4 km / Toll road/ Category I / estimated cost 5,1 bn UAH 2007. It will pass through Dnepropetrovsk and Poltava regions.
- BCP "Scherbakovka"-Kyiv-Kharkiv-Dovzhansky – 48,8 km / Toll road/ Category I / estimated cost 1,2 bn UAH 2005. A bypass road from the border with Russia to the highway Kiev - Kharkov – Dovzhansky. The construction of this highway is meant to improve the international transport links between Russia and the industrial and resort south-eastern regions of Ukraine, Crimea.
- Odessa-Reni – 261 km / Toll road/ Category I. This road is part of the Black Sea ring road project.

Most of the road system is in unsatisfactory operational conditions. According to official data, in 2009 about 51% of public roads did not meet the roughness criteria and 39% the hardness criteria. Therefore, not all of them can be easily utilized by the international road cargo transport due to existing restrictions.

These restrictions pertain to the access of oversize and overweight cargo transport. The permitted dimensions of a truck (or convoy of trucks) are maximum 4 m in height, 22 m (26 m in case of regular transport) in length and 2.6 m in width. Container trucks up to 4.35 m height (but up to 38 t) are allowed to move along special routes. The total weight should not exceed 38 t (44 t for container trucks); axle load for single axle should not exceed 11 t, 16 t for double (18 t for container trucks), and 22 t for triple axle (24 t for container truck). At present, lorries up to 40 t (and container trucks up to 44 t) are allowed to move only along M05 Kyiv-Odessa road. In all



other cases, a permit, issued for a single trip only, is necessary. Multi-trip permits are also possible but their validity is limited up to 3 months. The permit is issued on the basis of a payment for the road charge and the approval of the transport route. When issuing a permit, the State road inspection should indicate if a transport escort is necessary.

In October 1999 Ukraine joined the international Agreement "On the vehicle weights and dimensions for international road transport in CIS countries" concluded by Azerbaijan, Armenia, Belarus, Georgia, Kazakhstan and Kyrgyzstan on June 4th 1999.

This agreement provides for slightly different vehicle parameters:

- size (4 m height, 12-20 m length and 2.55 m (2.6 m for insulated bodies) height); and
- weight (18-32 t for trucks and 36-38 t for articulated vehicles, 36-44 t for road trains).

These rules are applied to Ukrainian road carriers in above mentioned CIS countries as well as to international carriers in Ukraine.<sup>1</sup>

## 6.3 Trade and Transit Facilitation

### 6.3.1 General Presentation

- **Procedures and formalities** are among the **main barriers** that are hampering the development of Motorways of the Sea:
  - several **border points** must be crossed, mostly in ports but also on land routes f.i. along the central land corridors: minimum 2 points in a single / one sea service, up to 5 points in inter-seas services linking western Black Sea Countries and Eastern Caspian Sea Countries, and possibly more in the case of longer multicountry transit and transshipments trades;
  - several physical mode transfers, handling movements and intermediate storage are taking place along the sea based transport chains: commonly 3 transfers and minimum 6 handling plus 2 storage in the case of a single sea leg, and several more handling operations in the inter-seas services
  - previous and ongoing experiences of Motorways of the Sea in other regions as well as the global worldwide transport system of containers have demonstrated that the resolution of difficulties in this field is an essential success factor.

- The procedural process in ports and at other border crossing point are **dominantly related to Trade Laws and Regulations**, but actors of the transport and transit chain are responsible for their fulfilment. A significant part of their activities is to deal with these complex issues and they are drawing the corresponding revenues out of their capacities.

Relationships between institutions on one side, - Customs first, but also other Ministries and inspection bodies - operators and users on the other side, are affected by these functions which are mixing with the physical transit and transport operations.

- The **impacts of administrative and regulatory barriers** are generally more important when there is a sea leg since:

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<sup>1</sup> For inland water ways, see the Dnepr Case Study and the Danube Case Study developed by the LOGMOS project.



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- maritime transport and port transits require more formalities than land transport modes, including specific exchange of information, paper documentation etc. which are rightly perceived as a factor of complexity
- this adds to the weakness of intermodal sea based transport, particularly when compared to the most simple unimodal road transport
- transit times are increased if and when formalities and operations are mismatching, e.g. when the transport means of one mode is not coordinated with those of the next mode, which is a frequent situation between the maritime and railways legs in the TRACECA Region
- costs are not only direct but also indirect, and not only formal but also informal, and unofficial transit levies and other transaction costs are adding to the sum of official tariffs, taxes and dues.
- **Common Weaknesses / barriers** have been identified in all LOGMOS project Countries to various extents and at different degrees. This diagnosis has been shared under the key word "Facilitation" by Country stakeholders and at bilateral and regional levels. Barriers in this field are referred to in the "W" (Weaknesses) list of the various SWOT analyses summarized in the following project documents:
  - Country profiles, as synthesized hereafter
  - Presentations for workshops and meetings
- Among the **solutions** discussed in the diagnosis phase, the following is a series of common **recommendations and targets** that are partly implemented, planned, or contemplated for the future LOGMOS projects and more generally for the development of intermodal transport including port / border crossing points:
  - I.T. systems and solutions electronic solutions / EDI for:
    - information (for users and operators)
    - declarations
    - pre-alert (for Customs and other)
    - duties, taxes and fees
  - One stop scheme and extension to Single Window System (SWS)
  - Risk management system and methods
  - IT interchange solutions between MoS port / communities
  - Tracking and Tracing (in coordination with operators)
  - Upgrading / redesigning border points layouts
  - Training (management, IT organization...)





### 6.3.2 SWOT Analysis

The following table summarizes key-finding for national SWOT analysis in trade and transit facilitation procedures that have been adopted in Ukraine.

**Table 12: SWOT Analysis in Trade and Transit Facilitation Procedures**

<p><b>STRENGTHS</b></p>	<ul style="list-style-type: none"> <li>• WTO member (2008)</li> <li>• Associated Member to the EU Common Transit Convention Committee</li> <li>• “One Stop Shop” initiative at border crossing points reducing procedure delays</li> <li>• Law on Transit</li> <li>• Customs reportedly allow electronic import and transit pre arrival notification</li> <li>• Several Technical and Financial Assistance program:</li> <li>• EU UNDP (EUBAM) Border Assistance</li> <li>• USAID Customs Reform</li> <li>• European Business Association, American Chamber of Commerce</li> </ul>
<p><b>WEAKNESSES (BARRIERS)</b></p>	<ul style="list-style-type: none"> <li>• Perceived uncertainties with commitment to Customs and trade facilitation reform and modernization</li> <li>• Border crossing points not designed for high volume traffic flows, which does not facilitate selectivity based on electronic risk analysis by Customs and other border crossing agencies</li> <li>• Mistrust between Customs and trade facilitation agencies and private industry because of integrity issues and lack of complete Customs and trade facilitation</li> <li>• Lack of electronic pre alert import and export declaration</li> <li>• Lack of a facilitation "PRO" structure</li> </ul>
<p><b>OPPORTUNITIES</b></p>	<ul style="list-style-type: none"> <li>• Start developing a trade and transit facilitation strategy</li> <li>• Need for a Customs policy to reduce time to get goods to market and number of documents with:             <ul style="list-style-type: none"> <li>○ Pilot electronic Single Window System (SWS)</li> <li>○ Pilot integrated border management/ combined border management projects</li> <li>○ Pilot Customs low risk due diligence program</li> </ul> </li> </ul>
<p><b>THREATS</b></p>	<ul style="list-style-type: none"> <li>• Continued delays and costs owing to inconsistent Customs and other border crossing agency decisions and integrity issues</li> <li>• Delays in implementation of transit / transshipment procedural improvements in ports</li> </ul>



## 7 PILOT PROJECTS SELECTED FOR MOS I AND ILC PROJECTS

To answer the existing challenges for MOS and ILC promotion, two TRACECA projects made a pre-screening for potential pilot projects. The pre-screening was based on the multi criteria analysis of proposed pilot, which helped to narrow down the pilot projects list.

The list of retained pilot included the following projects:

**Table 13: Selected Pilot Projects in Ukraine**

Pilot project	Service proposed	Countries involved directly	Concerned TRACECA project
Ilyichevsk – Samsun – Poti/Batumi maritime service	Maritime service involving all MoS shipping techniques (trucks and rolling cargo, railcars and wagons, containers, packed general cargo in break bulk)	Ukraine Turkey Georgia	MOS Project
Varna – Ilychevsk – Poti	Improving existing rail / Ro-Ro / container intermodal transport	Bulgaria Ukraine Georgia	MOS Project
ILC at Euroterminal dry port Odessa	Dry port facilities, including customs terminal, open storage and parking areas	Ukraine	ILC Project
ILC at Boryspil airport commercial park	Cargo facilities, warehousing, customs terminal and other logistics related investment	Ukraine	ILC Project

As a result of the first phase of MOS I and ILC implementation, for the 4 above mentioned pilot projects, feasibility studies were elaborated. Short summaries of these projects can be found here: [LOGMOS pilot projects UA.doc](#)

