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Euro-Asian Transport Links:
Progress on Euro-Asian Transport Links work

Draft Euro-Asian Transport Links Phase III Expert Group Report

Note by the secretariat

This document contains an advanced version* of the full report concluding the phase III of the Euro-Asia Transport Links Project. The text of this report is submitted to the Working Party on Transport Trends and Economics for consideration and possible endorsement.

* This report, due to time constrains, has been submitted without editing by UNECE editors.

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EURO-ASIAN TRANSPORT LINKS

Phase III

Expert Group Report

Geneva

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ABBREVIATIONS

ADB	Asian Development Bank
AIIB	Asian Infrastructure Investment Bank
ASEAN	Association of Southeast Asian Nations
BSEC	Organization of the Black Sea Economic Cooperation
BSEC-URTA	BSEC Union of Road Transport Associations
CAREC	Central Asian Regional Economic Development Program
CCTP	Coordinating Council on Trans-Siberian Transportation International Association
CEFIR	Centre for Economic and Financial Research at the New Economic School
CIM	Uniform Rules concerning the Contract of International Carriage of Goods by Rail
CIS	Commonwealth of Independent States
COSCO	China Ocean Shipping Company
COTIF	Convention concerning International Carriage by Rail
EAEU	Eurasian Economic Union
EATL	Euro-Asian Transport Links
EBRD	European Bank for Reconstruction and Development
ECO	Economic Cooperation Organization
EDB	Euro-Asian Development Bank
EECCA	Eastern Europe, Caucasus and Central Asia
EU	European Union
FAS	FESCO Amur Shuttle
FASw	FESCO Amur Shuttle westbound
FBS	FESCO Baltic Shuttle service
FELB	Far East Land Bridge
FESCO	Far East Shipping Company
FMS	FESCO Moscow Shuttle
FMSe	FESCO Moscow Shuttle eastbound
FOB	free on board
FOS	FESCO Ob Shuttle
FSS	FESCO Siberian Shuttle
FSSe	FESCO Siberian Shuttle eastbound
FUS	FESCO Ural Shuttle
GDP	gross domestic product
GIS	Geographical Information System
GPST	Global Partnership for Sustainable Transport
GUAM	Organization for Democracy and Economic Development
GVC	Global value chain
IBRD	International Bank for Reconstruction and Development
ICT	information and communication technology
IDA	International Development Association
IDB	Islamic Development Bank
IGC	Intergovernmental Commission
IM	Infrastructure Manager
IMF	International Monetary Fund
IRF	International Road Federation
ISIC	International Road Transport Union
ISIC	International Standard Industrial Classification
KTZ	Kazakhstan Railways
LDC	Least developed countries
LHV	long and heavy vehicles
LLDC	Landlocked developing countries
MLA	Multilateral Agreement

OBOR	One Belt – One Road Initiative
OECD	Organisation for Economic Co-operation and Development
OSCE	Organization for Security and Co-operation in Europe
OSJD	Organization for Cooperation of international Railways
OTIF	Intergovernmental Organisation for International Carriage by Rail
PETC	Pan-European Transport Corridors
RZD	Russian Railways
RZDL	Russian Railways (RZD) Logistics
SDGs	Sustainable Development Goals
SITC	Standard International Trade Classification
SMGS	Agreement on Direct International Goods Transport by Rail
SPECA	United Nations Special Programme for the Economies of Central Asia
SREB	Silk Road Economic Belt
TAR	Trans-Asian Railway Network
TEL	Trans Eurasia Logistics
TEM	Trans-European Motorways Project
TEN-T	Trans-European Network – Transport
TER	Trans-European Railways Project
TEU	Twenty-foot equivalent unit
TRACECA	Transport Corridor Europe – Caucasus – Asia
TSR	Trans-Siberian Railway
TWG	Thematic Working Group
UIC	International Union of Railways
UNCTAD	United Nations Conference on Trade and Development
UN DESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Program
UNECE	United Nations Economic Commission for Europe
UN OHRLLS	United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and the Small Island Developing States
UNESCAP	United Nations Economic and Social Commission for Asia and Pacific
UNWTO	United Nations World Tourism Organization
UTLC	United Transport and Logistics Company
WCM	World Container Model
WCO	World Customs Organization
WTO	World Trade Organization
XUAR	Xinjiang Uyghur Autonomous Region, China

INTRODUCTION

Previous phases of the Euro-Asian Transport Links project

The Euro-Asian Transport Links (EATL) project was a part of long-term collaborative work carried out during recent decades by many countries of the Eurasia with support of international institutions to improve the conditions for trade and socio-economic development on the continent.

EATL started in 2002 as a joint undertaking between the United Nations Economic Commission for Europe (UNECE) and the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP).

Phase I of the project, implemented during 2002-2007, in particular, helped identify the main Euro-Asian road, rail and inland water transport routes, sea and inland river ports and prioritized implementation of development initiatives along these routes. It provided the first analysis of physical and non-physical barriers to transport and cargo flows on those routes. An Expert Group was established to for the project and proved to be the effective cooperation platform for the coordinated development of coherent Euro-Asian inland transport links.

Phase II of the EATL project pursued by UNECE during 2008-2013) helped the involved countries to agree on nine rail and nine road routes (EATL routes) which should be considered as principle transport links between Europe and Asia. The participating countries had proposed 311 initiatives for the development of transport infrastructure on those selected routes. The initiatives had been evaluated from the stand point of their relevance and importance for international traffic and their value to connect Asia and Europe. The assessment of transport investment needs along these routes at the multi-county level had been also undertaken during this phase. It also produced various crucial assessments such as comparative analysis of the Euro–Asian railway transport versus maritime transport, comparative scenario analysis of cargo flow on nine door-to-door routes in terms of time and cost, or SWOT analysis of the EATL routes. Last but not least during this phase, UNECE developed and made freely available a Geographical Information System (GIS) interactive application that gives access to the database related to the EATL routes. The Group of Experts continued to provide an effective platform for cooperation between EATL countries.

Phase III of Euro-Asian Transport Links project

The Second EATL Ministerial Meeting held in Geneva on 26 February 2013 endorsed the Phase II final report and supported in its Joint Declaration continuation of the project by conducting Phase III. This new phase was considered to be the most critical of all EATL project phases, as it should have aimed at improving the operational capacity and connectivity of the inland transport links between Europe and Asia.

The project on phase III was supported by 38 countries: Afghanistan, Armenia, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, China, Croatia, Cyprus, Finland, France, Georgia, Germany, Greece, Iran (Islamic Republic of), Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Mongolia, Pakistan, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, Serbia, Spain, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine and Uzbekistan.

To achieve the objective, the Group of Experts on EATL analyzed trends in trade between Europe and Asia, evaluated cargo flows on EATL routes, compared delivery times and expenses

on different routes between Europe and Asia, analysed the possibilities of integrated time schedules and tariffs coordination, reviewed different initiatives and projects along the EATL routes, and identified main obstacles hampering cargo flows along EATL routes.

In addition to the Group of Expert activities, several major events took place in the world during the Phase III of the EATL Project. They directly influenced the development of EATL, but also, gave importance to the operationalization of EATL inland routes, seeing an important role for the routes operationalization to play in advancing regional and global development agendas.

Among these major events were the 69th session of the UN General Assembly at which the Resolution 69/213 "The Role of Transport and Transit Corridors in Ensuring International Cooperation for Sustainable Development" was adopted (December 2014), 69th session of the UN General Assembly at which UN Resolution 70/1 "Transforming our world: the 2030 Agenda for Sustainable Development" (September 2015) and Resolution 70/197 "Towards comprehensive cooperation among all modes of transport for promoting sustainable multimodal transit corridors" (December 2015) were adopted, the adoption in November 2014 and subsequent implementation of the Vienna Program of Action for landlocked countries for the period 2014-2024; the launch in September 2013 of China's "One Belt - One Road Initiative (OBOR), including the creation of the Silk Road Economic Belt, the initiation in 2017 of the Ashgabat Process on Sustainable Transport following to results of the First UN Global Conference on Sustainable Transport (26-27 November 2016, Ashgabat, Turkmenistan), and others.

One of key events for Euro-Asian transport links was a 70th anniversary of the UNECE Inland Transport Committee, at which ministers of transport and high representatives of 58 countries as well as European Commissioner for Transport signed the Ministerial Resolution "Embracing the new era for sustainable inland transport and mobility" on 21 February 2017, agreeing to "…work towards improved regional and inter-continental connectivity with special attention to the Euro-Asia Transport Links project … through policy coordination, and facilitation of seamless transport".

More in particular, the increased operationalization of EATL routes, thus action to help improve the capacity and connectivity as well as economic efficiency of the routes was expected to help the EATL countries, at least some of them, to:

1) Achieve SDGs: Operationalization of EATL inland routes is fundamental to progress in realizing the 2030 Agenda for Sustainable Development and in achieving the SDGs in Eurasia, including SDG 2, 3, 7, 8, 9, 11, 12 and 13. Reliable and efficient Euro-Asian transport routes are not only transport and transit corridors, but economic development corridors supporting sustainable transport, inclusive growth, job creation, poverty reduction, access to markets. Effective operationalization of the routes would also contribute to fighting climate change, reducing air pollution and improving road safety.

2) Develop international logistics chains: Operationalization of EATL inland routes provides conditions for increasing cargo volumes - time-sensitive high-value commodities - via inland routes, primarily rail routes and thus logistics chains should further develop in EATL area pushing further increase of cargo volumes.

3) Address challenges of the landlocked developing countries (LLDCs): operationalization of EATL routes, thus removing fragmentation of supply chains, should decrease transport costs by 50 per cent between a landlocked country and a nearest foreign sea port. Moreover it should help LLDCs to fully benefit from access to global market. In addition, it should help LLDCs to achieve priorities of the Vienna Program of Action,

including (i) to reduce travel time along corridors and at land borders and to improve intermodal connectivity (objectives under Priority 1 of the VPoA "Fundamental transit policy issues"), (ii) to significantly increase the quality of roads, including increasing the share of paved roads, by nationally appropriate standards; to expand and upgrade the railway infrastructure and to complete missing links in the regional road and railway transit transport networks (Priority 2 “Infrastructure development and maintenance”), (iii) to significantly increase the value added and manufactured exports of LLDCs with the objective of substantially diversifying their markets and products (Priority 3 “International trade and trade facilitation”), and (iv) to promote regional integration by strengthening regional trade and transport (Priority 4 “Regional integration and cooperation”).

4) Contribute to regional trade facilitation, primarily in Central Asia: operationalization of EATL routes should help facilitate trade in Central Asia, especially in the context of the implementation of the WTO Trade Facilitation Agreement (TFA) that came into force on January 22, 2017. In particular, “point-focused” investment projects and institutional improvements should contribute to trade facilitation and increasing connectivity in Central Asia.

Report of phase III of the Euro-Asian Transport Links project

This report of the phase III of the EATL project includes five chapters that offer insight into analysis made during phase III of the project and lists conclusions and recommendations formulated during this phase for achieving operationalization of EATL routes, in particular:

Chapter I analyses trends in trade, describes the EATL routes as well as provides comparative analysis of the delivery times and expenses of different modes of transport on selected routes between Europe and Asia. It further identifies cargo for the transport of which the EATL inland routes could be competing with the maritime and air routes between Europe and Asia.

Chapter II reviews numerous initiatives and projects either national or undertaken by various international organizations and programmes in support of the development of EATL inland routes.

Chapter III identifies and describes the obstacles and bottlenecks along the EATL routes that disrupt the flow of cargo. Physical and, in particular, the non-physical barriers, identified as the main obstacles in developing the EATL routes, are explained in detail.

Chapter IV updates the EATL SWOT analysis developed during phase II of the project. The strengths, weaknesses, opportunities and threats are presented by different issues, among them, to name a few, are such as e.g. (i) access to markets for the land locked developing countries, (ii) international trade between Europe and Asia, (iii) EATL infrastructure, or (iv) harmonisation of procedures between EATL countries.

Chapter V formulates recommendations for future development of the Euro-Asian inland transport links at national, international and industry levels. These recommendations for consideration and action of governments, international organisations, non-governmental organisations, business and other stakeholders are provided in a format of actionable initiatives. In this chapter, the Group of Experts appreciates the EATL project as being the most comprehensive of all initiatives aimed at facilitation of trade and transport across Eurasia.

PART I. EURO-ASIAN TRADE ROUTES AND FREIGHT FLOWS

I.1. Economics and trade current situation in EATL Region

I.1.1. General overview

Economic growth and effective transport connectivity were closely interrelated in the vast Euro-Asian landmass.

By further operationalizing the inland transport routes between Europe and Asia, more countries and people in both regions would be able to participate in global production networks and global value chains.

On the other hand, economic growth in countries along Euro-Asian inland routes was accompanied by an increase in exports and imports and demand for transport services. Expansion of trade geography required diversification of transport links, optimization of transport costs, as well as time for delivery of goods.

Thus, the economic and trade situation in the EATL countries was a leading indicator of changes in cargo flows along inland routes connecting Europe and Asia.

Achieving the general goals of the EATL Project was more complicated under the economic downturn condition and the selection of tactical priorities needs balanced analysis of possibilities.

Global economic activity and international trade remained subdued in 2012-2016. During this period the rate of growth of world merchandise trade (by volume) oscillated between 1.3 and 2.7 per cent. These growth rates were significantly below the average annual rate of 7.2 per cent recorded during the 2003–2007 pre-crisis period.

Falling short of expectations and below the prefinancial crisis levels, growth in world GDP expanded by 2.5 per cent in 2015 and by 2.3 per cent in 2016 (table 1.1). Underpinning the sluggish global economy were the feeble pace of global investment, dwindling world trade growth, flagging productivity growth and high levels of debt. Low commodity prices had exacerbated these factors in many commodity-exporting countries since mid-2014. World GDP was forecast to expand by 2.7 per cent in 2017 and 2.9 per cent in 2018, with this modest recovery more an indication of economic stabilization than a signal of a robust and sustained revival of global demand.

Table 1.1
Economic growth by main trade partners in Europe and Asia, 2013–2016 and forecast for 2017-2018 (Percentage change)

	2013	2014	2015	2016	Forecast	
					2017	2018
World	2.2	2.6	2.5	2.2	2.7	2.9
Developed economies	1.1	1.7	2.1	1.5	1.7	1.8
- European Union-28	0.3	1.5	2.2	1.8	1.8	1.8
- Japan	1.4	- 0.1	0.6	0.5	0.9	0.9
Developing economies	4.6	4.3	3.8	3.6	4.4	4.7
- East and South Asia	6.1	6.1	5.7	5.7	5.9	5.9
- China	7.7	7.3	6.9	6.6	6.5	6.5
- India	6.3	7.3	7.3	7.6	7.7	7.6
Transition economies	2.0	0.9	-2.8	- 0.2	1.4	2.0
- Russian Federation	1.3	0.7	-3.7	-0.8	1.0	1.5

Source:

UN (2017) World Economic Situation and Prospects 2017
Note: Forecast, based in part on Project LINK.

Diverging individual country performances unfolded against the background of lower oil and commodity price levels, weak global demand and a slowdown in China. China's transition from an investment and export led-growth model had an impact on global manufacturing activity, aggregate demand, investment and commodity prices.

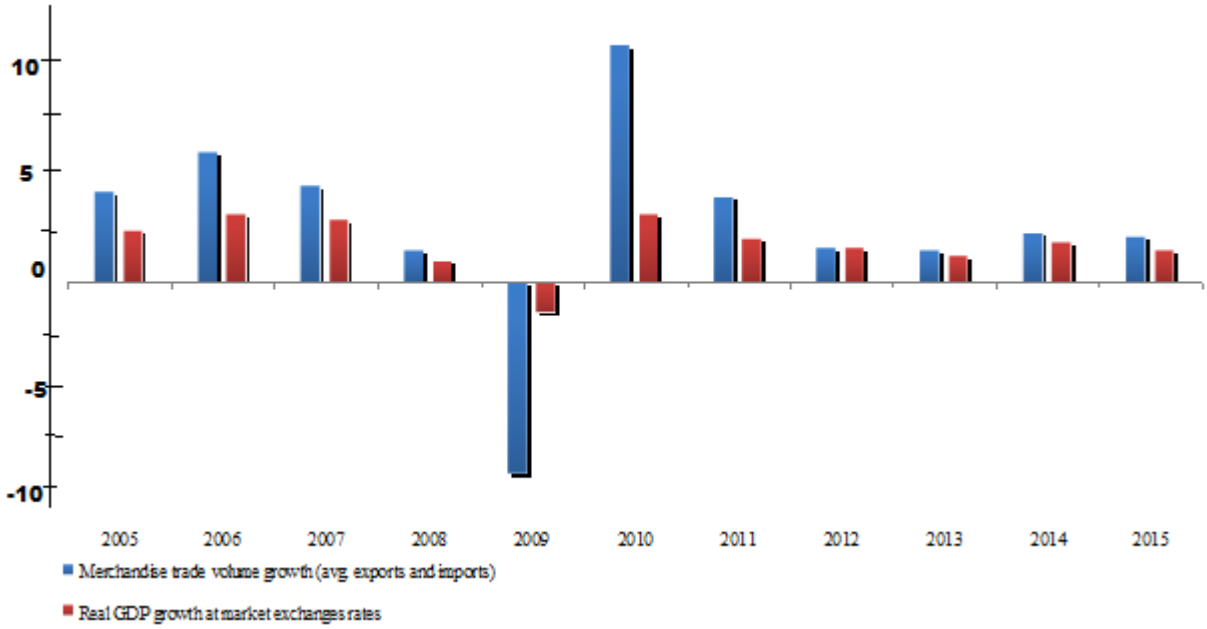
Developing country growth decelerated from 4.4 per cent in 2014 to 3.9 per cent in 2015 and 3.6 per cent in 2016, although still accounting for 70 per cent of global expansion (International Monetary Fund, 2016). China's economy slowed over the period 2014-2016 too, although it was still growing at a relatively high rate (GDP growth decelerated from 7.3 per cent in 2014 to 6.9 per cent in 2015 and 6.6 per cent in 2016). China, as it was said, was growing at two speeds, with its manufacturing sector facing overcapacity and limited growth, while its consumer-driven services sector was growing at a rapid pace (The Economist Intelligence Unit, 2016a). India was growing faster than China in that period, as its GDP growth, supported by factors such as infrastructure investment, accelerated to 7.3 per cent in 2015 and 7.6 per cent in 2016.

Following a 2.8 per cent contraction in 2015, the aggregate GDP of the Commonwealth of Independent States (CIS) and South-Eastern Europe contracted further by an estimated 0.2 per cent in 2016. Economic activity was expected to recover in 2017 and 2018, with aggregate GDP expanding at 1.4 per cent and 2.0 per cent, respectively. The economies of the CIS have entered a period of tentative stabilization. While output continued to decline in several countries in 2016, the aggregate indicators of the region started to show some improvement. The contraction in GDP in 2016 was much milder than in 2015, and a return to a low growth trajectory was expected for 2017. In South-Eastern Europe, economic growth accelerated further, largely owing to the strength of domestic factors.

Growth in the European Union improved to 2.2 per cent in 2015 and 1.8 per cent in 2016, supported in particular by higher domestic consumption and investment levels and by falling energy prices.

In the same period, world merchandise trade expanded at a relatively slow pace, either matching or going below world GDP growth levels, while in earlier years, on average, international trade was growing significantly faster than the world GDP. The trade to GDP growth ratio was estimated at 0.62 in 2015, down from 0.94 in 2014 and 1.4 in 2013 (Figure 1.1).

Figure 1.1.
Growth in volume of world merchandise trade and real GDP, 2005-2015 (percentage change)



Source:
WTO (2016) World Trade Statistics Review 2016,
WTO Secretariat for trade figures, IMF and WTO Secretariat calculations for GDP

Global merchandise trade by volume (that is, trade in value terms, adjusted to account for inflation and exchange rate movements) increased by 1.3 per cent in 2016, down from 2.6 per cent in 2015 (table 1.2).

Table 1.2
Growth in merchandise trade volume by Europe and Asia, 2013–2016 and forecast for 2017-2018
(Percentage change)

	2013	2014	2015	2016	Forecast	
					2017	2018
Export						
World	2.4	2.7	2.6	1.3	1.8 – 3.6	2.7 – 4.0
Europe	1.7	2.0	3.6	1.4	2.0 – 4.2	1.9 – 4.1
Asia	5.4	4.3	1.1	1.8	1.7 – 3.9	1.9 – 4.4
Import						
Europe	0.5	1.6	2.2	1.9	1.8	1.7
Asia	4.4	4.0	4.2	4.1	4.3	4.0

Source:
WTO (2017) Trade recovery expected in 2017 and 2018, amid policy uncertainty. Trade statistics and outlook, PRESS/793, 12 April 2017

Trade in volumes held up relatively well, compared with trade in value, which recorded a decline of 13 per cent, due to fluctuations in commodity prices and exchange rates[1].

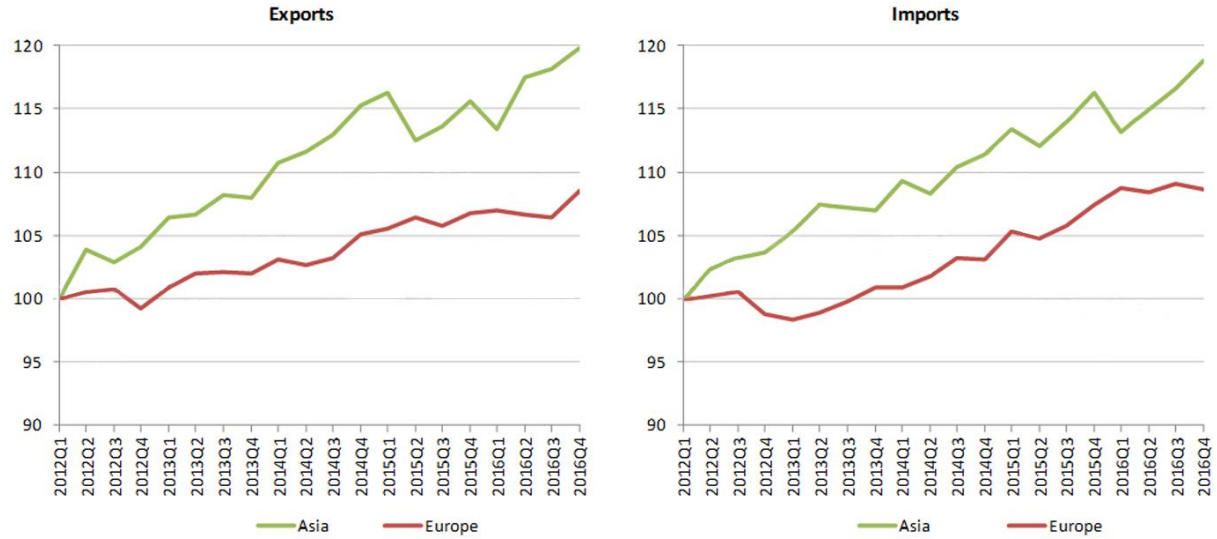
The unusually low growth in world merchandise trade volume in 2015-2016 was the result of several risk factors. These weighed on imports of both developed and developing economies, although the latter were more affected. Together, the slow recovery in Europe, weaker global investment and the slowdown in large developing economies depressed the global trade. Overall, the impact of Asia, which had contributed more than any other region to the recovery of world merchandise trade after the 2008-2009 financial crises, appeared to give over.

[1] World trade Organization (2016) World Trade Statistics Review 2016

The contribution to the growth of global import from Asia dropped significantly, from an average of 27 per cent in the previous decade to 8.4 per cent in 2015[2]. In comparison, Europe contributed 59 per cent to the growth of global import, in contrast to the negative contribution in 2012 and 2013. With regard to global export growth, Europe contributed 44 per cent and Asia, 35 per cent.

European and Asian regions were affected to varying degrees by the slump in trade in 2016 (Figure 1.2). The first quarter was characterized by financial turbulence that affected China and its regional trading partners, as fears of an economic hard-landing and currency depreciation increased. Asian imports dropped in Q1, but the slump was short-lived and Asia ultimately recorded growth of 2.0% for the year.

Figure 1.2.
Volume of merchandise exports and imports by Europe and Asia in 2012-2016, seasonally adjusted indices, 2012Q1=100



Source:
WTO (2017) Trade recovery expected in 2017 and 2018, amid policy uncertainty. Trade statistics and outlook, PRESS/793, 12 April 2017

The contraction of both exports and imports in Eastern Asia in 2015 had negative impacts on the trade of other developing economies, in particular manufacturing export-dependent economies in developing Asia. China accounted for about 20 per cent of the slowdown in import growth of developing economies and countries with economies in transition in 2014–2015[3]. In contrast, India experienced a surge in its import demand (10.1 per cent).

I.1.2. East Asia

During 2012-2016 the Asian region's trade growth performed below the pre-financial crisis levels. Such a long and uninterrupted trade slowdown was unprecedented, and was a cause for concern that a "new trend" of a weaker trade growth was being reached. Trade between Asia and Europe contracted noticeably in 2015-2016. The contraction occurred despite GDP growth in the European Union. The growth in traditional export markets for Asia did not transfer to increased demand for its goods[4].

[2] United Nations Department of Economic and Social Affairs (2016) World Economic Situation and prospects 2016
[3] Ibidem
[4] UNESCAP (2016) Asia-Pacific Trade and Investment Report 2016. Recent Trends and Developments

Structural factors such as economic rebalancing in China were also at play, with the country's import composition expected to gradually shift away from intermediate goods and capital goods, which at that time accounted for over 70 per cent of the region's exports to China. Even though tariff rates had fallen significantly for over a decade, non-tariff measures on goods appeared to be on the rise. While cumulative non-tariff measures imposed on East Asia experienced a steady increase between 2000 and 2015, the pace appeared to have accelerated during the post-crisis period. These barriers might have partly contributed to the weak export performance in the 2012-2016 period.

While the economic outlook was relatively more optimistic for East Asia compared to most of the other developing regions, risks for the region remained tilted to the downside. Factors that could drive faster economic growth in 2017, such as stronger demand in developed economies, higher global commodity prices and rising infrastructure investment were subject to considerable uncertainty. High and rising corporate and household debt in several economies in the region, including China, posed downside risks to growth (Table 1.3).

Table 1.3
Rates of growth of real GDP in China, Mongolia and Republic of Korea in 2013–2016 and forecast for 2017-2018 (Percentage change)

	2008-2015 average	2013	2014	2015	2016	Forecast	
						2017	2018
China	8.6	7.7	7.3	6.9	6.6	6.5	6.5
Mongolia	8.0	11.6	7.9	2.3	0.0	2.1	3.9
Republic of Korea	3.1	2.9	3.3	2.6	2.8	2.9	2.8

Source:
UN (2017) World Economic Situation and Prospects 2017
Note: Forecast, based in part on Project LINK.

The physical volume of exports still grew at 0.8 per cent in 2016. The fall in export value had thus been driven primarily by a sharp fall in prices in 2015, due in turn to slower demand growth by regional powers (in particular China) and elsewhere (Table 1.4).

Table 1.4
Changes in value and volume of export and import of goods by countries of Eastern Asia in 2013–2016 and forecast for 2017-2018 (Percentage change)

	2010	2011	2012	2013	2014	2015	2016	Forecast	
								2017	2018
Value of export (U.S. Dollars)	28.3	18.4	4.7	4.8	3.3	-5.3	-0.7	5.7	6.6
Value of import (U.S. Dollars)	32.5	21.8	4.6	4.4	1.7	-8.7	1.6	7.5	7.5
Volume of export (metric tonnes)	14.7	10.2	48.8	7.1	5.2	1.1	0.8	2.6	3.9
Volume of import (metric tonnes)	18.3	10.7	4.8	6.8	4.4	2.1	1.5	3.4	4.1

Source:
UN (2017) World Economic Situation and Prospects 2017
Note: Forecast, based in part on Project LINK.

As global economic growth remained more anaemic, intraregional cooperation between East Asia and Central Asia region was in a better position and carried greater potential than cooperation with countries outside the region. The increase in the intraregional import share reflected the fact the while the absolute value of intraregional imports fell in 2015, it did so by less than the overall contraction in imports into the region. This was particularly the case for imports from China by many Central Asian states, which fell only slightly in 2015.

The Chinese initiative "One Belt – One Road" (OBOR) and its "Silk Road Economic Belt" component was launched in 2017 with the aim specifically to strengthen the realization of the

possibilities of intraregional trade and economic cooperation, which should provide an additional impetus to the development of transport along Euro-Asian inland routes.

Hence the severe contraction in world trade in 2015 and the reduced output among several extraregional developing countries produced the opportunity for relatively more intraregional trade

I.1.3. South Eastern Europe

Economic growth in the region of South Eastern Europe, which covers Balkan states and Turkey accelerated from 0.5 per cent in 2015 to 1.2 per cent in 2016, due mainly to an easing of the recession in the Russian Federation as oil prices stabilized.

Economic activity in South-Eastern Europe gained further strength in 2016, driven by the strong pick-up in Turkey and Serbia, the region's one of the largest economies. The improved performance was driven largely by domestic factors. However, there were marked differences across the region, with some countries, in particular the former Yugoslav Republic of Macedonia, losing momentum. The region's GDP growth was projected to strengthen from an estimated 2.6 per cent in 2016 to 3.1 per cent in 2017 and 3.3 per cent in 2018 (forecasted GDP growth in each country see in Table 1.5). However, average growth was expected to remain weaker than in the pre-crisis period, when it had been accompanied by heavy private and public borrowing. Risks remained tilted to the downside, and included the possibility of further weakness in commodity prices, disruptions in financial markets, slower-than-expected Euro Area growth. Key policy challenges included ensuring macroeconomic stability during the adjustment to lower commodity prices and dealing with sizable macroeconomic and financial vulnerabilities.

Table 1.5
Rates of growth of real GDP in selected countries of South Eastern Europe in 2013–2016 and forecast for 2017-2018 (Percentage change)

	2008-2015 average	2013	2014	2015	2016	Forecast	
						2017	2018
Bosnia Herzegovina	1.2	2.4	1.1	3.2	2.1	2.9	3.0
Serbia	0.6	2.6	-1.8	0.7	2.7	3.0	3.0
The former Yugoslav Republic of Macedonia	2.5	2.7	3.8	3.7	2.3	3.0	3.5
Turkey	3.3	4.2	2.9	4.0	3.1	3.1	3.5

Source:
UN (2017) World Economic Situation and Prospects 2017
Note: Forecast, based in part on Project LINK.

The region remained closely linked with the European Union, which will continue to influence economic prospects. A possible intensification of the refugee crisis would have negative implications, if it resulted in disrupting trade flows. The region still remained highly dependent on external financing. In the aftermath of the Brexit vote, there was a risk that funding from the European Union may diminish if the United Kingdom of Great Britain and Northern Ireland eventually would exit the European Union. In addition, the weaker pound sterling associated with the increased uncertainty might continue to weigh on the value of remittances received by the region.

The physical volume of exports still grew at 6.0 per cent in 2015 and 6.0 in 2016. The fall in export value in 2015 had thus been driven primarily by a sharp fall in commodity prices (Table 1.6).

Table 1.6
Changes in value and volume of export and import of goods by countries of South Eastern Europe (excluding Turkey) in 2013–2016 and forecast for 2017-2018 (Percentage change)

	2010	2011	2012	2013	2014	2015	2016	Forecast	
								2017	2018
Value of export (U.S. Dollars)	14.3	21.2	-6.4	16.3	4.6	-10.7	6.9	8.7	8.1
Value of import (U.S. Dollars)	2.4	20.0	-6.7	5.4	3.7	-13.5	6.9	7.2	7.8
Volume of export (metric tonnes)	15.7	7.3	0.5	12.0	7.6	6.0	6.0	6.0	5.2
Volume of import (metric tonnes)	3.6	6.1	0.9	1.4	8.9	3.6	5.6	4.0	5.3

Source:
UN (2017) World Economic Situation and Prospects 2017
Note: Forecast, based in part on Project LINK.

According to the Turkstat data and Economic Outlook provided by Turkish authorities[5], Turkey had been pursuing an export-led growth policy since 1980. By virtue of economic reforms, restrictions on imports were lifted, safeguard practices were reduced, and foreign exchange transactions were liberalized. As a result of the economic reforms carried out during the last decade, both the volume and composition of the Turkish trade had radically changed. For the 100th Anniversary of the Republic (2023), main export target of Turkey was expected to reach 500 billion U.S. Dollars.

Further dynamic development of economic cooperation and trade was expected between Turkey and the countries of Central Asia, Iran, Pakistan and India, which would promote the growth of demand for cross-border transportation services.

I.1.4. Commonwealth of Independent States member states

Since the collapse of the Soviet Union, the successor states that formed the Commonwealth of Independent States (CIS) as well as Georgia have suffered from various cyclical crises. Following the severe terms-of-trade shock of 2014/15 and the consequent economic contraction in most of the CIS energy exporters, the region's economies entered a period of tentative stabilization. Economic activity in parts of the CIS continued to decline in 2016, but at a much reduced pace. As a result of the more moderate contraction in the Russian Federation and the return to sluggish growth in Ukraine, the aggregate indicators of the region improved. Some Central Asian economies, such as Tajikistan and Uzbekistan, continued to register strong growth (Table 1.7). The aggregate GDP of the CIS was estimated to have fallen by 0.3 per cent in 2016, following a decline of 3 per cent in 2015. In 2017, the region was expected to return to growth, but amid continued fragilities the expansion would be muted, projected at 1.4 per cent. Growth was forecast to pick up to 2.0 per cent in 2018.

Table 1.7
Rates of growth of real GDP in CIS member states and Georgia in 2013–2016 and forecast for 2017-2018 (Percentage change)

	2008-2015 average	2013	2014	2015	2016	Forecast	
						2017	2018
Net fuel exporters							
- Azerbaijan	4.6	5.8	2.8	1.1	-2.9	1.0	1.5
- Kazakhstan	4.4	6.0	4.3	1.2	0.3	1.4	2.5
- Russian Federation	0.9	1.3	0.7	-3.7	-0.8	1.0	1.5
- Turkmenistan	10.3	10.2	10.3	6.7	6.0	6.1	6.5
- Uzbekistan	8.3	8.0	8.1	8.0	7.4	6.0	6.4
Net fuel importers							
- Armenia	1.9	3.3	3.6	3.0	2.5	2.7	3.0

[5] http://www.mfa.gov.tr/prospects-and-recent-developments-in-the-turkish-economy.en.mfa

	2008-2015 average	2013	2014	2015	2016	Forecast	
						2017	2018
- Belarus	2.9	1.0	1.6	-.38	-2.7	1.5	1.9
- Kyrgyzstan	4.3	10.5	4.3	3.5	0.2	2.3	2.3
- Republic of Moldova	3.4	9.4	4.6	-0.5	1.2	2.5	3.0
- Tajikistan	6.0	7.4	6.8	6.0	6.4	5.1	4.8
- Ukraine	-2.7	0.0	-6.6	-9.9	0.8	1.9	3.2
CIS	1.4	2.0	1.0	-3.0	-0.3	1.4	2.0
Georgia	3.6	3.3	4.6	2.8	2.8	3.0	4.2

Source:
UN (2017) World Economic Situation and Prospects 2017
Note: Forecast, based in part on Project LINK.

The economies of these countries differ in size and industry composition. Most of the CIS countries had gone through transition from centrally planned to market economies reaching different transformation results. Turkmenistan and Uzbekistan were still characterised by relatively closed markets.

With Tajikistan's accession to the WTO in March 2013 eight CIS countries were by the time this report was written WTO members and five were observer members. Armenia, Belarus, Kazakhstan, Kyrgyzstan and the Russian Federation formed Eurasian Economic Union (EAEU) with single economic and customs space and common market of transport services. CIS countries had also signed multiple bilateral and multilateral trade agreements, among them the CIS Free Trade Agreement (CISFTA)(see table 1.8).

Table 1.8
EATL countries bilateral and multilateral trade agreements

Countries	**WTO**	**EAEU**	**CISFTA**	**EU Association**	**Bilateral trade Agreements with EATL countries**
Armenia (AM)	2003	Yes	Yes		KZ, MD, RU,TK, UK, GE, KZ
Azerbaijan (AZ)	Observer				RU, GE; UK
Belarus (BY)	Observer	Yes	Yes		UK, RU
China (CN)	2001				GE, PK
Georgia (GE)	2000			Yes	AM, AZ, KZ, TR, TM, RU, UZ, CN
Iran (IR)	Observer				
Kazakhstan (KZ)	2015	Yes	Yes		AM, GE, UK, RU, KZ,
Kyrgyzstan (KY)	1998	Yes	Yes		AM, KZ, MD, RU, UZ, UK
Moldova (MD)	2001		Yes	Yes	KY, AM, UK, RU
Russia (RU)	2012	Yes	Yes		AM, GE, BY, AZ, KZ, MD, TJ, TK, UK, UZ
Tajikistan (TJ)	2013		Yes		RU, UK
Turkey (TR)	1995				GE
Turkmenistan (TK)	No				AM, GE, UK, RU
Ukraine (UK)	2008			Yes	AM, GE, KY, AZ, BY, KZ, MD, RU, TJ, KZ, TK, TR, UZ
Uzbekistan (UZ)	Observer		Yes		KY, RU, UK

Source: UNECE, WP.5 GE2 Informal Doc #1

The Russian Federation was not only the biggest economy of the CIS in terms of GDP but also in terms of merchandise trade. Russian exports accounted for 384 billion US Dollars in 2016, while Armenia only exported goods with a value of 3.2 billion US Dollars.

External balances deteriorated in most CIS countries. The region's aggregate current account surplus shrank sharply, driven by trends in the Russian Federation. The contraction of exports in 2016 exceeded the observed fall in imports. The region's terms of trade continued to deteriorate, albeit at a much reduced pace and an improvement was expected in 2017-2018

In the Russian Federation, imports have started to pick up while exports remain subdued. The resulting pressure on the balance of payment was offset by a reduction in capital outflows. A major external adjustment took place in the period 2014-16 in Ukraine as a consequence of the currency depreciation. In Kyrgyzstan and Tajikistan, current account deficits remained very large.

The physical volume of exports still slow grew at 0.4 per cent in 2015 and 0.1 in 2016. The fall in export value in 2014-2016 had thus been driven primarily by a sharp fall in commodity prices and sanctions imposed on the Russian Federation (Table 1.9).

Table 1.9
Changes in value and volume of export and import of goods by CIS countries in 2013–2016 and forecast for 2017-2018 (Percentage change)

	2010	2011	2012	2013	2014	2015	2016	Forecast	
								2017	2018
Value of export (U.S. Dollars)	28.5	31.4	3.2	-1.0	-5.8	-29.2	-7.4	14.5	12.4
Value of import (U.S. Dollars)	24.3	29.2	8.8	3.2	-9.9	-28.5	-8.1	10.4	9.3
Volume of export (metric tonnes)	6.5	2.6	1.0	2.4	-0.4	0.4	0.1	1.7	2.3
Volume of import (metric tonnes)	17.7	16.8	8.8	2.7	-7.7	-19.1	-8.4	6.9	6.6

Source:
UN (2017) World Economic Situation and Prospects 2017
Note: Forecast, based in part on Project LINK.

The economic outlook was facing continued downside risks as the recovery of commodity prices was expected to be limited and the region's economies would need to search for new drivers of growth. The ability to overcome the dependence on primary commodities and low-tech exports was constrained by inadequate access to modern technology and limited resources for investment. Currency depreciations, in part, were harmful and their full consequences had yet to be seen. On the other hand, weaker currencies provided opportunities for economic diversification, but the supply response would be limited by sluggish domestic and external demand, credit rationing, and subdued investment. For the smaller CIS economies, diversification of their export markets remained an important challenge.

I.1.5 Conclusions

Global recovery continued in 2016-2017, however, at a slow pace, with momentum created by growth rate reduction in China and other Asian developing economies. Developments in the Chinese economy and related spillover effects on other large developing countries impacted all Euro-Asian trade, both for developed and developing countries, including Central Asian LLDCs . Other factors – namely, lower commodity and oil price levels, eroding terms of trade in many commodity and oil-exporting countries, weaker global demand and investment levels, geopolitical tensions and political unrest – contributed to increasing uncertainty, growing downside risks and challenging the outlook for merchandise trade and transport between Europe and Asia.

The economic slowdown in Asia was influencing the global economy and trade sharply and probably would for a long enough period stay as the dominating external factor. Because of that, growth of international trade would not be the main driver for the increase of Euro-Asian cargo flows and the expansion of transport links, as it was during Phases I and II of the EATL Project.

I.2. Euro-Asian trade flows and inland transport

I.2.1. Main commodity groups

The option to use EATL inland routes is highly dependent on the types of goods transported. For the purpose of this report, following categories of goods have been assessed:

1. Non-containerized goods (mainly raw materials) transported between Europe and Asia by maritime, pipeline or rail transport.

2. Containerized goods for mixed inland and maritime transport between Europe and Asia.

3. High-value containerized goods for mixed inland and air transport between Europe and Asia.

Cargo that can be delivered by inland transport from Europe to Asia and vice versa covered a rather limited number of positions which included high value and small volume goods, especially such that may be containerised. Those were goods for which air transport would be too expensive, while maritime transport would be too slow. Using the Harmonised System of Trade Classification (HS) some 100 2-digits type of goods was transported by inland transport (Table 1.10).

Table 1.10
Cargoes identified as suitable for inland long-distance transport between Europe and Asia

Commodity Group	Description	Possibility of containerization	Preferential mode of transport
01-05 Animal & Animal Products			
01	Animals; live	-	rail, road
02	Meat and edible meat offal	possible (refcontainers)	maritime, rail, road
03	Fish and crustaceans, molluscs and other aquatic invertebrates	possible (refcontainers)	air, maritime, rail, road
04	Dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere specified or included	possible (refcontainers)	maritime, rail, road
05	Animal originated products; not elsewhere specified or included	possible (containers/refcontainers)	maritime, rail, road
06-15 Vegetable Products			
06	Trees and other plants, live; bulbs, roots and the like; cut flowers and ornamental foliage	possible (containers/refcontainers)	air, rail, road
07	Vegetables and certain roots and tubers; edible	possible (containers/refcontainers)	maritime, rail, road
08	Fruit and nuts, edible; peel of citrus fruit or melons	possible (containers/refcontainers)	maritime, rail, road
09	Coffee, tea, mate and spices	possible (containers/refcontainers)	maritime, rail, road
10	Cereals	-	maritime, rail
11	Products of the milling industry; malt, starches, inulin, wheat gluten	possible (containers)	maritime, rail, road
12	Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit, industrial or medicinal plants; straw and fodder	possible (containers/refcontainers)	maritime, rail, road
13	Lac; gums, resins and other vegetable saps and extracts	possible (containers/refcontainers)	maritime, rail, road
14	vegetable plaiting materials; vegetable products not elsewhere specified or included	possible (containers/refcontainers)	maritime, rail, road
15	Animal or vegetable fats and oils and their cleavage products; prepared animal fats; animal or vegetable	possible (containers/refcontainers)	maritime, rail, road

Commodity Group	Description	Possibility of containerization	Preferential mode of transport
	waxes		
16-24 Foodstuffs			
16	Meat, fish or crustaceans, molluscs or other aquatic invertebrates; preparations thereof	possible (containers/refcontainers)	maritime, rail, road
17	Sugars and sugar confectionery	possible (containers/refcontainers)	maritime, rail, road
18	Cocoa and cocoa preparations	possible (containers/refcontainers)	maritime, rail, road
19	Preparations of cereals, flour, starch or milk; pastrycooks' products	possible (containers/refcontainers)	maritime, rail, road
20	Preparations of vegetables, fruit, nuts or other parts of plants	possible (containers/refcontainers)	maritime, rail, road
21	Miscellaneous edible preparations	possible (containers/refcontainers)	maritime, rail, road
22	Beverages, spirits and vinegar	possible (containers/refcontainers)	maritime, rail, road
23	Food industries, residues and wastes thereof; prepared animal fodder	possible (containers/refcontainers)	maritime, rail, road
24	Tobacco and manufactured tobacco substitutes	possible (containers/refcontainers)	maritime, rail, road
25-27 Mineral Products			
25	Salt; sulphur; earths, stone; plastering materials, lime and cement	-	Maritime
26	Ores, slag and ash	-	Maritime
27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	-	maritime, rail
28-38 Chemicals & Allied Industries			
28	Inorganic chemicals; organic and inorganic compounds of precious metals; of rare earth metals, of radio-active elements and of isotopes	possible (containers/refcontainers)	air, maritime, rail, road
29	Organic chemicals	possible (containers)	maritime, rail, road
30	Pharmaceutical products	possible (containers/refcontainers)	air, maritime, rail, road
31	Fertilizers	possible (containers)	maritime, rail, road
32	Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints, varnishes; putty, other mastics; inks	possible (containers)	maritime, rail, road
33	Essential oils and resinoids; perfumery, cosmetic or toilet preparations	possible (containers/refcontainers)	air, maritime, rail, road
34	Soap, organic surface-active agents; washing, lubricating, polishing or scouring preparations; artificial or prepared waxes, candles and similar articles, modelling pastes, dental waxes and dental preparations with a basis of plaster	possible (containers/refcontainers)	maritime, rail, road
35	Albuminoidal substances; modified starches; glues; enzymes	possible (containers/refcontainers)	maritime, rail, road
36	Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations	possible (containers)	maritime, rail, road
37	Photographic or cinematographic goods	possible (containers)	air, maritime, rail, road
38	Chemical products n.e.c.	possible (containers)	maritime, rail, road
39-40 Plastics / Rubbers			
39	Plastics and articles thereof	possible (containers)	maritime, rail, road
40	Rubber and articles thereof	possible (containers)	maritime,

Commodity Group	Description	Possibility of containerization	Preferential mode of transport
			rail, road
41-43 Raw Hides, Skins, Leather, & Furs			
41	Raw hides and skins (other than furskins) and leather	possible (containers)	maritime, rail, road
42	Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silk-worm gut)	possible (containers)	maritime, rail, road
43	Furskins and artificial fur; manufactures thereof	possible (containers)	maritime, rail, road
44-49 Wood & Wood Products			
44	Wood and articles of wood; wood charcoal	possible (containers)	maritime, rail, road
45	Cork and articles of cork	possible (containers)	maritime, rail, road
46	Manufactures of straw, esparto or other plaiting materials; basketware and wickerwork	possible (containers)	maritime, rail, road
47	Pulp of wood or other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard	possible (containers)	maritime, rail, road
48	Paper and paperboard; articles of paper pulp, of paper or paperboard	possible (containers)	maritime, rail, road
49	Printed books, newspapers, pictures and other products of The printing industry; manuscripts, typescripts and plans	possible (containers)	air, maritime, rail, road
50-63 Textiles			
50	Silk	possible (containers)	maritime, rail, road
51	Wool, fine or coarse animal hair; horsehair yarn and woven fabric	possible (containers)	maritime, rail, road
52	Cotton	possible (containers)	maritime, rail, road
53	Vegetable textile fibres; paper yarn and woven fabrics of paper yarn	possible (containers)	maritime, rail, road
54	Man-made filaments; strip and the like of man-made textile materials	possible (containers)	maritime, rail, road
55	Man-made staple fibres	possible (containers)	maritime, rail, road
56	Wadding, felt and nonwovens, special yarns; twine, cordage, ropes and cables and articles thereof	possible (containers)	maritime, rail, road
57	Carpets and other textile floor coverings	possible (containers)	maritime, rail, road
58	Fabrics; special woven fabrics, tufted textile fabrics, lace, tapestries, trimmings, embroidery	possible (containers)	maritime, rail, road
59	Textile fabrics; impregnated, coated, covered or laminated; textile articles of a kind suitable for industrial use	possible (containers)	maritime, rail, road
60	Fabrics; knitted or crocheted	possible (containers)	maritime, rail, road
61	Apparel and clothing accessories; knitted or crocheted	possible (containers)	maritime, rail, road
62	Apparel and clothing accessories; not knitted or crocheted	possible (containers)	maritime, rail, road
63	Textiles, made up articles; sets; worn clothing and worn textile articles; rags	possible (containers)	maritime, rail, road
64-67 Footwear / Headgear			
64	Footwear; gaiters and the like; parts of such articles	possible (containers)	maritime, rail, road
65	Headgear and parts thereof	possible (containers)	maritime, rail, road

Commodity Group	Description	Possibility of containerization	Preferential mode of transport
66	Umbrellas, sun umbrellas, walking-sticks, seat sticks, whips, riding crops; and parts thereof	possible (containers)	maritime, rail, road
67	Feathers and down, prepared; and articles made of feather or of down; artificial flowers; articles of human hair	possible (containers)	maritime, rail, road
68-71 Stone / Glass			
68	Stone, plaster, cement, asbestos, mica or similar materials; articles thereof	possible (containers)	maritime, rail, road
69	Ceramic products	possible (containers)	maritime, rail, road
70	Glass and glassware	possible (containers)	maritime, rail, road
71	Natural, cultured pearls; precious, semi-precious stones; precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	possible (containers)	air, rail, road
72-83 Metals			
72	Iron and steel	-	maritime, rail
73	Iron or steel articles	possible (containers)	maritime, rail
74	Copper and articles thereof	possible (containers)	maritime, rail
75	Nickel and articles thereof	possible (containers)	maritime, rail
76	Aluminium and articles thereof	possible (containers)	maritime, rail
78	Lead and articles thereof	possible (containers)	maritime, rail
79	Zinc and articles thereof	possible (containers)	maritime, rail
80	Tin; articles thereof	possible (containers)	maritime, rail
81	Metals; n.e.c., cermets and articles thereof	possible (containers)	maritime, rail
82	Tools, implements, cutlery, spoons and forks, of base metal; parts thereof, of base metal	possible (containers)	maritime, rail
83	Metal; miscellaneous products of base metal	possible (containers)	maritime, rail
84-85 Machinery / Electrical			
84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	-	maritime, rail, road
85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers; television image and sound recorders and reproducers, parts and accessories of such articles	possible (containers)	air, maritime, rail, road
86-89 Transportation			
86	Railway, tramway locomotives, rolling-stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (including electro-mechanical) traffic signalling equipment of all kinds	possible (containers)	air, maritime, rail, road
87	Vehicles; other than railway or tramway rolling stock, and parts and accessories thereof	possible (containers)	air, maritime, rail, road
88	Aircraft, spacecraft and parts thereof	-	air, maritime
89	Ships, boats and floating structures	-	Maritime
90-97 Miscellaneous			
90	Optical, photographic, cinematographic, measuring, checking, medical or surgical instruments and apparatus; parts and accessories	possible (containers)	air, maritime, rail, road
91	Clocks and watches and parts thereof	possible (containers)	air, maritime, rail, road
92	musical instruments; parts and accessories of such articles	possible (containers)	air, maritime, rail, road
93	Arms and ammunition; parts and accessories thereof	possible (containers)	air, maritime, rail, road
94	Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, n.e.c.; illuminated signs, illuminated	possible (containers)	air, maritime, rail, road

Commodity Group	Description	Possibility of containerization	Preferential mode of transport
	name-plates and the like; prefabricated buildings		
95	Toys, games and sports requisites; parts and accessories thereof	possible (containers)	air, maritime, rail, road
96	Miscellaneous manufactured articles	possible (containers)	air, maritime, rail, road
97	Works of art; collectors' pieces and antiques	possible (containers)	air, rail, road

According to CCTT and OSJD[6], railways should be able to compete with air or maritime transport for the following goods:

- pharmaceuticals (high competition with air transport)
- electronic products (competition with air or maritime transport)
- IT products (competition with air or maritime transport)
- fashion products (competition with maritime transport)
- footwear (competition with maritime transport)
- automotive components (competition with maritime transport)
- tires (competition with maritime transport)
- specific construction materials (competition with maritime transport)
- timber and wood (competition with maritime transport)
- chemicals (competition with maritime transport)
- fertilizers (competition with maritime transport)
- white goods (competition with maritime transport)
- pipes (competition with maritime transport)
- particular agricultural products (competition with maritime transport)
- machinery (competition with maritime transport).

Cheap and bulky products such as raw materials, petroleum products and liquefied gas were not and probably would never be transported inland between Europe and Asia in reasonably high volumes.

According to CCTT and OSJD, electronic products were mostly transported from China to Europe by railway, whereas there was an increasing interest to move automotive components, cars, pharmaceuticals, chemicals and food (including frozen foods) from the Europe to China.

Examples of specific services included:

• The Chongqing-Xinjiang-Europe train with electronics, cars, and medical equipment;

[6] Annual TSR Digest 2016. Coordinating Council on Trans-Siberian Transportation International Association, 2017

• The international cargo train (Chang'an) from Xi'an to Rotterdam with trucks, steel, aluminium, apple juice and electric power control units;

• The Zhengzhou-Xinjiang-Europe train with electronic products, construction machinery, vehicles and parts, medical equipment and other high value products;

• The Suzhou-Manchuria-Europe train (through Siberia) with liquid crystal monitors and laptops.

Regarding temperature sensitive products, DHL introduced in January 2014 the first temperature-controlled rail container service between China and Europe on a year-round basis.

With the development of Internet technologies, improved Internet access as well as express delivery, e-commerce market was established, which was increasing its share in Europe-Asia trade flows.

According to the WTO[7] in 2013 business to business (B2B) e-commerce was valued at about US$ 15 trillion and business to customer (B2C) e-commerce at more than US$ 1 trillion.

An indicator of increasing cross-border trade in e-commerce is the volume of small parcels passing through customs. It increased by 48 per cent between 2011 and 2014, according to the Universal Postal Union. According to the China Post, in 2015 the volume of postal items shipments from China grew up to 120 million items. Given the difficulties in capturing all the international e-commerce transactions, it was not possible to accurately measure the size of this market using official statistics like the United Nations Comtrade database. Private sector estimates, however, indicated that the Asia-Pacific region was the largest e-commerce market in 2014.

According to AliResearch, by 2020, more than 900 million people around the world would be international online shippers with their purchases accounting for nearly 30 per cent of all global B2C transactions. China should become the largest cross-border B2C market by 2020, with the transaction volume of goods purchased online reaching $245 billion[8].

At the same time, e-shops as the biggest participants in the e-commerce market would aim at optimization of goods (postal parcels) shipment routes to customers in order to speed up the delivery and minimize costs.

Inland transport was a good candidate for gaining a good market share. According to UPS Study[9], the delivery of goods transported via the inland route in the Chengdu – Lodz and Zhangzhou – Hamburg service was twice as fast as via maritime route with 70 per cent price advantage vis-à-vis the air transport. The survey undertaken among UPS clients showed that 71 per cent of the interviewers were willing to switch to the inland transport.

I.2.2. Main trade partners

For the purposes of this report, the matrix of corresponding European and Asian countries was developed.

All countries participating in the EATL Project were divided into 2 groups:

[7] World Trade Organization (2015) International Trade Statistics
[8] CCTT (2016) Annual TSR Digest
[9] UPS (2016) Pulse of the Online Shopper

1) Countries participating in the Euro-Asian trade from the side of Asian continent (Afghanistan, Armenia, Azerbaijan, China, India, Islamic Republic of Iran, Japan, Kazakhstan, Republic of Korea, Kyrgyzstan, Mongolia, Pakistan, Russian Federation, Tajikistan, Turkey, Turkmenistan, Uzbekistan);

2) Countries participating in the Euro-Asian trade from the side of European continent (European Union member states, Belarus, Bosnia and Herzegovina, Georgia, Republic of Moldova, Russian Federation, Serbia, Switzerland, the former Yugoslav Republic of Macedonia, Turkey and Ukraine).

Two matrices - Asian exports to Europe and Asian import from Europe were developed with the following in mind.

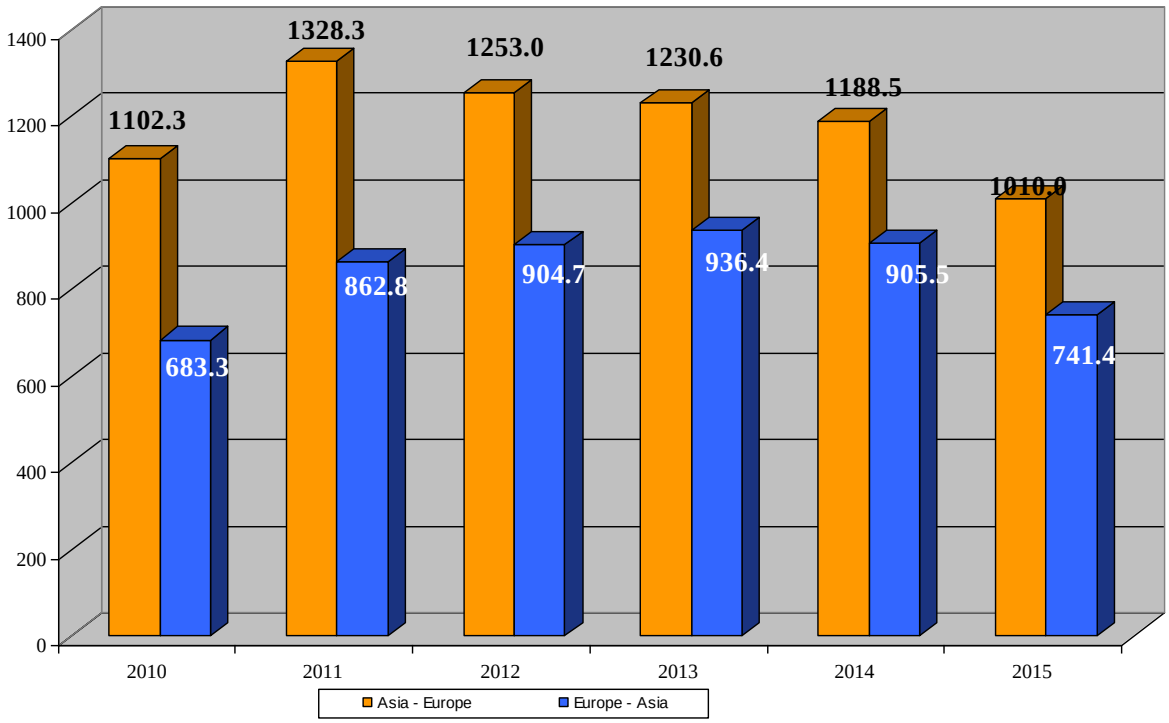
1) European Union member States represented in the matrix as the EU-28 ,

2) Three countries that do not participate in the EATL Project, are also included in the matrix due to their gravity (potential gravity) to the Euro-Asian land transit: India, Japan and the Republic of Korea,

3) Two countries – the Russian Federation and Turkey – are included twice, both in the European part of the matrix, and in its Asian part. This is done due to the fact that these countries, being at the crossroads of continents, conduct trade from Europe as well from Asia and both trade flows are oriented to Euro-Asian inland transit.

In accordance with the United Nations Comtrade database, the total volume of trade between Europe and Asia, which can be served by inland transport routes, was 1 751.4 billion US Dollars in 2015. Asian exports to Europe amounted to 1 010 billion US Dollars, while imports of goods from Europe to Asia reached 741.4 billion US Dollars (Figure 1.3).

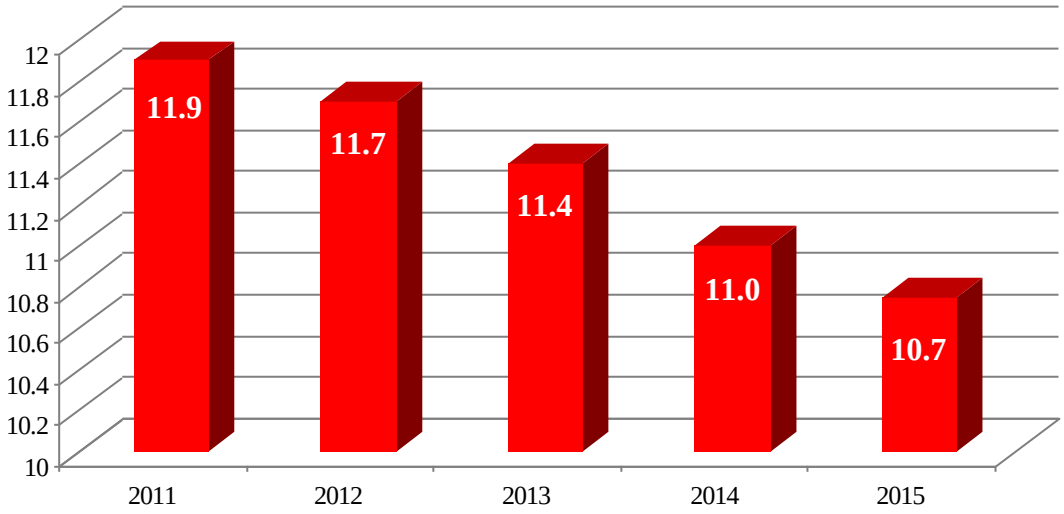
Figure 1.3
Dynamics of trade in goods between selected European and Asian countries in 2010-2015, billion US Dollars



Source: UN Comtrade database

The share of trade between Europe and Asia, which can be served by inland transport routes, declined from 2011 to 2015 as percentage of global trade: it amounted to 10.7% in 2015 in comparison with 11.9% in 2011 (Figure 1.4).

Figure 1.4
Share of volume of trade in goods between selected European and Asian countries in world merchandise trade in 2011-2015, per cent



Sources:
UN Comtrade database,
WTO (2016) World Trade Statistics Review 2016

The matrix of trade flows between the selected European and Asian countries are presented in Tables 1.10-1.21 and matrix flows for certain types of commodity nomenclature – in the Annex.

Table 1.10
Import of goods to Asia from selected European countries in 2010, million US dollars

Countries of Asia (Importers)	Countries of Europe (exporters)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Afghanistan	14.7	1.2	0.0	1 024.8	0.1	0.6	539.0	28.4	5.3	259.9	14.0	**1 888.0**
Armenia	42.1	0.0	160.2	732.9	0.1	1.4	396.1	0.6	33.9	0.0	201.3	**1 568.6**
Azerbaijan	140.2	0.4	244.0	3 106.6	1.7	7.5	1476.9	5.8	136.6	1 551.2	610.8	**7 281.7**
China	475.8	5.0	24.3	149 968.7	89.2	2.3	19 783.0	7.3	7 178.1	2 259.8	1 316.6	**181 110.1**
Iran	97.2	30.3	12.1	14 975.8	1.8	3.1	3 359.0	32.3	674.9	3 043.4	1 030.7	**23 260.6**
Kazakhstan	464.8	0.0	47.9	6 918.8	0.3	30.5	10 690.4	4.6	168.3	819.9	1 300.5	**20 446.0**
Kyrgyzstan	85.5	0.0	3.1	278.9		2.5	975.4		7.3	129.2	75.0	**1 556.9**
Mongolia	13.2	0.1	0.1	319.6		0.2	936.6	0.3	2.7	11.2	33.3	**1 317.3**
Pakistan	33.7	0.1	0.0	4 938.5	0.1	0.1	104.3	1.2	283.9	248.2	113.0	**5 723.1**
Russian Federation	9 953.6	25.7	33.9	114 019.1	26.7	404.0	-	534.7	2 585.7	4 631.5	13 431.9	**145 646.8**
Tajikistan	42.1	0.0	2.5	191.0		0.7	672.6	1.5	3.4	144.1	74.7	**1 132.6**
Turkey	104.8	55.0	216.0	81 219.9	50.9	67.5	13 958.6	88.0	2 030.2	-	3 026.6	**100 817.5**
Turkmenistan	87.2	0.0	12.2	956.7	0.1	1.0	717.5	2.8	16.0	1 139.2	208.9	**3 141.6**
Uzbekistan	95.1	0.0	6.7	1 646.6		4.5	1 663.5	1.5	96.1	283.0	228.5	**4 025.5**
India *)	330.8	26.3	12.0	46 159.0	2.4	3.4	5 406.3	9.7	2 464.6	606.8	1 426.0	**56 447.3**
Japan *)	3.6	0.4	8.1	58 173.1	0.9	0.4	12 496.6	1.6	6 474.0	272.3	104.8	**77 535.8**
Republic of Korea *)	25.1	0.1	7.0	36 987.1	1.8	0.0	10 407.9	0.9	2183.7	304.6	498.0	**50 416.2**
TOTAL	**12 009.5**	**144.6**	**790.1**	**521 617.1**	**176.1**	**529.7**	**83 583.7**	**721.2**	**24 344.7**	**15 704.3**	**23 694.6**	**683 315.6**

Source: UN Comtrade database
*) India, Japan and Republic of Korea are non EATL Project countries

Table 1.11
Export of goods from Asia to selected European countries in 2010, million US dollars

Countries of Asia (Exporters)	Countries of Europe (importers)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Afghanistan	2.0	0.0	0.0	54.6	0.0		19.5	0.0	0.6	5.1	0.5	82.3
Armenia	5.1	0.1	45.5	343.0	0.0	0.9	158.5	0.8	3.2	2.6	17.9	577.6
Azerbaijan	6.0	0.0	464.2	12 866.2	0.2	0.2	385.9	0.5	924.6	865.1	951.2	16464.1
China	1 684.1	444.0	333.7	37 4248.6	288.8	320.2	38 960.9	1 202.5	5 848.2	17 180.8	4 700.4	445 212.2
Iran	7.6	2.4	55.1	19 242.4	5.5	1.0	271.6	15.8	42.5	7 644.8	49.9	27 338.6
Kazakhstan	405.8	6.1	91.6	21 070.4	1.5	15.8	4 449.4	30.4	1 075.6	2 471.0	766.2	30 383.8
Kyrgyzstan	8.3	0.2	1.4	263.1	1.1	0.5	393.3	3.8	0.1	30.9	6.2	708.9
Mongolia	0.0	0.0		133.9	0.2	0.0	79.1	0.0	1.2	0.9	11.1	226.4
Pakistan	15.7	5.5	2.0	5 070.4	4.9	2.9	240.2	9.2	60.5	749.9	55.2	6 216.4
Russian Federation	18 080.6	805.2	279.7	212 788.6	552.5	586.5		2 157.2	1 000.2	21 599.6	22 198.0	280 048.1

Countries of Asia (Exporters)	Countries of Europe (importers)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Tajikistan	5.5	0.0	0.1	75.1	0.0	0.0	213.7	0.4	0.2	283.7	3.5	582.2
Turkey	259.4	256.4	883.6	56 159.6	261.7	205.8	4 866.0	324.9	736.0		1 298.3	65 251.7
Turkmenistan	3.6	0.1	59.2	485.6	1.3	1.7	148.0	1.5	0.1	386.3	31.4	1 118.8
Uzbekistan	58.5	0.3	9.7	459.3	0.4	3.6	1 513.5	9.5	32.8	861.4	81.7	3 030.7
India *)	152.0	36.5	32.5	44 119.1	34.5	26.0	2 143.3	113.4	969.5	3 409.9	680.7	51 717.4
Japan *)	184.8	55.8	80.9	89 101.9	45.4	34.4	10 259.7	136.9	3 537.3	3 297.8	801.8	107 536.7
Republic of Korea *)	139.2	45.6	29.3	52 186.8	43.4	23.3	7 281.5	126.0	422.4	4 764.0	768.0	65 829.5
TOTAL	21 018.2	1 658.2	2 368.5	888 668.6	1 241.4	1 222.8	71 384.1	4 132.8	14 655.0	63 553.8	32 422.0	1102 325.4

Source: UN Comtrade database

*) India, Japan and Republic of Korea are non EATL Project countries

Table 1.12

Import of goods to Asia from selected European countries in 2011, million US dollars

Countries of Asia (Importers)	Countries of Europe (exporters)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Afghanistan	140.3	1.6	2.1	1 247.5	0.6	5.4	801.3	10	10.8	276	14.1	2 509.7
Armenia	24.2	0.1	218.4	896.7	0.2	2.9	437.1	0.7	29.2	0.2	227.6	1 837.3
Azerbaijan	138.6	0.5	425.8	4 010.6	0.2	5.7	2 196.4	3.9	236.5	2 064.2	708.3	9 790.7
China	631.6	5.8	28.9	189 785.8	127.5	3.9	34 692.4	15.3	9 971.2	2 466.6	2180	239 909.0
Iran	124.5	32.3	16.2	14 604.4	0.9	1.0	3 277.1	48.4	761.5	3 589.7	1 127.4	23 583.4
Kazakhstan	668.7	0.1	156.9	8 326.1	0.2	45.5	14 173.7	9.9	318.1	947.9	1 857.5	26 504.6
Kyrgyzstan	218.2	0.1	7.6	568.0		2.9	1 156.4	0.0	9.0	180.4	111.3	2 253.9
Mongolia	77.4	0.0	0.8	573.8		0.1	1 485.6	0.4	9.9	43.4	45.3	2 236.7
Pakistan	48.8	0.4	0.4	5 226.4		0.1	126.3	0.4	315.4	213.7	183.7	6 115.6
Russian Federation	14 397.7	37.8	21.2	151 061.7	39.6	625.5		792.3	3 396.5	5 992.7	19 819.7	196 184.7
Tajikistan	50.1	0.0	4.5	195.0	0.0	1.2	721.4	0.8	4.3	172.6	60.2	1 210.1
Turkey	128.6	106.7	214.1	101 945.9	73.4	73.4	15 086.8	183.2	2 421.7		3 748.6	123 982.4
Turkmenistan	213.8	0.0	5.5	1 326.0	0.1	1.2	1 116.9	1.4	23.6	1 493.4	241.9	4 423.8
Uzbekistan	63.8	0.0	12.8	1 810.3		5.8	1 983.1	2.7	100.5	354.5	353.8	4 687.3
India *)	331.2	15.2	19.3	56 460.9	18.1	5.6	4 665.7	8.4	3364.8	756.1	2 265.3	67 910.6
Japan *)	12.2	0.3	2.9	68 275.1	1.1	0.9	14 234.7	2.3	7 509.2	296.4	152.5	90 487.6
Republic of Korea *)	8.6	0.2	8.5	42 235.3	19.4	0.2	13 329.7	1.4	2 620.4	527.8	467.6	59 219.1
TOTAL	17 278.3	201.1	1145.9	648 549.5	281.3	781.3	109 484.6	1081.5	31 102.6	19 375.6	33 564.8	862 846.5

Source: UN Comtrade database

*) India, Japan and Republic of Korea are non EATL Project countries

Table 1.13
Export of goods from Asia to selected European countries in 2011, million US dollars

Countries of Asia (Exporters)	Countries of Europe (importers)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Afghanistan	2.8	0.0	0.0	66.3	0.0		28.1	0.1	0.1	4.8	1.1	103.3
Armenia	5.5	0.1	51.4	448.3	0.0	0.2	183.8	5.5	6.8	0.1	18.5	720.2
Azerbaijan	825.8	0.0	446.6	21 517.8		2.7	571.1	0.1	503.7	262.3	643.3	24 773.4
China	2 166.5	551.5	525.1	410 570.8	354.9	399.8	48 038.4	1 488.5	7 119.3	21 693.0	6 268.3	499 176.1
Iran	8.9	2.2	64.9	24 116.6	5.3	1.3	351.4	9.7	34.6	12 461.5	46.5	37 102.9
Kazakhstan	136.8	2.7	69.6	31 897.7	1.6	31.9	6 912.7	110.8	2 179.4	1 995.1	1 675.9	45 014.2
Kyrgyzstan	9.1	0.5	1.4	76.3	1.6	0.1	290.8	4.8	0.1	52.1	7.5	444.3
Mongolia	0.0	0.0	0.8	100.6	0.6	0.0	89.1	0.0	2.2	3.0	4.9	201.2
Pakistan	13.4	6.8	4.9	6 502.6	4.9	3.0	349.3	8.6	82.1	873.1	68.2	7916.9
Russian Federation	24 709.8	1 163.6	312.6	280 185.2	684.3	823.0		2 654.2	1 005.8	23 952.9	29 132.2	364 623.6
Tajikistan	21.9	0.0	0.6	105.6	0.0	0.0	88.6	7.0	0.0	324.3	13.0	561.0
Turkey	315.3	320.3	1 276.5	67 635.4	345.4	366.9	6 352.5	405.1	872.9		1 481.2	79 371.5
Turkmenistan	8.0	0.0	55.5	622.4	4.0	9.1	142.6	0.4	45.6	392.7	736.0	2 016.3
Uzbekistan	44.3	1.4	11.7	551.9	0.1	10.6	1 756.2	16.3	9.4	939.9	643.9	3 985.7
India *)	172.6	52.9	55.4	55 566.4	47.4	37.6	2 760.6	149.6	1 471.5	6 498.7	812.3	67 625.0
Japan *)	245.5	62.5	174.1	98 227.5	52.0	43.7	15 012.6	165.6	4 675.8	4 263.7	1 014.0	123 937.0
Republic of Korea *)	188.9	50.1	46.9	50 534.5	45.8	34.6	11 575.7	158.1	556.3	6 298.5	1 236.0	70 725.4
TOTAL	28 875.1	2 214.6	3 098.0	104 872.6	1 547.9	1 764.5	94 503.5	5 184.4	18 565.6	80 015.7	43 802.8	1328 298.0

Source: UN Comtrade database
*) India, Japan and Republic of Korea are non EATL Project countries

Table 1.14
Import of goods to Asia from selected European countries in 2012, million US dollars

Countries of Asia (Importers)	Countries of Europe (exporters)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Afghanistan	156.3	2.0	13.4	1 212.7	0.6	8.2	938.4	3.5	12.2	290	21	2 658.3
Armenia	31.1	0.0	255.6	876.4	0.2	1.4	447.9	1.1	83.6	0.2	179.2	1 876.7
Azerbaijan	139.2	0.4	626.4	3 839.7	0.8	5.4	2 845.7	31.6	198.2	2 587.5	766.6	11 041.5
China	432.0	5.6	25.6	185 040.4	158.8	8.3	35 766.8	19.8	9 928.1	2 833.4	1 777.2	235 996.0
Iran	108.4	18.6	18.5	9 481.1	0.1	1.2	1 900.4	32.9	495.4	9 922.6	1 164.7	23 143.9
Kazakhstan	804.1	0.3	62.2	8 893.8	0.8	50.3	14 892.5	11.4	239.9	1 069.4	2 459.3	28 484.0
Kyrgyzstan	141.8	0.1	8.9	541.3		2.8	1 634.1	0	11.8	257.5	127.1	2 725.4
Mongolia	111.4	0.2	3.2	560.6		0.1	1 851.4	0.3	11.3	35.9	45.5	2 619.9
Pakistan	53.9	0.1	0.2	5 289.0	0.0		210.0	0.4	278.6	276.5	114.1	6 222.8
Russian Federation	16 161.4	36.8	36.5	158 535.7	33.1	655.1		866.2	3 157.9	6 683.0	17 631.7	203 797.4

Countries of Asia (Importers)	Countries of Europe (exporters)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Tajikistan	48.2	0.0	4.8	209.6		0.9	678.8	1.4	2.8	235.0	100.8	1 282.3
Turkey	145.2	115.7	134.8	96 833.1	66.8	56.1	16 103.2	187.0	4 401.8		3 685.1	121 728.8
Turkmenistan	230.2	0.0	8.0	1 703.3	0.1	0.8	1 210.6	0.5	33.6	1 480.5	528.2	5 195.8
Uzbekistan	95.5	0.0	16.2	1 570.2		8.2	2 324.7	1.2	69.7	450.4	435.9	4 972.0
India *)	263.9	11.1	14.9	49 502.4	24.0	3.7	7 566.7	4.9	30 629.2	791.7	2 290.9	91 103.4
Japan *)	15.1	0.7	5.7	71 414.7	1.5	1.1	15 588.0	4.2	7 648.4	332.0	320.5	95 331.9
Republic of Korea *)	37.9	1.0	2.9	48 561.3	57.9	0.0	13 865.5	2.2	2 954.8	528.0	481.9	66 493.4
TOTAL	18 975.6	192.6	1 237.8	644 065.3	344.7	803.6	117 824.7	1 168.6	60 157.3	27 773.6	32 129.7	904 673.5

Source: UN Comtrade database

*) India, Japan and Republic of Korea are non EATL Project countries

Table 1.15

Export of goods from Asia to selected European countries in 2012, million US dollars

Countries of Asia (Exporters)	Countries of Europe (importers)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Afghanistan	1.5	0.1	0.0	73.7	0.0		11.3	0.1	1.3	6.5	0.9	95.4
Armenia	6.7	0.1	68.3	353.9	0.0	0.4	300.7	0.3	9.0	0.2	22.9	762.5
Azerbaijan	12.2	34.1	448.4	18 364.5		0.5	563.6	0.8	238.6	339.9	79.7	20 082.3
China	2 345.0	536.2	613.6	374 828.4	374.9	415.7	51 767.7	1 385.5	11 072.6	21 295.1	7 899.6	472 534.3
Iran	9.1	2.4	100.4	7 264.8	2.9	1.0	428.5	7.7	39.4	11 964.6	67.4	19 888.2
Kazakhstan	119.0	2.5	131.8	31 562.4	6.0	26.5	9 409.3	415.3	1 459.0	2 056.1	1 494.9	46 682.8
Kyrgyzstan	12.5	0.9	2.5	69.8	2.3	0.3	195.7	6.4	344.1	45.2	6.5	686.2
Mongolia	0.0	0.0		86.8	0.0	0.0	64.3	0.0	38.5	0.0	4.6	194.2
Pakistan	11.9	6.0	5.8	5 278.2	5.8	3.8	332.2	9.7	114.9	555.0	121.5	6 444.8
Russian Federation	27 268.6	981.1	385.7	276 499.8	362.1	816.9		2 076.6	3 082.6	26 625.0	27 418.3	365 516.7
Tajikistan	9.3	3.9	0.0	154.3	0.0	0.0	67.7	48.7	53.7	345.2	7.2	690.0
Turkey	343.2	295.0	1 468.8	62 042.9	325.4	388.2	6 840.0	439.0	2 389.7		1 951.9	76 484.1
Turkmenistan	6.2	0.0	30.7	860.7	2.2	4.0	183.8	0.1	29.6	303.0	123.4	1 543.7
Uzbekistan	29.0	2.4	12.1	334.5	0.1	8.6	1 390.8	4.3	543.2	813.3	109.0	3 247.3
India *)	231.8	47.3	73.9	48 173.4	50.9	30.5	3 041.3	153.5	1 547.4	5 843.6	1 020.7	60 214.3
Japan *)	179.7	58.2	312.6	83 218.5	48.4	30.9	15 676.1	186.2	5 045.9	3 601.4	1 197.8	109 555.7
Republic of Korea *)	150.9	45.2	53.0	48 848.2	23.1	32.8	10 976.9	146.6	883.2	5 660.1	1 547.2	68 367.2
TOTAL	30 736.6	2 015.4	3 707.6	958 014.8	1 204.1	1 760.1	101 249.9	4 880.8	26 892.7	79 454.2	43 073.5	1 252 989.7

Source: UN Comtrade database

*) India, Japan and Republic of Korea are non EATL Project countries

Table 1.16
Import of goods to Asia from selected European countries in 2013, million US dollars

Countries of Asia (Importers)	Countries of Europe (exporters)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Afghanistan	4.8	0.5	8.3	767.4	0.2	1.0	631.0	4.9	9.7	228.2	16.1	1 672.1
Armenia	29.9	0.0	312.5	946.4	0.1	1.1	468.4	1.8	84.3	0.1	181.0	2 025.6
Azerbaijan	164.1	0.6	710.0	4 965.7	0.5	6.5	2 942.5	56.1	256.9	2 960.4	869.0	12 932.3
China	460.3	7.1	33.9	196 827.9	103.9	6.5	35 625.4	9.1	20 986.7	3 600.9	2 726.7	260 388.4
Iran	32.9	19.1	46.9	7 233.0	0.2	0.9	1 168.6	13.9	358.8	4 192.5	793.9	13 860.7
Kazakhstan	862.0	0.3	103.6	9 945.2	0.3	39.2	17 218.2	11.6	210.4	1 039.4	2 120.1	31 550.3
Kyrgyzstan	98.2	0.0	8.9	531.5		3.3	2 029.4	0.6	17.5	388.3	134.7	3 212.4
Mongolia	107.7	0.1	4.6	677.7		0.1	1 572.1	0.8	13.2	48.1	45.8	2 470.2
Pakistan	42.5	0.1	2.9	5 092.3	0.1	1.9	197.1	0.4	299.7	285.9	234.1	6 157.0
Russian Federation	16 733.7	38.8	179.3	158 985.4	31.6	631.9		1 062.7	3 388.5	6 994.2	15 077.3	203 123.4
Tajikistan	29.7	0.0	7.9	260.7	0.1	1.9	724.4	0.5	3.5	283.6	61.3	1 373.6
Turkey	167.8	114.0	183.8	103 165.4	71.7	127.1	15 122.1	219.0	8 900.9		3 805.5	131 877.3
Turkmenistan	315.7	0.0	14.1	1 449.1	0.1	1.0	1 429.9	0.3	28.3	1 957.5	395.1	5 591.1
Uzbekistan	92.2	0.0	22.7	1 868.3	0.0	7.6	2 803.9	1.9	87.6	562.5	351.7	5 798.4
India *)	172.7	1.1	6.4	47 620.7	28.7	0.7	6 982.7	7.8	25 870.6	586.9	1974.6	83 252.9
Japan *)	21.5	0.6	3.6	71 666.5	1.6	0.5	19 667.5	6.3	6 925.7	409.2	458.4	99 161.4
Republic of Korea *)	30.2	0.9	0.9	53 058.2	0.7	0.4	14 867.1	0.5	3 112.8	460.1	407.5	71 939.3
TOTAL	19 365.9	183.2	1 650.3	665 061.4	239.8	831.6	123 450.3	1 398.2	70 555.1	23 997.8	29 652.8	936 386.4

Source: UN Comtrade database
*) India, Japan and Republic of Korea are non EATL Project countries

Table 1.17
Export of goods from Asia to selected European countries in 2013, million US dollars

Countries of Asia (Exporters)	Countries of Europe (importers)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Afghanistan	1.2	0.1	1.0	74.0	0.0		14.3	0.1	4.1	10.7	2.3	107.8
Armenia	8.5	0.0	180.4	347.9	0.0	0.5	352.4	0.1	8.1	0.4	19.7	918.0
Azerbaijan	12.6	0.0	400.1	18 851.8	0.1	0.3	635.9	0.0	266.8	3 337.7	77.8	23 583.1
China	2 827.2	620.3	611.6	371 903.1	379.6	478.9	53 173.1	1 509.6	12 334.8	24 685.9	7 903.2	476 427.3
Iran	9.6	1.7	129.7	1 029.1	1.8	1.5	432.9	3.6	33.3	10 383.2	83.7	12 110.1
Kazakhstan	77.7	3.5	55.3	31 165.2	2.8	32.7	5 664.9	888.2	1 877.0	1 760.1	683.6	42 211.0

Countries of Asia (Exporters)	Countries of Europe (importers)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Kyrgyzstan	12.7	0.7	2.1	102.9	1.8	0.3	110.1	5.7	363.8	37.0	11.8	648.9
Mongolia	0.0	0.1		94.9		0.0	40.9		310.8	0.4	1.4	448.5
Pakistan	15.8	7.3	5.4	6 015.2	6.6	2.7	350.0	9.8	105.3	436.7	93.8	7 048.6
Russian Federation	22 573.3	1 022.0	503.2	274 191.1	163.6	788.0		1 903.5	4 736.4	25 064.2	23 244.0	354 189.3
Tajikistan	4.9	0.4	0.0	119.0		0.0	37.9	1.2	50.3	371.4	5.2	590.3
Turkey	397.4	234.4	1 408.9	66 910.3	314.5	381.0	7 272.8	530.9	1 471.3		1 852.9	80 774.4
Turkmenistan	3.4	0.0	47.9	1 150.1	1.1	3.2	139.4	0.1	0.9	653.8	100.5	2 100.4
Uzbekistan	33.6	3.4	15.5	328.1	0.3	9.8	1 256.9	0.4	1 539.0	815.4	91.6	4 094.0
India *)	181.1	54.4	55.7	48 869.6	68.7	35.0	3 091.2	173.9	1 662.3	6 367.8	838.6	61 398.3
Japan *)	213.0	51.7	319.9	75 062.1	55.5	37.3	13 560.5	124.2	4 026.5	3 453.2	985.0	97 888.9
Republic of Korea *)	204.7	47.7	70.7	47 592.5	29.1	33.9	10 305.4	141.1	709.3	6 088.3	830.6	66 053.3
TOTAL	26 576.7	2 047.7	3 807.4	943 806.9	1 025.5	1 805.1	96 438.6	5 292.4	29 500.0	83 466.2	36 825.7	1 230 592.2

Source: UN Comtrade database

*) India, Japan and Republic of Korea are non EATL Project countries

Table 1.18

Import of goods to Asia from selected European countries in 2014, million US dollars

Countries of Asia (Importers)	Countries of Europe (exporters)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Afghanistan	4.2	0.1	1.5	640.8	0.3	0.1	407.6	5.1	8	186.2	10.2	1 264.1
Armenia	27.2	0.0	280.6	937.9	0.3	2.1	534.8	1.7	125.2		173.4	2 083.2
Azerbaijan	186.6	0.9	544.2	4 605.1	0.6	5.9	2 144.3	15.7	192	2 874.6	591.6	11 161.5
China	639.0	9.2	90.4	217 443.3	92.6	8.2	37 414.6	14.2	18 407.1	2 861.1	2 674.1	279 653.8
Iran	84.3	2.1	28.2	8 487.2	0.8	2.1	1 325.5	15.9	666.1	3 886.2	703.4	15 201.8
Kazakhstan	875.5	0.1	88.6	8 922.5	0.1	45.3	13 862.3	16.8	235.6	977.5	1 073.2	26 097.5
Kyrgyzstan	88.8	0.0	10.0	530.2		3.3	1 737.7	1.4	15.9	421.4	102.5	2 911.2
Mongolia	21.7	0.1	2.3	438.4	0.2	0.0	1 460.4	0.6	10.5	35.3	38.0	2 007.5
Pakistan	42.6	0.1	0.7	5 253.6	1.2	7.9	143.1	0.7	299.0	259.3	397.8	6 406.0
Russian Federation	15 071.6	54.0	270.0	136 267.3	42.1	423.7		1 029.1	3 174.6	5 943.0	9 799.1	172 074.5
Tajikistan	30.6	0.9	10.8	286.1	0.0	2.0	890.9	0.8	121.0	277.4	46.7	1 667.2
Turkey	161.3	155.5	222.4	98 243.6	67.6	104.7	14 755.2	230.9	4 902.1		3 561.4	122 404.7
Turkmenistan	174.0	0.0	14.3	1 451.9	0.2	1.2	1 137.7	1.6	22.2	2 231.2	431.3	5 465.6
Uzbekistan	67.1	0.0	54.8	2 061.8		8.1	3 113.6	7.2	142.7	603.0	308.6	6 366.9

Countries of Asia (Importers)	Countries of Europe (exporters)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
India *)	210.4	0.5	10.8	46 196.2	22.0	0.6	4 395.7	8.7	21 118.4	586.6	1 817.4	74 367.3
Japan *)	12.5	1.5	3.3	69 751.7	1.2	1.4	19 830.8	6.8	6 981.3	375.5	209.6	97 175.6
Republic of Korea *)	42.6	4.4	3.5	56 802.1	0.1	0.1	18 081.8	2.4	3 242.3	470.5	510.3	79 160.1
TOTAL	17 740.0	229.4	1 636.4	658 319.7	229.3	616.7	121 236.0	1 359.6	59 664.0	21 988.8	22 448.6	905 468.5

Source: UN Comtrade database

*) India, Japan and Republic of Korea are non EATL Project countries

Table 1.19

Export of goods from Asia to selected European countries in 2014, million US dollars

Countries of Asia (Exporters)	Countries of Europe (importers)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Afghanistan	1.4	0.4		63.3	0.0	0.1	12.7	0.1	0.1	16.5	1.0	95.6
Armenia	9.0	0.0	205.1	304.4	0.0	0.4	314.2	0.1	4.8	1.5	13.3	852.8
Azerbaijan	18.4	0.3	349.1	17 548.6	0.0	0.1	452.3	0.4	441.2	291.3	43.7	19 145.4
China	948.0	922.5	733.0	400 507.7	433.0	481.2	50 583.0	1 561.1	13 284.7	24 918.2	5408.9	499 781.3
Iran	6.1	2.3	122.7	1 532.3	1.6	1.1	355.1	3.9	32.7	9 833.3	52.7	11 943.8
Kazakhstan	82.5	2.7	35.2	31 209.4	1.8	27.3	7172.4	198.0	1 034.6	1 236.3	375.8	41 376.0
Kyrgyzstan	6.5	0.7	2.7	105.3	2.1	0.4	70.9	4.8	425.1	65.6	4.3	688.4
Mongolia	0.7	0.0		98.5	0.0	0.0	40.4	0.0	421.6	0.1	0.6	561.9
Pakistan	6.5	9.8	4.0	7 317.3	5.4	2.9	310.9	14.8	117.8	435.5	100.7	8325.6
Russian Federation	21 868.6	876.8	462.1	220 906.1	140.1	717.2		2 340.4	3 314.9	25 288.6	12678.7	288 593.5
Tajikistan	4.0	0.0	0.0	81.1	0.0	0.0	37.3	0.0	121.7	160.9	3.2	408.2
Turkey	338.7	394.8	1 727.3	72 035.9	377.8	300.9	6 654.3	589.7	3626.9		1298.2	87 344.5
Turkmenistan	5.1	0.1	69.3	1 083.9	1.5	0.0	90.9	0.6	29.9	623.3	24.6	1929.2
Uzbekistan	21.7	2.3	13.4	309.7	0.2	15.4	869.8	0.0	1 336.2	780.7	72.8	3422.2
India *)	71.0	68.3	50.5	49 144.7	48.2	36.9	3 170.7	139.9	1 777.0	6 898.6	656.4	62062.2
Japan *)	88.5	64.3	368.2	72 951.9	64.1	45.8	10 917.4	107.5	3 985.2	3 199.9	612.6	92405.4
Republic of Korea *)	62.7	52.3	51.5	51 477.0	32.6	38.6	8 972.5	119.8	690.1	7548.3	478.3	69523.7
TOTAL	23 539.4	2 397.6	4 194.1	926 677.1	1 108.4	1 668.3	90 024.8	5 081.1	30 644.5	81 298.6	21825.8	1188459.7

Source: UN Comtrade database

*) India, Japan and Republic of Korea are non EATL Project countries

Table 1.20
Import of goods to Asia from selected European countries in 2015, million US dollars

Countries of Asia (Importers)	Countries of Europe (exporters)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Afghanistan		0.0		345.7			157.4	0.0	6.1	85.8	8.2	603.2
Armenia	27.8	0.1	157.0	696.7	0.4	1.1	510.8	1.6	34.5		101.6	1 531.6
Azerbaijan	137.8	0.3	241.0	3 823.8	0.5	3.5	1 676.2	7.4	174.8	1 898.7	318.8	8 282.8
China	780.7	16.0	125.8	188 821.4	142.8	8.6	28 335.0	20.2	20 291.8	2 414.9	2 399.1	243 356.3
Iran	39.0	0.9	35.8	7 154.0	0.3	0.9	1017.2	9.4	945.7	3 664.2	533.6	13 401.0
Kazakhstan	522.8	0.3	45.0	6 865.8	0.0	58.6	10 301.6	24.4	172.4	750.2	712.7	19 453.8
Kyrgyzstan	55.4	0.0	6.7	298.6	0.1	1.9	1 289.4	8.0	17.1	294.7	75.5	2 047.4
Mongolia	23.1	0.1	0.9	353.4	0.1	0.4	1 117.2	0.3	6.5	23.1	28.2	1 553.3
Pakistan	43.8	0.0	0.4	4 908.1	0.7	0.6	96.6	0.7	325.8	289.2	111.0	5 776.9
Russian Federation	10 301.1	55.6	159.4	81 727.8	35.1	240.6		724.8	2 410.6	3 589.5	4 827.7	104 072.2
Tajikistan	20.9	0.0	4.4	183.2	0.0	0.8	759.1	0.2	46.6	162.8	30.0	1 208.0
Turkey	132.8	199.6	168.4	87 525.8	73.4	64.4	11 703.3	248.9	2 603.5		2 771.8	105 491.9
Turkmenistan	81.9	0.7	16.1	1 211.4	0.2	1.8	843.9	0.1	17.2	1 858.0	170.3	4 201.6
Uzbekistan	37.5		98.0	1 763.2		6.6	2221.2	0.4	78.0	488.7	174.5	4 868.1
India *)	316.5	1.4	14.3	42 257.4	13.8	0.3	4 549.9	5.6	21579.9	650.3	1444.1	70 833.5
Japan *)	18.1	0.1	3.3	62 578.6	1.1	1.3	14 426.4	42.3	6 897.8	334.8	235.6	84 539.4
Republic of Korea *)	41.9	3.6	2.6	52 964.7	0.7	0.2	13 196.1	3.2	3 007.0	568.6	395.4	70 184.0
TOTAL	12 581.1	278.7	1 079.1	543 479.6	269.2	391.6	92 201.3	1 097.5	58 615.3	17 073.5	14 338.1	741 405.0

Source: UN Comtrade database
*) India, Japan and Republic of Korea are non EATL Project countries

Table 1.21
Export of goods from Asia to selected European countries in 2015, million US dollars

Countries of Asia (Exporters)	Countries of Europe (importers)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Afghanistan			0.0	33.3			18.5		0.1	17.8	0.0	69.7
Armenia	5.8	0.0	143.7	338.5		0.6	175.8	34.9	3.3	1.0	7.4	711.0
Azerbaijan	4.3	0.1	226.4	11 865.3	0.0	0.3	440.9	5.6	221.6	232.4	30.3	13 027.2
China	2 321.4	619.4	587.4	388 956.6	390.5	366.4	35 199.3	1 540.2	12 597.7	24 873.5	3 771.0	471 223.4
Iran	11.7	2.4	92.3	1 370.1	2.5	1.1	261.4	5.1	20.6	6 096.2	30.5	7 893.9
Kazakhstan	45.2	1.9	22.2	18 022.8	0.8	11.0	4 275.0	142.2	198.1	1 109.8	377.6	24 206.6
Kyrgyzstan	4.0	0.4	1.7	56.0	2.1	0.2	61.9	4.8	441.2	76.9	5.8	655.0
Mongolia	0.1	0.0		92.8	0.0		43.5	0.0	404.2	0.5	0.9	542.0

Countries of Asia (Exporters)	Countries of Europe (importers)											
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**	**TOTAL**
Pakistan	12.6	9.2	4.2	6734.0	3.8	3.2	298.5	10.9	110.3	310.5	61.3	7 558.5
Russian Federation	16 894.3	516.3	515.8	151 314.4	154.0	535.7		1 748.5	1651.1	20 399.6	7 492.7	201 222.4
Tajikistan	3.7	0.0	0.0	64.7	0.1	0.1	45.8	4.4	140.9	203.8	2.8	466.3
Turkey	487.1	365.6	1 327.4	68 401.1	319.4	285.1	4 068.9	578.9	6102.8		851.7	82 788.0
Turkmenistan	2.0	0.0	111.8	474.2	0.6	2.7	71.3	0.2	0.7	557.4	16.3	1 237.2
Uzbekistan	27.8	1.1	7.0	272.8	0.3	12.3	575.8	0.1	1884.2	711.6	62.3	3 555.3
India *)	128.4	59.7	50.6	43 777.8	48.4	26.2	2 263.1	140.0	1530.1	5 613.6	443.7	54 081.6
Japan *)	84.4	60.0	211.3	66 409.5	56.6	42.1	6 818.6	109.6	3518.8	3 140.3	382.2	80 833.4
Republic of Korea *)	113.2	42.8	50.5	46 995.3	26.3	22.7	4 532.3	119.2	674.0	7 057.4	256.4	59 890.1
TOTAL	20 146.0	1 678.9	3 352.3	805 179.2	1 005.4	1 309.7	59 150.6	4 444.6	29 499.7	70 402.3	13 792.9	1 009 961.6

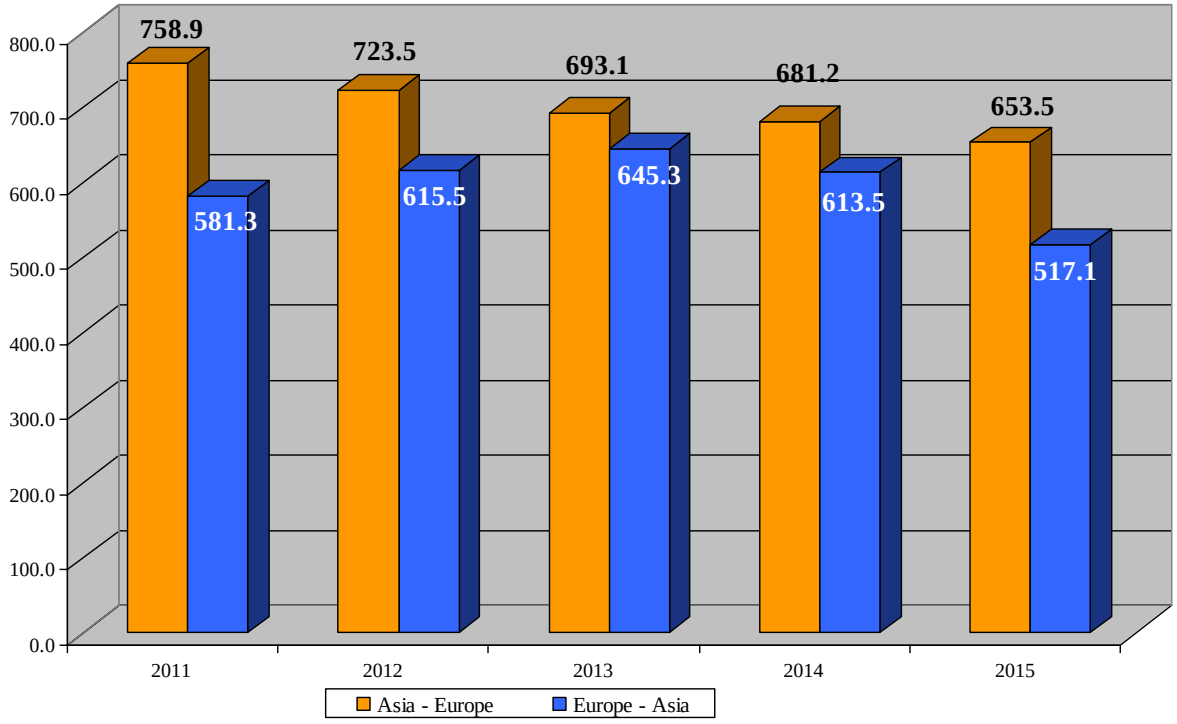
Source: UN Comtrade database

*) India, Japan and Republic of Korea are non EATL Project countries

Since not all goods in trade between Europe and Asia can be transported in containers, for example: oil, gas, coal, cerealswood, live animals, some types of machinery and equipment (nuclear reactors, boats, airplanes, railway rolling stock), such goods were excluded from the total trade volume between Europe and Asia to understand the size of the flows for the transport of which inland transport modes could compete with maritime transport. .

In accordance with the United Nations Comtrade database, the volume of containerizable trade between Europe and Asia, which can be served by inland transport routes, was 1 170.6 billion US Dollars in 2015. Asian exports to Europe amounted to 653.5 billion US Dollars, while imports of goods from Europe to Asia reached 517.1 billion US Dollars (Figure 1.5).

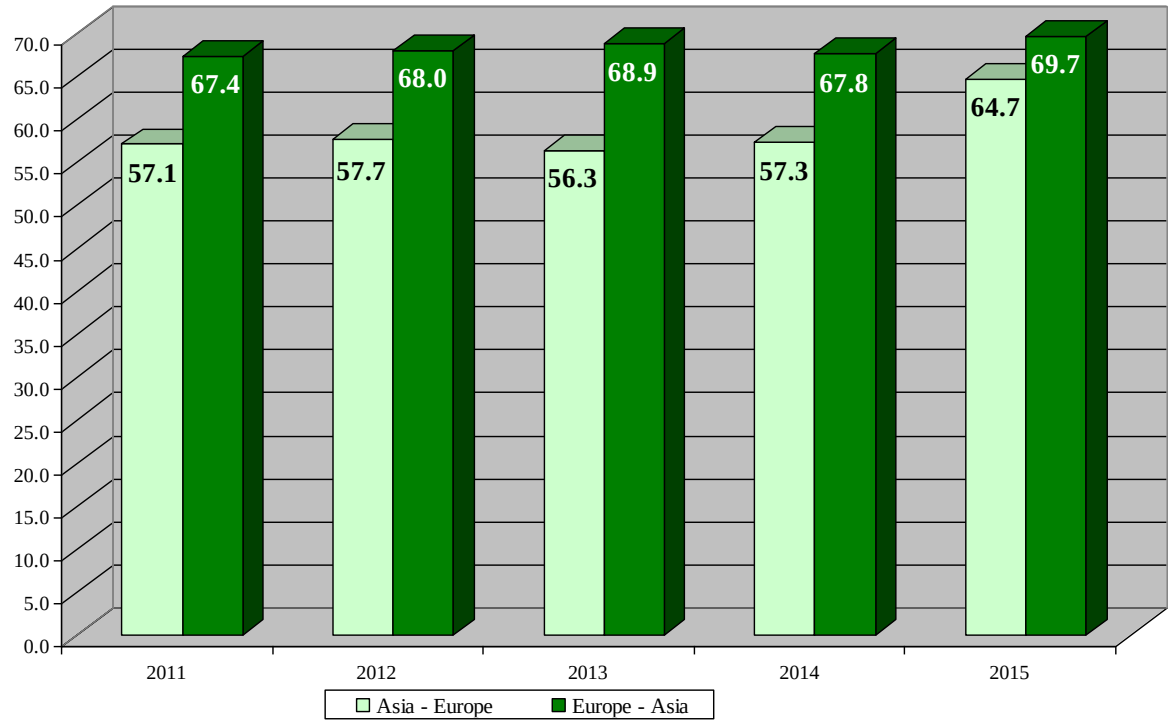
Figure 1.5
Dynamics of trade in containerizable goods between selected European and Asian countries in 2011-2015, billion US Dollars



Source: UN Comtrade database

The share of containerizable goods in total volume of trade between Europe and Asia in 2011-2015 was approximately 65% for Asia – Europe routes and 70% for Europe – Asia routes (Figure 1.6).

Figure 1.6
The share of containerizable goods in total volume of trade between selected European and Asian countries in 2011-2015, per cent



Source: UN Comtrade database

As the Annex indicates, for most types of goods the following pairs of trading partners are leading in the volume of trade flows between Europe and Asia: China – EC-28; Republic of Korea – EC-28; China – Russian Federation; China – Turkey; EC-28 – China; Japan – EU-28, etc.

I.3. Euro-Asian transport flows

I.3.1. EATL transport flows general overview

The Eurasian trade, according to various organisations such as UNCTAD, Eurostat, IATA, UIC, Boeing Corporation and their container statistics[10] at the end of the EATL phase III Project was provided primarily by maritime routes. Approximately 97 per cent of cargo by their volume (in metric tons) and 70 per cent of cargo by their value (in US Dollars) was transported by sea. The share of air cargo in freight traffic between Europe and Asia was less than 2 per cent by volume, but 30 per cent by value. Railways carried 1 per cent of cargo by volume and more than 2 per cent by value. Road transport was involved in trade and transit of goods between Europe and Central Asia. However, road transport operations between China and European countries (without a change of truck and transshipment en route) were not performed until 2017.

[10] UNCTAD Maritime transport reviews, http://ec.europa.eu/eurostat/web/transport/data/database, www.uic.org, http://www.iata.org/publications/economics/Pages/industry-performance.aspx, containerstatistics.com

It should be however noted that "maritime routes" or "maritime transport" in this report means the intermodal transport chain containing shipping services from Chinese (Korean, Japanese, etc) to European ports, port transshipment and the European land leg executed by rail, or truck, or both.

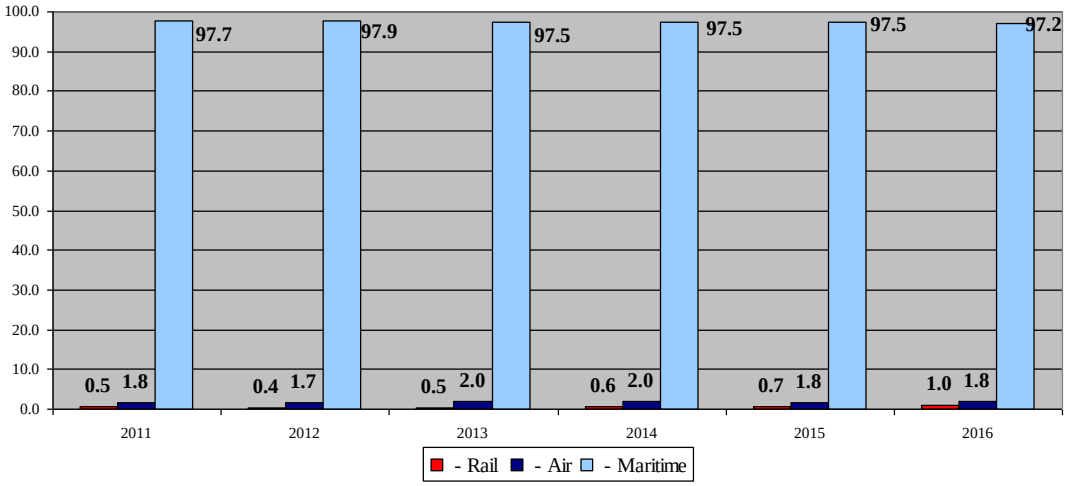
The volume of trade and the freight market between the European Union (EU-28) and China was the most significant in the system of Euro-Asian transport links. According to Eurostat statistics the total volume of goods transported between EU-28 and China in 2016 was approximately 105 million tons (Table 1.22).

Table 1.22 – Volume of goods transported between the European Union and China by modes of transport in 2011-2016, million tonnes

Modes of transport	2011	2012	2013	2014	2015	2016	2016/2011, %
From China to European Union							
- Maritime	50.1	43.5	47.7	52.7	53.8	54.4	108.6
- Air	1.0	0.9	1.1	1.3	1.1	1.2	116.4
- Rail	0.4	0.3	0.3	0.4	0.5	0.6	170.6
Total	51.5	44.7	49.1	54.4	55.4	56.2	109.2
From European Union to China							
- Maritime	38.0	39.5	41.0	41.8	44.5	47.7	125.3
- Air	0.6	0.5	0.7	0.6	0.7	0.8	124.0
- Rail	0.1	0.1	0.1	0.2	0.2	0.4	326.5
Total	38.8	40.1	41.8	42.6	45.4	48.8	125.9
TOTAL between EU-28 and China	90.2	84.7	90.9	96.9	100.8	105.0	116.4

Source: Eurostat

Figure 1.7
Market share by modes of transport in cargo flows (in tons) between European Union and China in 2011-2016, %



Source: Eurostat

As noted above, the value of goods affects the choice of transport mode by customers and logistics providers. In particular, Table 1.23 shows how the average cost of one tonne transported between the European Union and China has changed from 2011 to 2016 by different modes of transport.

Table 1.23 – Average cost of one tonne transported between the European Union and China by modes of transport in 2011-2016, US Dollars

Modes of transport	2011	2012	2013	2014	2015	2016	2016/2011, %
From China to European Union							
- Maritime	4 865	4 886	4 353	4 440	4 925	4 174	85.8

- Air	5 057	6 023	5 956	7 956	9068	9 841	194.6
- Rail	79 266	83 342	71 676	65 206	81 772	75 931	95.8
From European Union to China							
- Maritime	3 125	3 016	30 27	3 215	2 400	2 273	72.8
- Air	3 056	4 946	10 083	10 130	8 647	12057	394.5
- Rail	83 047	88 239	7 6615	10 1073	87 011	74 154	89.3

Source: Calculations based on Eurostat statistics

During 2011-2016 the value of goods transported between Europe and Asia by rail increased, while it decreased for maritime and air transport. Thus, some expensive cargo was moved from sea to rail transport.

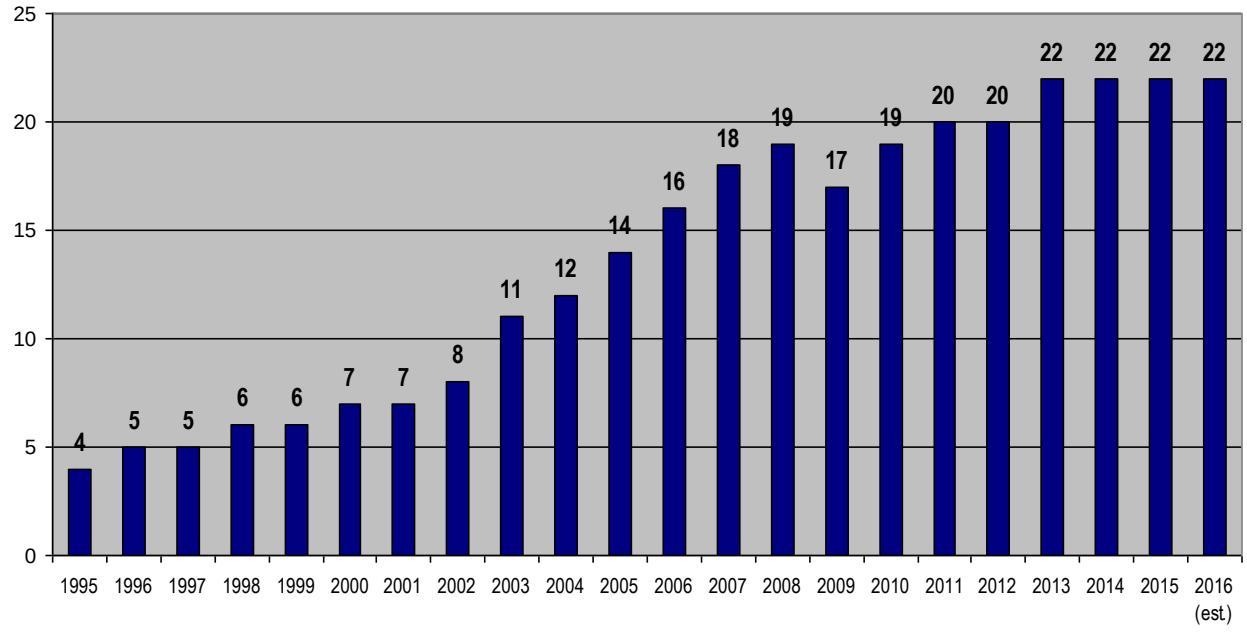
The railway links between China and the European Union were the object of the growing interest since they could offer competitive service products under certain conditions. The main advantage of rail connection to maritime was faster delivery. Several multinational companies have started operating regular block trains using different EATL routes.

However, the land bridge cannot—and likely would never be able to —compete (in full meaning of the word) with the maritime option because the potential throughput of inland routes was limited to 1–2 per cent (physical volumes in metric tons) of what was carried by sea. It was however expected that inland routes could achieve a good share in the transport of time-sensitive cargo, such as high-value components in the automotive or computer industries.

I.3.2. Liner shipping situation

During the EATL phase III Project, there were three main factors identified that combined together impacted containerized trade growth (Figure 1.8), namely, the decline in volumes on the head haul of the Eastern Asia–Europe trade lane; the impact of low commodity prices and the resulting purchasing power of commodity exporting countries; and the pressure of the slowdown in China.

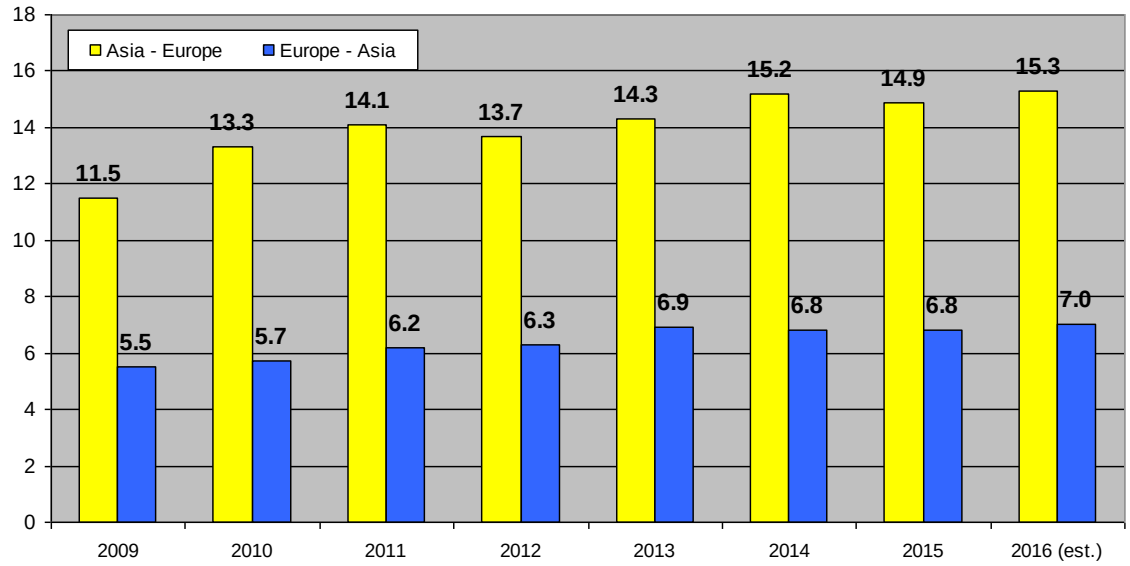
Figure 1.8.
Containerized cargo flows on major East–West container trade routes (million TEUs), 1995–2016



Source: UNCTAD (2016) World Maritime Review

Container Trades Statistics Ltd (CTS), updated December 2016, available at: https://www.containerstatistics.com/

Chart 1.9
Containerized cargo flows on Asia-Europe and Europe-Asia container trade routes (million TEUs), 2009–2016



Source: UNCTAD (2016) World Maritime Review

The decline in 2015 of European containerized trade seemed inconsistent with data indicating that, during that year, intra-European trade was outpaced. While intraregional imports grew by 1.4 per cent, imports from the rest of the world remained flat. The share of intraregional imports of total European imports increased from 60 per cent in 2007 to 65 per cent in 2015[11]. Combined with statistics showing a relatively strong demand in Europe for consumer goods during the year, it was argued that a shift may be unfolding towards regional and closer-to-end-market sourcing of goods.

Problems affecting the container freight market in 2015 were linked with the diverging and persistent global supply-and-demand trends and growing imbalances. This situation was expected to continue throughout 2017 and 2018. Despite weak demand and low freight rates, carriers continued to invest in large vessels. The global container ship fleet grew by 4.6 per cent in 2016 and was projected to grow another 5.6 per cent in 2017[12]. Such a pace would continue to outstrip global container demand and exacerbate market fundamentals and in turn challenge container ship market conditions and freight rates in the short term, especially on the main trade lanes[13]. Consequently, poor performance was also expected and may result in further consolidation and restructuring of the container shipping industry.

Regular shipping liners were dominating in the Euro-Asian trade due to their incomparable economies of scale and punctual services, which was highly valued in modern supply chains. Maritime transport also showed high market flexibility that helped the industry keep customers loyal.

This flexibility was achieved by introducing slow steaming and creating shipping alliances. It resulted in offering flexible service rates.

[11] Danish Ship Finance (2016). Shipping market review. Available at http://www.shipfinance.dk/en/shippingresearch/~/media/PUBLIKATIONER/Shipping-Market-Review/Shipping-Market-Review---May-2016.ashx
[12] AlixPartners (2016a). Container Shipping Outlook 2016: Overcapacity Catches Industry in Undertow. Outlook Transportation and Logistics. Available at http://legacy.alixpartners.com/en/LinkClick.aspx?fileticket=F8t29219hJg%3d&tabid=635
[13] Clarksons Research (2016). Dry Bulk Trade Outlook

Slow steaming - reduced vessel speeds to save fuel and cut costs - adopted by the majority of shipping liners was one of the important features that changed the maritime business since the 2009 crisis.

According to Clarksons Research[14], prior to implementing slow steaming, a typical structure for a service from the Far East to Europe included eight ships in operation to maintain weekly calls over a period of 56 days for full rotation (28 days for one leg). With the implementation of slow steaming, the number of operated vessels increased to ten to maintain weekly calls, while transit times increased to 70 days for a full rotation (35 days for one leg). At the same time, such a speed reduction impacted almost 50% of the bunker cost of a mega-containership and a little bit more on the cost of a 5,000 TEU's ship. Besides, slow steaming obviously decreased environmental pollution.

Many shippers accepted a shift to slow steaming since decreased tariff seemed very attractive under the crisis pressure (see Figure 1.11 and table 1.19). However, others with high value merchandise rather opposed the practice due to increased pipeline inventory associated with longer transit times.

There was no generally accepted opinion about the future of slow steaming. It gave however a chance for rail operators to offer competitive services to customers who believe that slow steaming was not acceptable for their business model.

Shipping alliances creation was the market trend that reflected the market players' intention to establish sustainable large-scale units that would be able to optimize the utilization of participants' assets and services on the main trade lanes. Vessel-sharing within the alliance helped the carriers to increase service frequency without introducing extra vessels. Rate "harmonization" within the alliances, although legally prohibited, also took place.

In 2016 there were four main container carrier alliances approved by the regulators in the European Union, United States of America and China: 2M, Ocean 3, KYH and G6[15]. These alliances controlled more than 70 per cent of the cargo volumes moving on the major East-West trade lanes.

Almost all of the 14 largest shipping companies making up 73.1 per cent of the market share belonged to these alliances. As of July 2016, the world's shipping alliances were aligned as follows: **2M Alliance**: Maersk and MSC; Ocean **Three Alliance**: CMA CGM, UASC, China Shipping; **G6 Alliance**: NYK Line, OOCL, APL, MOL, Hapag-Lloyd, HMM; **CKYHE Alliance**: K Line, COSCO, HANJIN, Evergreen, Yang Ming (Figure 1.10). Among the top independent carriers were PIL, ZIM, Wan Hai Lines, X-Press Feeders and KMTC.

By the end of 2017, the world of shipping alliances would probably see changes and reorganizations would affect nearly all of the above lines. Hapag-Lloyd, which recently merged with UASC, and five Asian carriers want to form the new vessel-sharing alliance called THE Alliance. In addition, HMM would soon join Maersk and MSC in the 2M alliance.

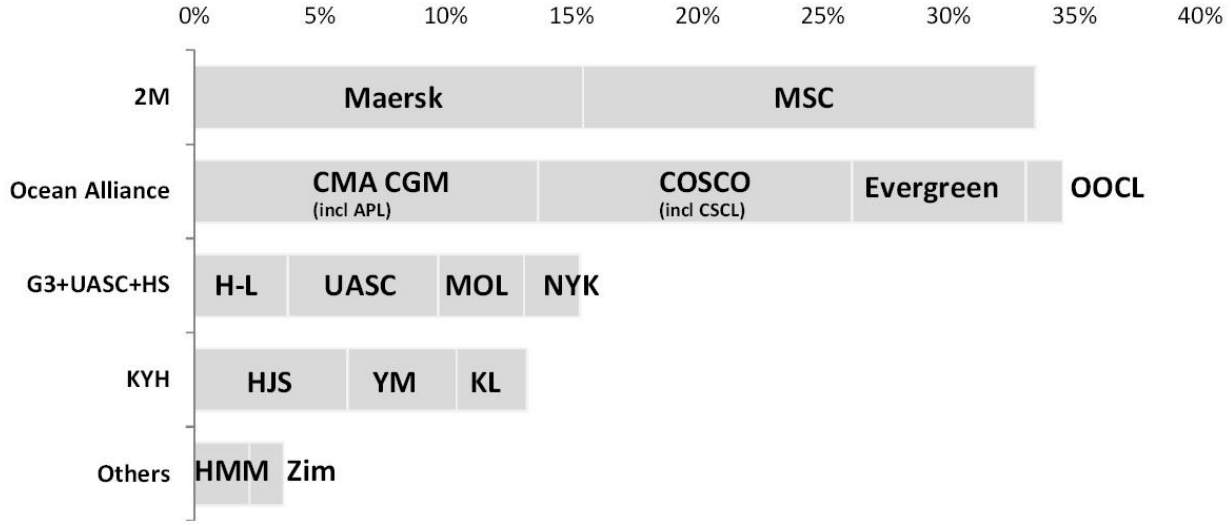
The exact impact of this new alignment of the major container ship operators had yet to be fully assessed. Shippers were advocating for greater scrutiny and the need to conduct reviews to determine how the alliances were impacting the industry. An immediate consequence of

[14] Clarksons Research (2016). Dry Bulk Trade Outlook

[15] Thefour alliances mentioned include the following carriers: 2M - Maersk and Mediterranean Shipping Co., Ocean 3 - CMA CGM, United Arab Shipping Co. and China Shipping, CKYHE - Cosco, "K" Line, Yang Ming, Hanjin, Evergreen, G6 - APL, MOL, Hyundai Merchant Marine, OOCL, NYK Line, Hapag-Lloyd.

consolidation was the tendency for alliances to focus on reduction of transit times and increase of reliability to attract shippers, at the expense of services and port calls[16]. In any case, the alliances seemed to offer a solution for maritime shipping companies to strengthen their market position on the East-West trade lanes. The establishment of new alliances and rounds of restructuring was expected to continue, as it was unlikely that the market would stabilize shortly.

Figure 1.10
Market share by alliance on the Far East-Europe shipping lines, April 2016



Source: Alphaliner Newsletter no 17 - 2016

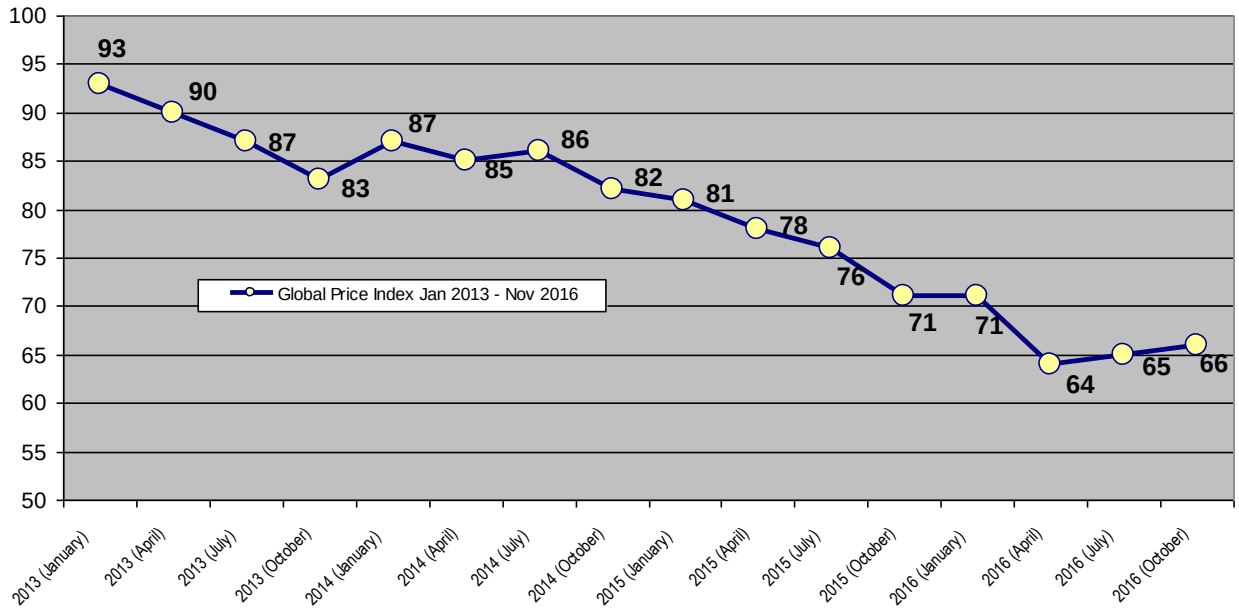
Flexible rates could have been introduced by maritime shipping companies as a result of slow steaming and a set-up of alliances, which helped to bring down the cost of operation and thus to keep business competitive. The crisis period illustrated that very well. Figure 1.14 shows the dynamics of Chinese forwarders freight index. The rate per 20ft container fell down from US Dollars 1 826 in March 2010 to US Dollars 739 in March 2017.

The general trend across the East-West sea routes was the decline of rates reflecting the economic situation. This trend is illustrated by Figure 1.11, 1.12 and tables 1.24 and 1.25. The Far East–Northern Europe trade route freight rates, for example, averaged as low as US Dollars 629 per TEU in 2015, down by almost 46 per cent from the 2014 average and by 65 per cent, compared with rates of 2010. In contrast, Far East–Mediterranean spot rates fell by 41 per cent, reaching US Dollars 739 per TEU, a decline of 41 per cent, compared with rates in 2014, and almost 58 per cent less than rates of 2010.

In 2015, containerized trade continued to face the upsizing of container ships which influence the rates on the Europe-Asia lines. The average ship size in the global fleet increased at a cumulative annual growth rate of 1.9 per cent in 2001–2009 and 18.2 per cent in 2010–2015[17].

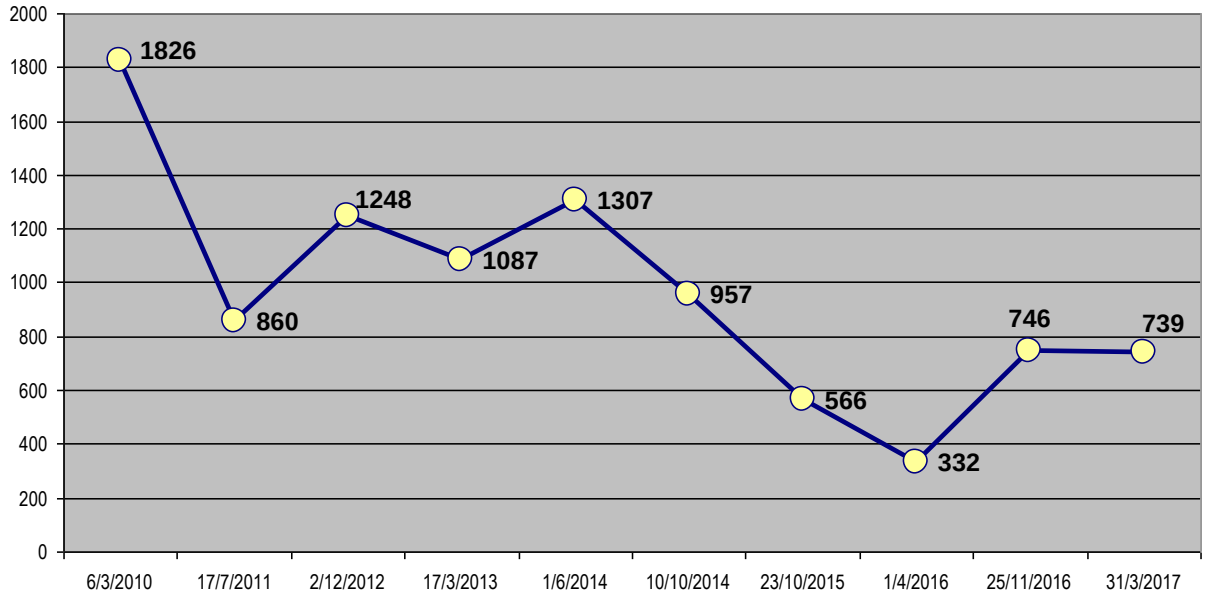
Figure 1.11
Container Global Aggregated Price Index, January 2013 – October 2016

[16] King M (2016). Alliances to cut port calls to reduce transit times. Lloyd's Loading List. 7 June
[17] Davidson N (2016) Juggling bigger ships, mega-alliances and slower growth. Presented at the Terminal Operations Conference Europe. Hamburg, Germany



Source: Container Trades Statistics Ltd (CTS), updated December 2016, available at: https://www.containerstatistics.com/

Figure 1.12
China forwarders freight index, China-Europe shipping lines (U.S. Dollars per TEU), 2010-2017



Source: http://en.shippingchina.com/scfi/index/detail/line_id/3/date2/2017-04-01.html

Table 1.24
Port-to-port freight index list on trade routes China – Europe shipping lines (U.S. Dollars per TEU) on April 6, 2017

Port of arrival in China	Port of destination in Europe						
	Antwerp	Bremen	Felixstowe	Hamburg	Le Havre	Rotterdam	Zeebrugge
Guangzhou	1 850	300	2070	350	230	590	230
Shenzhen	700	900	845	700	842	700	850
Xiamen	1 350	800	383	367	418	365	409
Ningbo	725	875	725	725	725	725	750
Shanghai	691	700	500	691	691	691	500
Qingdao	720	580	486	720	720	720	738
Tianjin	-	1080	750	850	725	700	800

Source: http://en.shippingchina.com

Table 1.25
Container freight markets and rates on trade routes Far East – Europe (U.S. Dollars per TEU)

Freight markets	2009	2010	2011	2012	2013	2014	2015
Shanghai – Northern Europe	1 395	1 789	881	1353	1084	1161	629
% change		+28.24	-50.75	+53.58	-19.88	+7.10	-45.82
Shanghai – Mediterranean	1 397	1739	973	1336	1151	1253	739
% change		+24.49	-44.05	+37.31	-13.85	+8.86	-41.02

Source: UNCTAD (2016) World Maritime Review

Main shipping companies introduced larger vessels striving for greater efficiency, economy of scale and market share, as well as by the new IMO Tier III requirements concerning sulphur oxides (SOx) and nitrogen oxides (NOx). New ships in 2015 added some 1.7 million TEUs to the global fleet (with 87 per cent of this volume increase in the 8,000+ TEUs sector)[18].

One study noted that container ship size increases of up to 18,000 TEUs were likely to result in maximum cost savings for shipping and port charges by only 5 per cent of total network costs, and that the economics of scale diminished as vessel sizes increased beyond 18,000 TEUs (Batra, 2016).

Some observers maintained that the costs of ever-larger ships may outweigh their benefits. The disadvantages included reduced service frequency, higher peaks in container traffic, greater pressure on the operations of cargo-handling services, rising terminal capital and operational costs, reductions in options available to shippers and higher supply chain risks with the concentration of trade in larger but fewer ships, as well as environmental effects arising from dredging deeper channels and expanding yard area.

I.3.3. Railway transport

Railways played a dual role in the development of trade and transit along the Euro-Asian routes. On the one hand, railway transport served intraregional export of large volumes of cargo and their delivery to seaports (for example, coal from Kazakhstan to the Far Eastern Russian ports along EATL routes 1 and 6 or wheat from Russian Siberia and Kazakhstan to Iran along sections of EATL routes 5 and 6). On the other hand, the volume of container long distance transport was increasing every year along most of Euro-Asian routes.

Oil, oil products, coal, ores, metals and grains were the main types of cargo transported by rail for long distances in the EATL countries, in particular in Azerbaijan, Kazakhstan, China, Mongolia, the Russian Federation and Turkmenistan. The volumes of cargo transported internationally on some sections of EATL rail routes amounted to millions of tonnes annually (Table 1.26).

Table 1.26. Volume of international transport of goods by rail between some neighbouring railways in EATL countries in 2015, thousands tonnes

From railways of:	To railways of:							
	Afghanistan	Armenia	Azerbaijan	Belarus	China	Georgia	Iran	Finland
Azerbaijan						6 340	6.4	
Georgia		948.5	1 621.8					
Kazakhstan			3 124.3		3 278.4			
Latvia				280.9				
Lithuania				3 117				

[1818] Clarksons Research (2016). Container Intelligence Quarterly. First quarter

From railways of:	To railways of:							
	Afghanistan	**Armenia**	**Azerbaijan**	**Belarus**	**China**	**Georgia**	**Iran**	**Finland**
Mongolia					5370.1			
Russian Federation			5 508.4	38 647.5	22 978.5	410.2		13 440.5
Uzbekistan	1 987.6							
Ukraine				4 708.1				

Source: OSJD

Table 1.26 (continued). Volume of international transport of goods by rail between some neighbouring railways in EATL countries in 2015, thousands tonnes

From railways of:	To railways of:							
	Kazakhstan	**Kyrgyz Republic**	**Latvia**	**Lithuania**	**Moldova**	**Mongolia**	**Poland**	**Romania**
Azerbaijan	173.6							
Belarus			30 512	26 324			7 546	
China	7 110					8 270		
Kazakhstan		5057.9						
Kyrgyz Rep.	285.9							
Latvia				1 566.6				
Lithuania			1 900				135	
Moldova								1 608.8
Poland								
Russia	25 078.7		19 861.1	266.9		1482	2 469.1	
Uzbekistan	4 443.7	299.7						
Ukraine					3 475.17		9 251.01	309.85

Source: OSJD

Table 1.26 (continued). Volume of international transport of goods by rail between some neighbouring railways in EATL countries in 2015, thousands tonnes

From railways of:	To railways of:					
	Russia	**Tajikistan**	**Turkmenistan**	**Ukraine**	**Uzbekistan**	**Ro-Ro lines to Ukraine, Bulgaria, Romania and Russia**
Azerbaijan	630.8		427.4			
Belarus	11 225			8225		
China	21 370					
Georgia						15 549.5
Kazakhstan	57 228.8		511.6		18 846.4	
Kyrgyz Rep.					299.7	
Latvia	1 705					
Lithuania	7 853					
Moldova				1 691.5		
Mongolia	5 905.4					
Poland				8 499		
Russia				44 928.7		
Tajikistan					1 787.4	
Uzbekistan		3 977.2	2 106.6			
Ukraine	19 577.66					

Source: OSJD

Euro-Asian transport links served more by container trains named as “block trains”. The number and quality of block train runs along the EATL corridors was increasing during the phase III of the EATL project as a result of combined efforts undertaken by the EATL countries. In this period, the number of block trains including regular services between China and Western Europe steadily grew, as more and more wide range of consignors perceived railways as an alternative to sea and air transport.

Many initiatives on block train runs were launched as pilot project became regular container services later. The main objective of these initiatives and projects was the creation of modern and competitive container transport services between Asia and Europe and making a profit through the attractiveness of new container services for consumers (cargo owners and logistics providers).

Most of the projects were implemented jointly by railway companies (both – owners of infrastructure and fleet operators) from different countries, logistics providers, transnational multimodal transport operators and, sometimes, shipping companies (for example, Russian shipping company FESCO implements projects on inland container services).

EATL Rail routes 1 and 2.

In 2015, 1 269 container trains proceeded in transit along the EATL Route 1 and 2. The number of block trains runs increased by 255 trains as compared to 2014 (growth by 25 per cent), including 581 block trains China – Europe – China - grown by 327 trains (or by 2.2 times).

Major operators of container trains in the China - Europe - China service (Table 1.27 – 1.28) on various sections of the Trans-Siberian Route are as follows: CRCT, CRIMT, Kaztransservice, Kedetrans, RZD Logistics, TransContainer, UTLC, Belintertrans, Trans- Rail BCh, InterRail Holding, DB Schenker, TEL, and FELB.

Table 1.27
Container services to/from China offered by DB Schenker and Trans Eurasia Logistics (TEL)

Route	Europe – China (Eastbound)	China – Europe (Westbound)
Southern	Duisburg – Chongqing First train: trial runs in 2013 Departure days: on request	Chongqing – Duisburg Since 2011 From terminal to terminal Lead time: 17 days Departure day: every Saturday, Tuesday, Thursday
	Lodz – Chengdu First train: trial runs in 2014 Departure days: on request	Chengdu – Lodz Since April 2013 From terminal to terminal Lead time: 15 days Departure day: every Saturday, Wednesday
	Hamburg – Zhengzhou First train: trial runs in 2013 via Mongolia Departure days: non regular service	Hamburg – Zhengzhou Since July 2013 From terminal to terminal Lead time: 16 days Departure day: every Saturday, Wednesday
Northern	Points in Europe – China Block trains: no scheduled train services Single containers/groups of containers: regulars departures from different European points	Souzhou – Warsaw Since April 2014 From terminal to terminal Lead time: 14 days Departure day: one time every 10 days

Source: Annual TSR Digest 2015. CCTT, 2016

Table 1.28
Block Container Trains Europe - China in 2014

From	To	Number of runs
China – Europe (Westbound)		
Zhengzhou	Hamburg	52
Chongqing	Duisburg	79
Chongqing	Cherkessk	6
Chengdu	Lodz	25
Wuhan	Points in Czech Republic, Poland and Germany	37
Souzhou	Warsaw	43
Yiwu	Madrid	4
Yiwu	Points in Poland	2
Hefei	Points in Germany	2

From	To	Number of runs
Shixjeczy	Chelyabinsk	1
Kunming	Rotterdam	1
Europe – China (Eastbound)		
Duisburg	Chongqing	33
Hamburg	Zhengzhou	21
Madrid *	Yiwu	2
Hamburg *	Wuhan	9
Brest *	Souzhou	6
Brest	Shenyang	3

* New routes
Source: Annual TSR Digest 2015. CCTT, 2016

The inventory coverage of the cargo transported by rail was comprised with IT products (mobile phones, computers, etc.), clothes, shoes, automobiles and spare parts, bakery products, wine, coffee beans, etc.

Due to the e-commerce growth postal items may constitute significant cargo base for transportation volumes growth between China and Europe. CRCT organised pilot transportation from Chungking, Urumchi and Zhengzhou to Kazakhstan, as well as from Harbin to Russia.

Projects of Transkontainer

Project dedicated to BMW automobile spare parts transportation from Germany to China had been jointly implemented by TransContainer (Russia) and Far East Land Bridge and started at September 2010. Initially the transportation was carried out via the Chop station, in November 2010 the route was changed to the Dobra station. TransContainer railcars and containers provided by Far East Land Bridge are used for the transportation. Three block trains a week at average are dispatched. The 'door-to-door' delivery via the Leipzig / Wackersdorf (Germany) - Dobra / Brest - Zabaikalsk - Shenyang (China) route takes 22 - 25 days (Figure 1.13).

Figure 1.13
Transcontainer Sevice China – Europe - China

Source: Transcontainer, CCTP (Annual TSR Digest 2015. Coordinating Council on Trans-Siberian Transportation International Association, 2016)

In 2014, 164 block trains were dispatched to Europe. Within those trains there were 13,409 TEUs had been transported which was a 47% increase compared to the same period of 2013. In 2014, 100 container trains were dispatched to Zabaikalsk. Within those trains there were 9,287 TEU transported which was a 57% increase compared to the same period of 2013. In the course

of 7 months of 2015, 90 container trains were dispatched to Europe. Within those trains there were 6,266 TEU transported which was a 6% decrease compared to the same period of 2014.

In the course of 7 months of 2015, 65 container trains were dispatched to Zabaikalsk (Figure 1.14). Within those trains there were 5,334 TEU transported which was a 2% decrease compared to the same period of 2014.

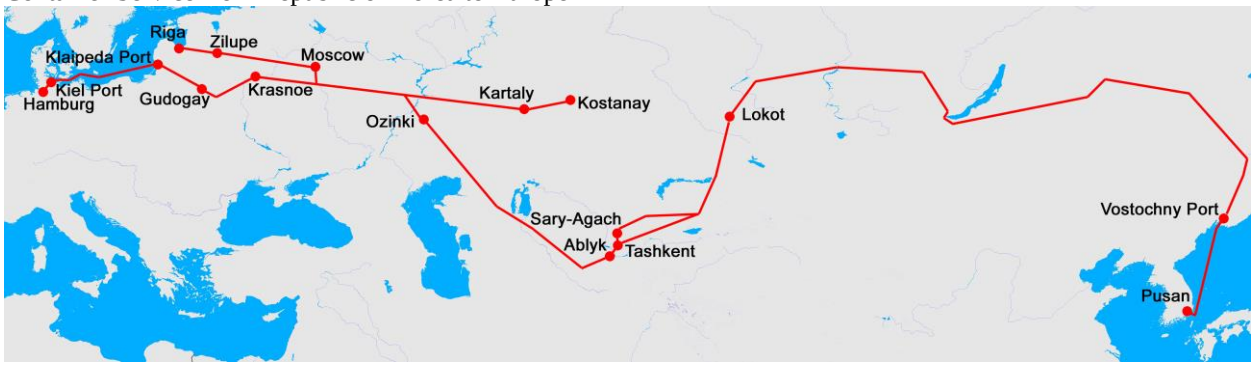
Figure 1.14
Container Service Souzhou (China) – Warsaw (Poland) by Transcontainer

Source: Transcontainer, CCTP (Annual TSR Digest 2015. Coordinating Council on Trans-Siberian Transportation International Association, 2016)

Figure 1.15
Container Service Hamburg - Beijing

Source: Transcontainer, CCTP (Annual TSR Digest 2015. Coordinating Council on Trans-Siberian Transportation International Association, 2016)

Figure 1.16
Container Service from Republic of Korea to Europe



Source: Transcontainer, CCTP (Annual TSR Digest 2015. Coordinating Council on Trans-Siberian Transportation International Association, 2016)

TransContainer services via Port Vostochny

Container train No. 1031 / 1032 NakhodkaVostochnaya - Zaschita

The route was used for Kia and GM automobile spare part transportation. TransContainer was the service operator. In 2014, 74 trains were dispatched on this route with 9,285 TEU transported which was 13 per cent fewer than in 2013.

Container train No. 1029 / 1030 NakhodkaVostochnaya - Sergeli

The route from Korea to Uzbekistan via the territories of Kazakhstan and Russia was used for the GM - Uzbekistan joint venture automobile spare part transportation. Furthermore, the route was used for mix freight, synthetic resin and polyethylene transportation. In 2014, 54 trains were dispatched on this route with 70,073 TEU transported.

Container train No. 1029 /1030 NakhodkaVostochnaya - Qostanay

The route was used for SsangYong Motor Company, Iveco, and Toyota automobile spare parts transportation. In 2014, 36 trains were dispatched on this route with 4,658 TEU transported which is 18% more than in 2013.

Container train No. 1031 /1032 NakhodkaVostochnaya - Ulugh Beg

The route was used for Isuzu mini-van spare part transportation to the SamAuto factory in Uzbekistan. In 2014, 17 trains were dispatched on this route with 1,789 TEU transported which is 2.2 times as much as in 2013.

Container train No.1031 / 1032 NakhodkaVostochnaya - Pitnyak

The route from Korea to Uzbekistan via the territories of Kazakhstan and Russia was used for the GM - Uzbekistan joint venture automobile spare part transportation. In 2014, 25 trains were dispatched on this route with 2,795 TEU transported.

Projects of RZD Logistics (RZDL) and Far East Land Bridge (FELB)

In order to establish transport and logistics chains in the international market RZDL (Russian Railways subsidiary) applied competences of its affiliates - Far East Land Bridge (FELB) specialising on transit railway container transportation on the China - Europe - China route via Zabaikalsk, while YuXinOu (Chongqing) Logistics Co. Ltd. operates regular railway container transportation on the Trans-Kazakhstani China - Europe - China route.

Figure 1.17
FELB Technology of Container delivery between China and Europe

Source: Annual TSR Digest 2015. CCTT, 2016

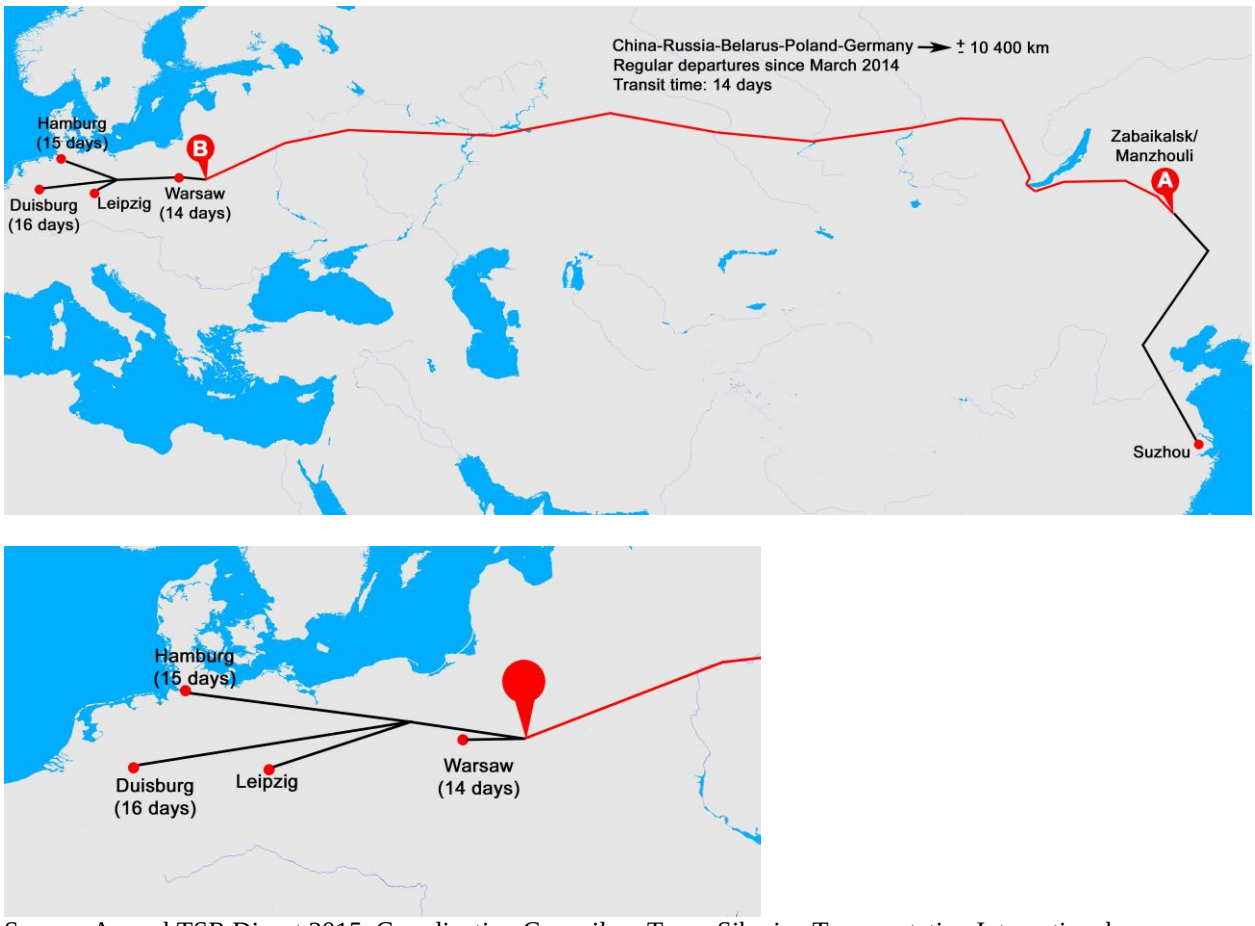
FELB used border points for cargo heading from China to Europe, such as Brest / Malaszewicze (Belarus / Poland) for cargo transported to Poland, Germany, Holland and Belgium; Dobra / Chop (Slovakia / Ukraine) - to Czech Republic, Slovakia, Italy, Austria and Slovenia; Zahony / Chop (Hungary / Ukraine) - to Hungary, South Germany and Austria. The consignors of commodities delivered across these routes were electronics and automotive manufacturers.

A new FELB service on the Trans-Siberian Route was the container train service from Suzhou (Figure 1.18), a large industrial centre in the South-Eastern part of China, heading to Warsaw, Hamburg and Duisburg (Germany). Trains were dispatched from China to Europe on a daily basis.

It took RZDL and FELB only a few years of operation on the Trans-Siberian Route to double-cut the trip time. At the time this report was written, average transit time of transportation was 14 - 16 days. Other advantages of the service included an option of ordering ‘door- to-door’ delivery and less-than-car load freight transportation.

The total number of containers transported in 2014 by RZDL in the China - Europe - China transit service via the Trans-Siberian route and its Trans-Kazakhstan branch amounted to approximately 27 thousand TEU.

Figure 1.18
Souzhou (China) – Europe Container Services by RZD Logistics



Source: Annual TSR Digest 2015. Coordinating Council on Trans-Siberian Transportation International Association, 2016

In 2014 100% of RZDL shares were contributed into the UTLC charter capital, with UTLC integrates the assets of certain Russian, Belarussian and Kazakh railway entities in order to develop the transit container services within the Euro-Asian Economic Union and its Common market of services.

Joining UTLC would help RZDL to promote in certain transit projects for customers in China, Korea and Europe (Figure 1.19).

Figure 1.19
Asia – Europe Container Services by RZDL and FELB

Source: RZD Logistics, Far East Land Bridge

UTLC Projects

In September 2015 United Transport and Logistics Company JSC (UTLC, affiliate of RZD) organised s container train dispatch from the port of Yingkou (PRC) to Moscow. The project was implemented according to the memorandum on cooperation between RZD and Yingkou Port Group.

The block train carrying of 45 containers with consumer goods departed from the port on September 17 and in two days covered the distance to the border point in Zabaikalsk. There the train set was added with 17 more containers.

In order to simplify the customs clearance procedures while crossing the border the early notification system was used. It allows checking the shipping documents prior the trains arrival at the destination point. That resulted in significant cut down of transit note formalisation timing. Total transit time of cargo delivery by that train is 13 days.

Far East Land Bridge as a member of UTLC group is specialized in transporting 40ft DV. 40ft HC and 20ft containers from the Far East (China, South Korea and Japan) to Russia/Europe and vice versa using the Trans-Siberian railway connection. Our clients can gain significant financial advantages from the short transit time of 14-22 days (depending on volume and relation).

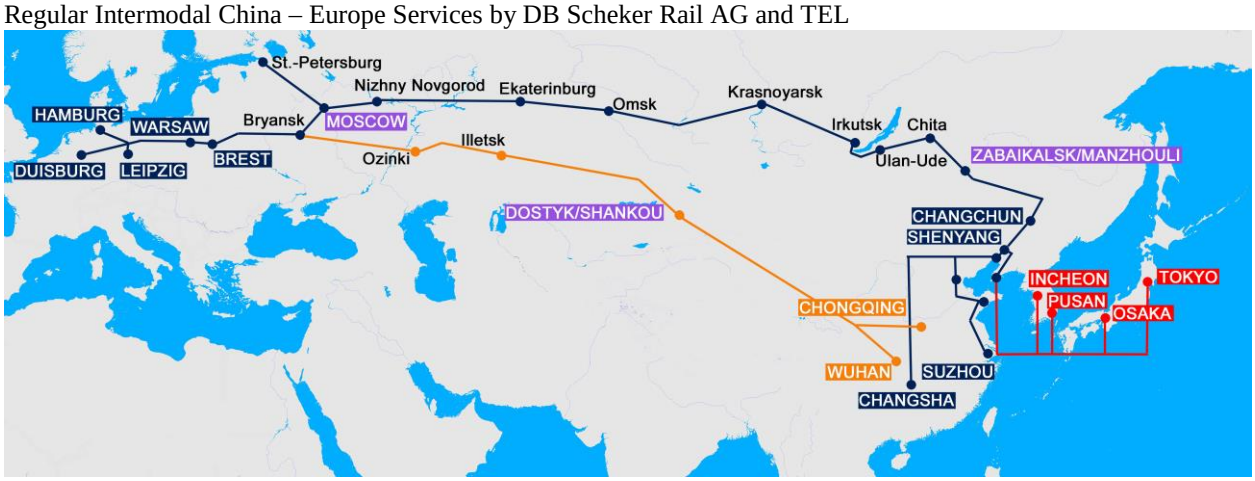
DB Scheker Rail AG and TEL Projects

Based on the railway cargo transportation volumes, DB Schenker Rail AG was a global integrated transport and logistics service supplier and the largest freight railway company in the European Union territory.

One of the key business activities of the company was the establishment and development of transport routes linking the European Union countries with the Russian Federation, other former Soviet Union states, Mongolia and China.

One of these solutions' practical examples was the regular railway service providing making up and dispatching container block trains connecting China and Germany. The service operator was Trans Eurasia Logistics GmbH (TEL), a joint venture of Deutsche Bahn AG and RZD. The service was capable of delivering cargo from more than 24 geographical points of China to Germany with final destinations in Duisburg and Hamburg (Figure 1.20).

Figure 1.20
Regular Intermodal China – Europe Services by DB Scheker Rail AG and TEL



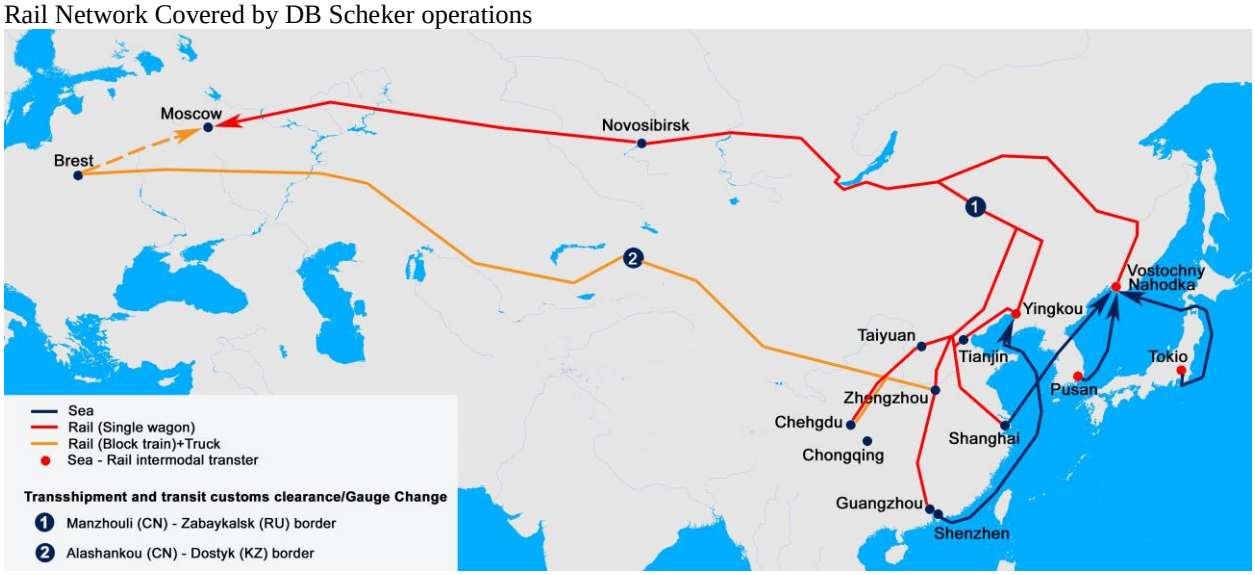
Source: Annual TSR Digest 2015. Coordinating Council on Trans-Siberian Transportation International Association, 2016

The estimated transit time from the freight transfer moment at the border crossings to Dostyk (Kazakhstan) / Alashankou (China) or at Zabaikalsk (Russia) / Manzhouli (China) to Brest (Republic of Belarus) / Malaszewicze (Poland), was 10 days (Figure 1.21). The transit time along the territory of the European Union from Malaszewicze to Duisburg / Hamburg was 1.5 days.

More than 40,000 TEU were transported through both of the routes in 2012 - 2014.

It is noteworthy that the China - Germany railway route is the longest railway route in the world.

Figure 1.21
Rail Network Covered by DB Scheker operations



Source: Annual TSR Digest 2015. Coordinating Council on Trans-Siberian Transportation International Association, 2016

Developing Container Services

Urumchi - Zahony - Austria

Hungary's accession to the European Union enabled the creation of a new container service which would connect Zahony with Urumchi, an industrial and logistic centre of China, and would pass through the territories of Kazakhstan, Russian Federation and Ukraine (figure 1.22).

Figure 1.22
Regular Intermodal Services between China and Hungary/Austria

Source: Annual TSR Digest 2015. Coordinating Council on Trans-Siberian Transportation International Association, 2016

"Baikal Shuttle" Project by RZD

A new RZD transport product (with the name title 'Baikal Shuttle') was developed to transport goods manufactured in East Asian countries (Japan, South Korea) that have no direct connection to the Russian railways, heading to Siberia and European part of the Russian Federation as well as transit transportation to East and West European countries.

This service would provide Japanese and South Korean consignors with the ability to transport containerisable volumes of cargo on a regular basis with strictly followed frequency and schedule accuracy of the door-to-door basis. The block train en-route time was 8 days 3 hours 57 minutes. It was planned to cut the transit time down to 7 days.

The set of services for consignors was formed based on specific objectives of the clients. Transport and value added logistics services within the 'Baikal Shuttle' transport product are provided by RZD affiliated companies - UTLC and GEFCO. The service consisted of empty container delivery to a consignor's warehouse, container pre-carriage to the port and loading it on board the ship, customs formalisation in the ports of Japan and South Korea, maritime transportation, customs procedures in the port Vostochniy, load off of container handling and loading it on the train, railway transportation to Moscow, delivery of container to a consignee's warehouse.

FESCO Multimodal Container Services along TRANSSIB corridor

FESCO transport group (the parent entity is - Far-Eastern Shipping Company) was one of the major private logistics companies in Russian Federation having assets in port, railway and integrated logistics business. FESCO asset diversified portfolio allowed delivering cargo of a 'door-to-door' type and controlling all stages of multimodal transport chain. The majority of the

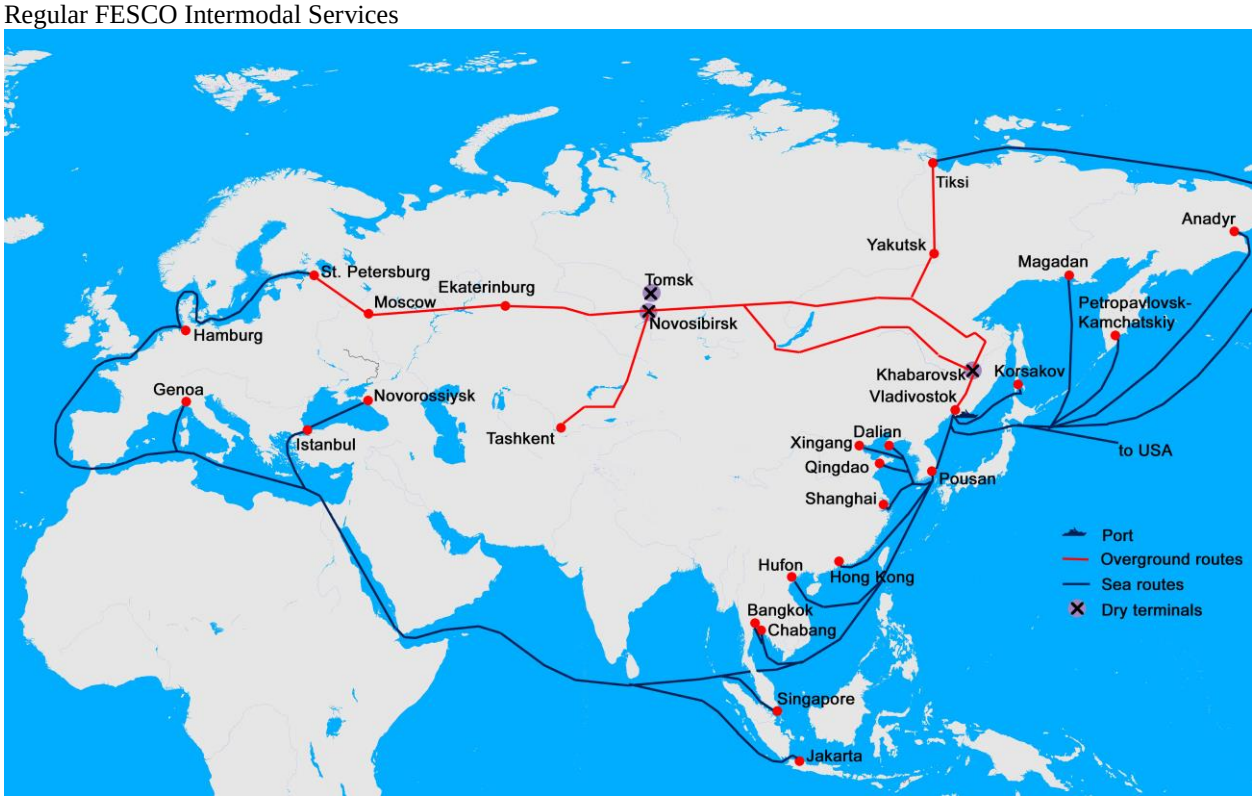
Group operations was focused on the Far East of Russia which provided FESCO with an opportunity to get additional advantages from participating in dynamically growing volumes of trade operations between Russian Federation and Asian countries.

Container transportation was the FESCO Group's core business. With all required assets FESCO delivered containers using multimodal schemes or organises separate maritime container transportation or railway dispatches. The Group also carried out dispatches of refrigerated containers by sea and rail. Sea lines, railway assets and owned port terminals allowed performing the 'door-to-door' container transportation, with no risk of freight safety loss at the same time.

FESCO services provided, among other, for regular transportation based on the schedules of FESCO Shuttle container trains running on the Transsib - one of the innovative technologies of the railway transportation which allowed FESCO organising fast container trains running in the territory of Russian Federation (Figure 1.23)

Regular transportation by the flagman container train on the FESCO Moscow Shuttle route from the port of Vladivostok to the Silikatnaya station in Moscow was performed 9-12 times a week which provided multimodal services from the major ports of China, South Korea, Japan and South-East Asian countries. The transit time from China via Vladivostok to Moscow was 28-33 days; the en-route time from Vladivostok to Moscow was 11 days.

Figure 1.23
Regular FESCO Intermodal Services



Source: Annual TSR Digest 2015. Coordinating Council on Trans-Siberian Transportation International Association, 2016

Twice a week FESCO Siberian Shuttle container trains were dispatched from Vladivostok to Novosibirsk and back to Vostochniy station. The transit time from the ports of South-East Asia via Vladivostok to Novosibirsk was 25-30 days, the en- route time from Vladivostok to Novosibirsk was 7 days. Every week containers from South-East Asia were delivered through the FESCO Ural Shuttle line to Yekaterinburg in 32-37 days, including the section from Vladivostoc to Yekaterinburg covered in 9 days. The shuttle technology was also well-proven on the Moscow-Novosibirsk and Moscow-Khabarovsk routes. The 'Baltica-Transit Service

delivered cargo from the Baltic states to Kazakhstan, Central Asian countries, Afghanistan and China.

In March 2015, FESCO opened a new FESCO Baltic Shuttle service (FBS) connecting South-East Asia via Vladivostok with Saint-Petersburg. The railway haul of FBS was the route from the Vladivostok station to the Shushary station in Saint-Petersburg. FBS was dispatched from Vladivostok once a week in accordance with the schedule. The service was organised as a loop route with a return dispatch from Saint-Petersburg to Vladivostok and via Vladivostok to SouthEast Asia and to the ports of the Far East of Russia - Petropavlovsk-Kamchatski, Magadan, Korsakov

FMS (FESCO Moscow Shuttle) - Vladivostok - Moscow

Regular transportation of cargo within container trains from the ports of South East Asia to Moscow on the basis of line maritime and railway service schedules, as well as forwarding in the port, terminal processing, provision of container fleet and delivery to a warehouse. The railway haul of the service was the route from the Vladivostok station to the Silikatnaya station in Moscow. The service was oriented towards the cargo heading from the ports of South-East Asia via the Vladivostok port, freight put together in the Far East Region, as well as the cargo of the third party forwarders. Return service from Moscow to Vladivostok and the ports of South East Asia was also available.

FTS (FESCO Tashkent Shuttle) - Vladivostok – Tashkent. The route originated in the ports of South-East Asia via Vladivostok and heading further to the Chukursay station in Tashkent. The final destination point was the new ULS container terminal. In 2017 the frequency of the train service departures was twice a month. The transit time of the whole railway route from Vladivostok to Chukuray was 12 days, the return trip of containers after unloading in Tashkent was 12 days. The multimodal route also implied a possibility of delivering cargo based on the 'final mile' principle, i.e. to the client's door in the range of 500 km from the final destination point.

FESCO also provides the following services:

- FSS (FESCO Siberian Shuttle) - Vladivostok – Novosibirsk and FSSe (FESCO Siberian Shuttle eastbound) - Novosibirsk – Vladivostok;

- FUS (FESCO Ural Shuttle) - Vladivostok – Yekaterinburg;

- FAS (FESCO Amur Shuttle) - Moscow – Khabarovsk and FASw (FESCO Amur Shuttle westbound) - Khabarovsk – Moscow;

- FOS (FESCO Ob Shuttle) - Moscow - Novosibirsk

- FLS (FESCO Lena Shuttle) - Moscow - Yakutsk/ Berkakit; Vladivostok – Yakutsk. The transit time from Moscow to Berkakit is 15-17 days, and to Yakutsk it is 21-23 days. The dispatches from Vladivostok to Berkakit will be carried out once in 6-10 days. The transit time will be 6-8 days.

Container services to/from Mongolia

The 'Mongolian Vector' train was in service since 2002 running from Europe to Mongolia on the Brest - Ulan-Bator route.

The train was dispatched from Brest on a regular basis on the 10th, 20th and 30th day of every month. The transit time en-route from Brest to Ulan-Bator (7,340 km) at the end of 2014 was 12.36 days.

Starting from 1 March 2005 the route of the 'Mongolian Vector' container train (Figure 1.24) was extended to China on the Hohhot (China) - Erlyan - Naushki - Brest - Duisburg route (9,821 km) via Mongolia, once a month, with the transit time of 17.97 days. In 2006, approximately 600 TEUs were transported in both directions. The 'Mongolian Vector' container train was in service within the framework of the joint UNESCAP and OSJD project of improving the effectiveness of the Euro-Asian railway routes.

Starting from May 2014 a China - Europe train started its service on the Erlyan - Naushki - Brest route. The train was dispatched once a month. Thus, by 2017 there was a loop route between Europe and China which the container train ran in both directions.

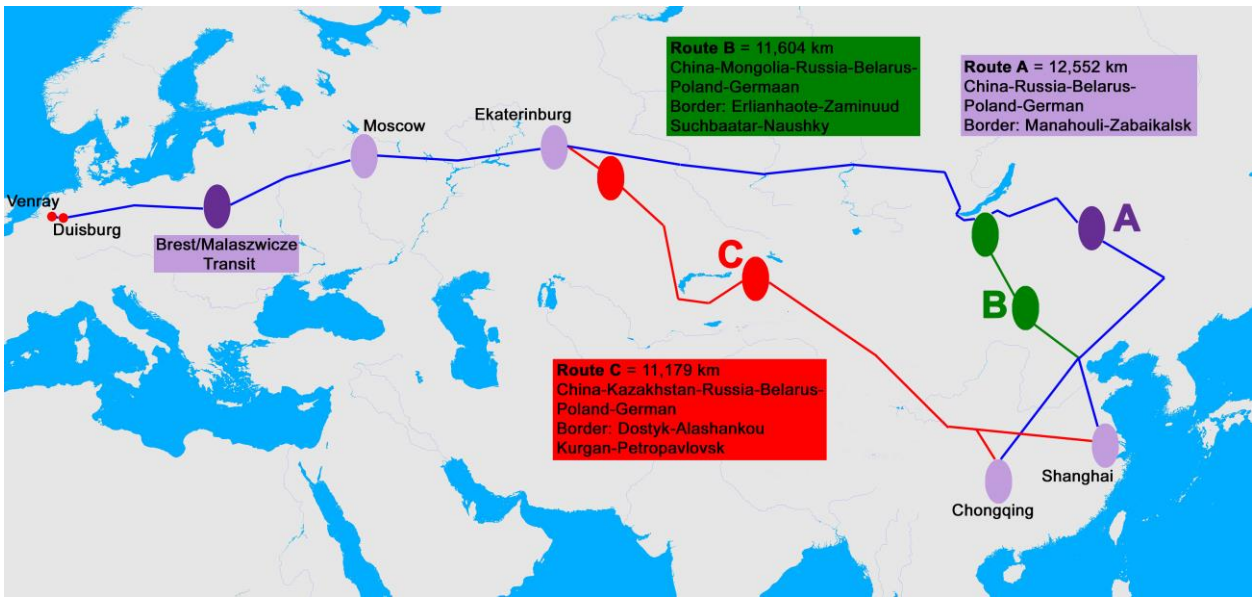
Figure 1.24
Mongolian Vector Container Block Train Route

Source: BelInterTrans, 2013

Another railway container services across the EATL routes

COSCO Logistics. COSCO Logistics, the largest 3PL in China used the routes shown in the Figure 1.25. The commodities transported included equipment, tools and building materials for cement production, electrical power station equipment including capacitor set, capacitor voltage transformer substation, and monitoring system and finally well drilling, logging, and well cementation for Kazakhstan oil fields. In 2017, COSCO was examining other options with combination of sea and rail transport for transportation between China and Europe. One of the options was for the cargo to enter Europe through the port of Piraeus in Greece and then be transported by rail to central and northern Europe.

Figure 1.25
COSCO Logistics railway routes



DHL Deutsche Post -DHL used several routes to establish the services from Asia to Europe. Since 2011, DHL has been running a daily intermodal service from Shanghai to Moscow via the Trans-Siberian Railway. A weekly express freight train service was launched in 2013 from Chengdu in western China, across Kazakhstan to its cargo port in Poland and then in Russian Federation and Belarus by truck or train, with travel time of 12-14 days. The transported products were mainly electronics, machinery, pharmaceuticals and chemicals.

In January 2014 the company introduced the first temperature-controlled rail container service between China and Europe on a year-round basis. In March 2014, DHL Global Forwarding announced the development of rail-based forwarding services on the China-Europe route via a new joint venture called United Transport and Logistics Company (UTLC), which plans to operate door-to-door delivery times of 21 days.

DB Schenker. In 1973 the company started providing rail services through the Eurasian land bridge by running the first container along the Trans-Siberian railway route. In 2008 the first train with goods between Beijing and Hamburg was launched and in the beginning of 2009 a weekly regular service between Shanghai and Beijing with Hamburg, Nuremberg and Duisburg was offered. The products transported were mainly from the automotive industry, chemical industry and manufactures of household goods. In 2009 in cooperation with the Russian Railways (RZD), DB Schenker Logistics established the Trans Eurasia Logistics GmbH.

DB Schenker operated also in the Northern rail route from Shanghai to Moscow and then to Duisburg through the Trans-Siberian line with a transit time of 18-20 days. In September of 2011 a regular train service began to operate for BMW on the route from Leipzig to Shenyang (eastbound). In November, a daily container train service was launched for this destination exclusively for BMW for automotive components. From 2012 the company offers a weekly service from Chongqing to Duisburg for IT customers. The transport time for a block train to reach its destination in Duisburg is 18 days. Further to this service, in September 2014 the first freight train run from Hamburg to Zhengzhou in China. The duration of the journey is around 17 days and is about 20 days faster than by sea.

KTZ Express. KTZ Express, established in 2013 and being the national multimodal transport and logistics company of Kazakhstan Railways (KTZ), provided rail freight services that took 16 days through Kazakhstan territory, twice or thrice less compared to sea shipping. The products

transported were pharmaceuticals, farm produce and electronics with a focus on electronic companies that have their plants in Chongqing or to their suppliers such as Foxconn Technology for Apple Inc. and Acer Inc. Industries such as Hewlett Packard and Toyota Tsusho used this rail route. There was also an interest from Europe for dedicated block train services to Asia for products such as fruit and automotive parts [23]. In October 2014, the company planned a new rail freight service from Shenzhen, Guangzhou, Wuhan and Xi'an to Europe, announced by the Governments of China and Kazakhstan.

Yuxinou (Chongqing) Logistics Co., Ltd. The Yuxinou (Chongqing) Logistics Co., Ltd. provided freight railway services between Asia and Europe. One of the main services was the Yuxinou train which travels from China via Kazakhstan, Russia, Belarus and Poland to Germany with travel time 16 days. It's one of the weekly services leaving the industrial hub of Chongqing and having as customer electronic companies such as Hewlett-Packard Co., Acer Inc., Apple Inc. and supplier Foxconn Technology Co.

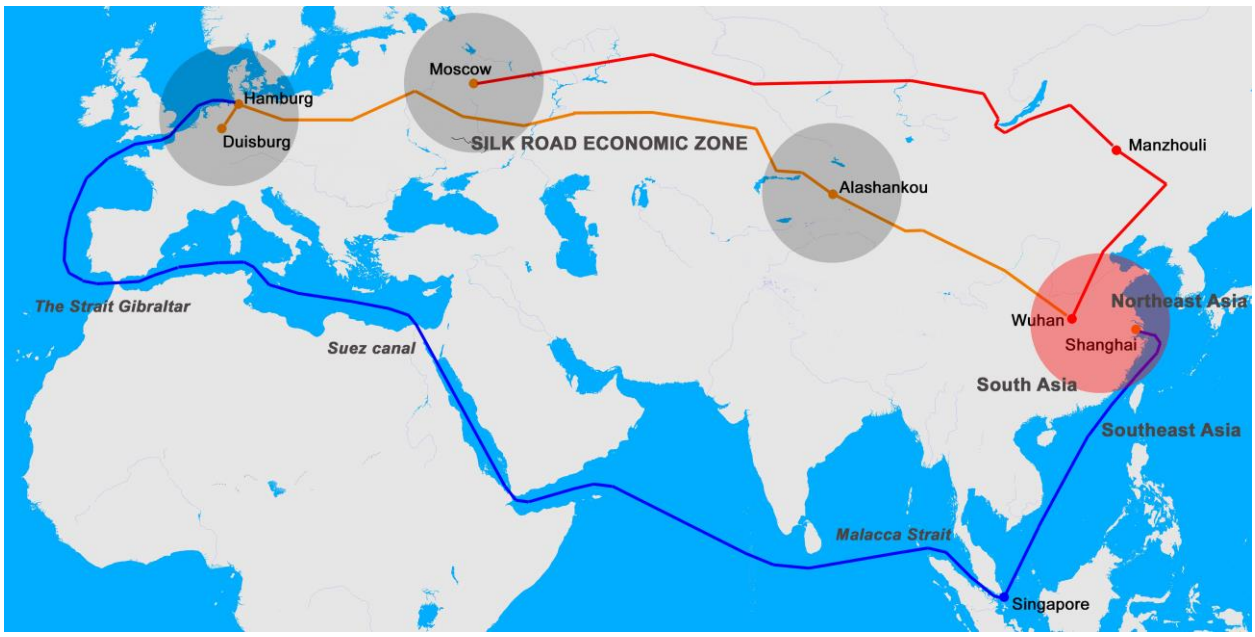
The Far East Land Bridge Ltd.The Far East Land Bridge was one of the first logistic companies, which provided railway services between Europe and Asia and has its base in Vienna, Austria. In 2007 they started providing two-way container rail services via the Trans-Siberian Railway route and European and Chinese rail networks. The main customers of the company were industries such as BMW, Audi, Volkswagen and Samsung.

Wuhan-Europe freight trains. The Wuhan-Europe freight train was express cargo train that carries containers between Wuhan and European cities. At present, Wuhan-Europe freight train links Wuhan with over 20 countries, including Germany, Poland, Czech Republic, Russia, Belarus, 5 countries in Central Asia, etc. Besides customized trains and public trains, random trains and LCL services were also provided to serve small and micro enterprises.

In 2014, Wuhan-Europe freight train ran 4 lines, with two passing customs at Alataw Pass, and the other two passing customs at Khorgos and Manzhouli, respectively.

2015 has witnessed the opening of two-way freight trains linking Wuhan with Hamburg and Duisburg in Germany, as well as a "Russia-Manzhouli-Wuhan" timber train. A train linking Wuhan with Minsk of Belarus was launched on Sept. 24, 2015. Besides, the China-Europe freight train links Wuhan with Moscow on Oct. 24, 2015, forming a bilateral flow with the previous "Russia-Manzhouli-Wuhan" timber train (Figure 1.26).

Figure 1.26
Wuhan-Europe freight trains operation scheme (source – Hubay Government site)



In November 2015, Wuhan Asia-Europe Logistics Co., Ltd signed commerce and trade logistics strategic reciprocal agreement with 12 Chinese and Russian logistics companies. Wuhan Asia-Europe Logistics Co., Ltd. announced on January 5, 2016 that Wuhan freight trains ran a total of 164 shifts in 2015, carrying 14,912 TEUs. The growth rate exceeded 500%, ranking first nationwide. The main cargoes transported are:

- from Wuhan: electronic equipment, automobiles, clothes, general merchandise of companies including Foxconn, Dongfeng, AOC, WISCO, etc.;

- from Europe: plastic floor, plastic compression roller, auto parts, cosmetics, fishing gears, timber, etc.

It was planned that Wuhan-Europe freight train would extend operations westwards and establish offices in countries like France.

China Railway Express .China Railway Express Co., Ltd. was founded in 1993 and was based in Beijing, China. The first China – Europe container block train under the family brand "China Railway Express" arrived in Poland. On 8 June 2016 the train set off from station in Chengdu, the capital of the Chinese province of Sichuan, then crossed the territories of Kazakhstan, Russia and Belarus and arrived 12 days later in Warsaw.

The twenty-two carriage train delivered electronics goods and auto parts to the Polish State Railways (PKP) Cargo Terminal in Warsaw. The arrival of the China Railway Express marked the opening of the New Silk Road - a Chinese project to open a new commercial route linking Asia and Europe. At the same time a container block train with Polish goods set off in the opposite direction to China.

The business model of railway transportation within the described supply chains was based on the "corporate" scheduled block trains serving individual shippers and operating from plant to plant (or from the plant to logistic center). These trains supported constant guaranteed industrial cargo flows of the selected customers. Most of the examples described in I.3.3 follow this model.

The next step – introduction of public regular services for customers shipping less than full train loads – was more complicated. To make the business viable and to attract enough traffic the transport operator should contact numerous shippers not only in the origin point, but all along the

route. Intermediate stops on the way mean also contracting local terminal operators and probably freight forwarders.

At the moment this report was written, there were not so many known services of this type, but the number of examples was growing. Often "corporate" train operators used the excessive capacity to attract customers from the market which seemed to be the natural way to develop public regular container services.

EATL Rail route 4

"Gül Train" A new container line kicked off on EATL route 4 from Halkali (Turkey) and Wien (Austria) from 14 July 2017. The train was owned by TurkRail Demiryolu Tasimacilik. New generation container wagons were preferred on this train.

EATL Rail routes 6, 7, 8

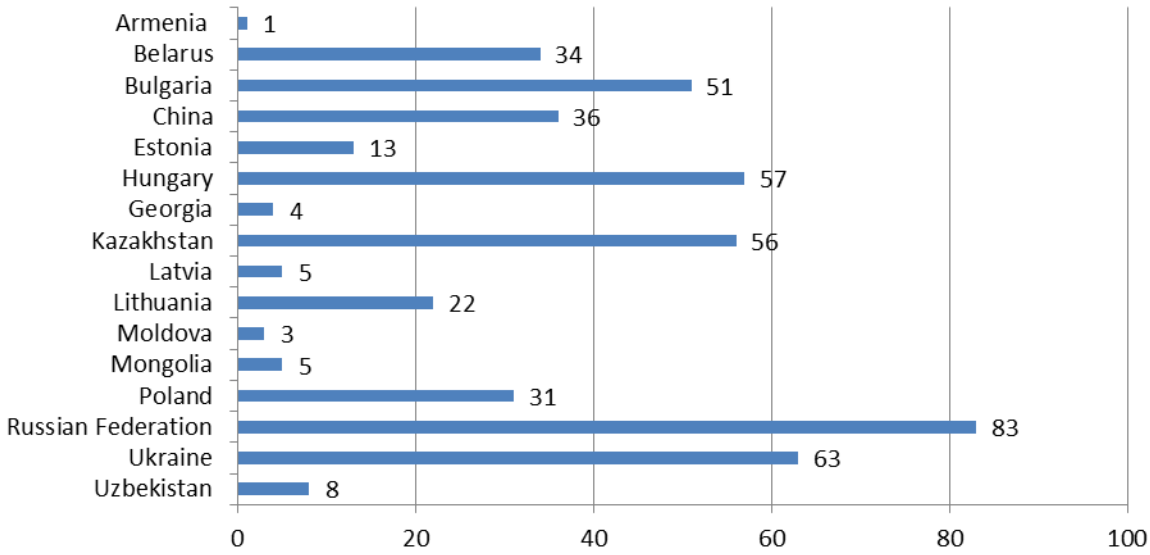
Islamic Republic of Iran. Certain container services were operated via the railways of Iran, in particular:

- Block train from Bandarabaas (Iran) to Almaty (Kazakhstan) lunched in 2012 along the North - South International Transport Corridor;
- Block train Turkey- Iran-Pakistan lunched in 2009 along Trans Asian Railway (TAR);
- Block train Almaty- Tashkent-Ashghabat-Tehran-Istanbul lunched in 2002 along EATL4 route;
- Block train India – Iran – Azerbaijan (or Caspian Sea) – Russia – Northern Europe (under planning).

Container services routes

According to OSJD data more than 450 routes for block trains, were operated in the OSJD member States in 2016 (Figure 1.27, Table 1.29). Approximately 170 block trains were scheduled as a regular services. The remaining block trains were operated on request from cargo-owners and logistics services providers. In Poland and the Czech Republic, almost all block trains run on a regular basis.

Figure 1.27
Number of block trains routes in OSJD member states in 2016



Source: OSJD

Table 1.29
List of block trains routes and contrailer services on the railways of OSJD member states (as of 14.10.2016)[19]

Train Number	Route	Train Characteristics	Run Frequency
Byelorussian Railway (BC)			
1022/1021	Russia - Lithuania - Belarus - Russia (Kaliningrad - Kybartai - Gudogai - Krasnoye - Kuntsevo-2/ Moscow-Tov.-Smolenskaja/Kupavna/Tuchkovo/Vorsino)	container	on request
1025/1026	China - Russia - Belarus (Zabaikalsk - Krasnoye - Koliadichi/Brest)	container	on request
1027/1028	Russia - Belarus (Mys Tschurkin /Uglovaja/Nakhodka/Nakhodka-Vost. - Krasnoye - Koliadichi/Brest)	container	on request
1037/1038	China - Russia - Belarus - European countries (Zabaikalsk - Krasnoye - Brest/Malaszewicze)	container	on request
	Russia - Belarus - European countries (Vladivostok/Nakhodka-Vost. - Krasnoye - Brest/Malaszewicze)	container	on request
1039/1040	Russia - Belarus - European countries (Zabaikalsk/Vladivostok/ Nakhodka-Vost. - Krasnoye - Brest/Malaszewicze)	container	on request
1062/1061	European countries - Belarus - Russia (Bruzgi - Krasnoye - Nowoijerusalimskaja)	container	on request
1064/1063	France - Poland - Belarus - Russia (Malaszewicze - Brest - Krasnoye - Vorotynsk)	container	on request
1066/1065 East Wind	Germany - Poland - Belarus - Russia (Malaszewicze - Brest - Krasnoje - Bekasovo-Sort./Kuntsevo-2/Vorsino)	container	on request
1068/1067	Germany - Poland - Belarus - Russia (Malaszewicze - Brest - Krasnoye - Moscow-Tov.-Paveletskaja/Sbornaja-Ugolnaja/Hovrino/Vorsino)	container	on request
	Poland - Belarus - Russia (Malaszewicze - Brest - Krasnoye - Kuntsevo-2/Silikatnaja)	container	on request
1070/1069 China Express	China - Mongolia - Russia - Belarus - European countries (Erlian/Zamyn-Uud - Naushki - Krasnoje - Brest/Malaszewicze)	container	on request
1074/1073	Germany - Poland - Belarus - Russia (Malaszewicze - Brest - Krasnoye - Nakhodka-Vost.)	container	on request
1076/1075	European countries - Belarus - Russia - Kazakhstan - China (Malaszewicze/Brest - Krasnoje - Iletsk-I - Almaty-1 - Dostyk/Altynkol)	container	on request
1274/1273	European countries - Belarus - Russia - Kazakhstan - China	container	on request

[19] Information on container trains operating with regular itineraries between Europe and Asia. Transmitted by the Organization for Cooperation between Railways (OSJD).

Train Number	Route	Train Characteristics	Run Frequency
	(Malaszewicze/Brest - Krasnoje - Iletsk-1 - Dostyk/Altynkol)		
1078/1077 Kazakhstan Vector	European countries - Belarus - Russia - Kazakhstan (Malaszewicze/Brest - Krasnoye - Semiglavy Mar - Arys-1)	container	on request
1080/1079	Belarus - Russia (Brest - Krasnoye - Kaluga-1/Perspektivnaja)	container	daily
1082/1081	Belarus - Russia (Brest - Krasnoye - Kaluga-1/Perspektivnaja)	container	daily
1084/1083	Poland - Belarus - Russia (Malaszewicze - Brest - Krasnoye - Tikhonovo/Silikatnaja/Kuntsevo-2/ Sbornaja-Ugolnaja/Moscow-Tov.-Paveletskaja)	container	on request
1086/1085 Mongolian Vector	Belarus - Russia - Mongolia (Brest - Krasnoye - Naushki)	container	on request
1088/1087	Belarus - Russia (Brest - Krasnoye - Kaluga-1/Perspektivnaja)	container	on request
1090/1089	Belarus - Russia (Brest - Krasnoye - Kostariha/Nizhny Novgorod Avtozavod)	container	on request
1096/1095	Belarus - Russia (Brest - Krasnoye - Nizhny Novgorod Avtozavod)	container	on request
1219/1220 Mercury	Lithuania - Belarus - Russia (Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Kuntsevo-2/ Moscow-Tov.-Paveletskaja/Kresty/Silikatnaja/Severnaja)	container	on request
1221/1222	Lithuania - Belarus - Russia - Kazakhstan - Uzbekistan - Afghanistan (Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Semiglavy Mar - Karakalpakhstan - Galaba)	container	on request
	Lithuania - Belarus - Russia - Kazakhstan - Uzbekistan (Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Semiglavy Mar - Karakalpakhstan - Ulugbek)	container	on request
Saule-2	Lithuania - Belarus - Russia - Kazakhstan (Draugiste (Port Klaipeda) - Gudogai - Krasnoje - Semiglavy Mar - Aktobe-2 (ECP 6600-6640, 6648-6728, 67771-67772, 69740, 6976-6997, 6999, 7030-7042, 7044-7047, 7057, 7049, 7059-7075)/Almaty-1)	container	on request
1226/1225 Baltic Wind	Lithuania - Belarus - Russia - Kazakhstan (Panariai/Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Kartaly-1 - Kustanai)	container	on request
Saule-1	Lithuania - Belarus - Russia - Kazakhstan (Draugiste (Port Klaipeda)/ Sestokai - Gudogai - Krasnoye - Kartaly-1 - Almaty-1)	container	on request
1263/1264	Kazakhstan - Russia - Belarus (Zhinishke - Semiglavy Mar - Zakopyt'e - Brest)	container	on request
1265/1266	China - Kazakhstan - Russia - Belarus - European countries (Dostyk/Altynkol - Iletsk-1 - Krasnoye - Brest/Malaszewicze)	container	on request
1352/1351 **Eurasia-2**	Lettland - Belarus - Russia - Kazakhstan (Riga - Bigosovo-styk - Zaolscha-styk - Semiglavy Mar - Aktobe-2)	container	on request
1401/1402 **Zubr**	Estland - Lettland - Belarus - Ukraine - Moldova (Ulemiste/Muuga - Valga - Bigosovo - Berezhest - Iliechyevsk/ Iliechyevsk-Paromnaja/Odessa-Port/ Mogilev-Podolski - Giurgiulesti-Port)	container	daily
1423/1424	Russia - Belarus - Lithuania - Russia (Akulovo/Mikhnevo - Krasnoye - Gudogai - Kibartai - Lesnoje-Nowoje)	container	on request
1425/1426	Russia - Belarus - Lithuania - Russia (Mikhnevo - Krasnoye - Gudogai - Kibartai - Lesnoje-Nowoje)	container	on request
1427/1428	Poland - Belarus - Russia (Malaszewicze - Brest - Krasnoje - Mikhnevo)	container	on request
1429/1430 **Viking**	Ukraine - Belarus - Lithuania (Iliechyevsk/Iliechyevsk-Paromnaja/ Odessa-Port - Berezhest - Gudogai - Draugiste (Port Klaipeda))	container and contrailer train	daily
	Moldova - Ukraine - Belarus - Lithuania (Giurgiulesti-Port - Mogilev- Podolski - Berezhest - Gudogai - Draugistee (Port	container and contrailer train	daily

Train Number	Route	Train Characteristics	Run Frequency
	Klaipeda)		
	Romania - Moldova - Ukraine - Belarus - Lithuania (Ungeny - Mogilev-Podolski - Berezhest - Gudogai - Draugiste (Port Klaipeda))	container and contrailer train	daily
	Bulgaria - Ukraine - Belarus - Lithuania (Varna - Iliechyevsk-Paromnaja - Berezhest - Gudogai - Draugiste (Port Klaipeda)	container and contrailer train	daily
	Azerbaijan - Georgia - Ukraine - Belarus - Lithuania (Aljat - Beyuk-Kyasik - Poti/Batumi - Iliechyevsk-Paromnaja - Berezhest - Gudogai - Draugiste (Port Klaipeda)	container and contrailer train	daily
Holding "Bulgarian State Railways" (Holding BDZ)			
40770	Tekirdag (Turkey) - Bulgaria - Serbia - Hungary - Vienna (Austria)	container	on request
40773	Vienna (Austria) - Hungary - Serbia - Bulgaria - Tekirdag (Turkey)	container	on request
40781	Sopron (Hungary) - Romania - Bulgaria - Cerkezkoy (Turkey)	container	on request
40782	Cerkezkoy (Turkey) - Bulgaria - Romania - Sopron (Hungary)	container	on request
40783	Sopron (Hungary) - Romania - Bulgaria - Cerkezkoy (Turkey)	container	on request
40784	Cerkezkoy (Turkey) - Bulgaria - Romania - Sopron (Hungary)	container	on request
40785	Sopron (Hungary) - Romania - Bulgaria - Cerkezkoy (Turkey)	container	on request
40774	Cerkezkoy (Turkey) - Bulgaria - Serbia - Sopron (Hungary)	container	on request
40775	Sopron (Hungary) - Serbia - Bulgaria - Cerkezkoy (Turkey)	container	on request
40776	Cerkezkoy (Turkey) - Bulgaria - Serbia - Sopron (Hungary)	container	once a week
40777	Sopron (Hungary) - Serbia - Bulgaria - Cerkezkoy (Turkey)	container	on request
40778	Cerkezkoy (Turkey) - Bulgaria - Serbia - Sopron (Hungary)	container	on request
40779	Sopron (Hungary) - Serbia - Bulgaria - Cerkezkoy (Turkey)	container	on request
40820	Halkali (Turkey) - Bulgaria - Serbia - Croatia - Ljubljana (Slovenia)	container	on request
40821	Ljubljana (Slovenia) - Croatia - Serbia - Bulgaria - Halkali (Turkey)	container	on request
41520	Halkali (Turkey) - Bulgaria - Dornesti (Romania)	container	once a week
41521	Dornesti (Romania) - Bulgaria - Halkali (Turkey)	container	once a week
40834	Tekirdag (Turkey) - Bulgaria - Serbia - Curtici (Romania)	container	on request
40835	Curtici (Romania) - Serbia - Bulgaria - Tekirdag (Turkey)	container	on request
40838	Halkali (Turkey) - Bulgaria - Serbia - Hungary - Dunajska Streda (Slovakia)	container	7 times a week
40839	Dunajska Streda (Slovakia) - Hungary - Serbia - Bulgaria - Halkali (Turkey)	container	7 times a week
40860	Sindos (Greece) - Bulgaria - Romania - Sopron (Hungary)	container	on request
40861	Sopron (Hungary) - Romania - Bulgaria - Sindos (Greece)	container	on request
40862	Thessaloniki (Greece) - Bulgaria - Romania - Sopron (Hungary)	container	on request
40863	Sopron (Hungary) - Romania - Bulgaria - Thessaloniki (Greece)	container	on request
41378	Stamboliyski (Bulgaria) - Serbia - Hungary - Zeltweg (Austria)	container	on request
41379	Zeltweg (Austria) - Hungary - Serbia - Stamboliyski (Bulgaria)	container	on request
41400	Warna (Bulgaria) - Romania - Sopron (Hungary)	container	on request
41401	Sopron (Hungary) - Romania - Warna (Bulgaria)	container	on request
41500	Thessaloniki (Greece) - Bulgaria - Ploiesti (Romania)	container	on request
41501	Ploiesti (Romania) - Bulgaria - Thessaloniki (Greece)	container	on request
41503	Kjazhna (Romania) - Bulgaria - Sindos (Greece)	container	on request
41504	Triasio (Greece) - Bulgaria - Curtici (Romania)	container	on request
41505	Curtici (Romania) - Bulgaria - Triasio (Greece)	container	on request
41530	Halkali (Turkey) - Bulgaria - Curtici (Romania)	container	on request
41531	Curtici (Romania) - Bulgaria - Halkali (Turkey)	container	on request
41532	Halkali (Turkey) - Bulgaria - Curtici (Romania)	container	on request
41533	Curtici (Romania) - Bulgaria - Halkali (Turkey)	container	on request
41740	Plovdiv (Bulgaria) - Serbia - Curtici (Romania)	container	on request
41741	Curtici (Romania) - Serbia - Plovdiv (Bulgaria)	container	on request
42500	Sofia (Bulgaria) - Curtici (Romania)	container	on request
42501	Curtici (Romania) - Sofia (Bulgaria)	container	on request

Train Number	Route	Train Characteristics	Run Frequency
42502	Plovdiv (Bulgaria) - Curtici (Romania)	container	on request
42503	Curtici (Romania) - Plovdiv (Bulgaria)	container	on request
42504	Stara Zagora (Bulgaria) - Curtici (Romania)	container	on request
42505	Curtici (Romania) - Stara Zagora (Bulgaria)	container	on request
46880	Halkali (Turkey) - Bulgaria - Romania - Sopron (Hungary)	container	on request
46881	Sopron (Hungary) - Romania - Bulgaria - Halkali (Turkey)	container	on request
46961	Sopron (Hungary) - Romania - Bulgaria - Thessaloniki (Greece)	container	on request
48120	Luleburgaz (Turkey) - Vetovo (Bulgaria)	container	3 times a week
48121	Vetovo (Bulgaria) - Luleburgaz (Turkey)	container	3 times a week
Hungarian State Railway CJSC (MAV CJSC)			
40600	Tekirdag (Turkey) - Kelebia (Hungary) - Gyor (Hungary) - Koln (Germany)	container	3 times a week
	Koln (Germany) - Gyor (Hungary) - Kelebia (Hungary)	container	3 times a week
	Tekirdag (Turkey) - Kelebia (Hungary) - Gyor (Hungary) - Koln (Germany)	container	3 times a week
	Koln (Germany) - Gyor (Hungary) - Kelebia (Hungary)	container	3 times a week
	Vienna (Austria) - Gyor (Hungary) - Kelebia (Hungary) - Halkali (Turkey)	container	3 times a week
	Halkali (Turkey) - Kelebia (Hungary) - Gyor (Hungary) - Vienna (Austria)	container	3 times a week
	Cerkezkoy (Turkey) - Kelebia (Hungary) - Gyor-Rendez (Hungary) - Sopron-Rendez (Hungary)	container	3 times a week
	Ulm (Germany) - Gyor-Rendez (Hungary) - Kelebia (Hungary) - Cerkezkoy (Turkey)	container	3 times a week
40764	Thessaloniki (Greece) - Kelebia (Hungary) - Gyor (Hungary) - Vienna (Austria)	container	3 times a week
40765	Sopron-Rendez (Hungary) - Gyor (Hungary) - Kelebia (Hungary) - Thessaloniki (Greece)	container	3 times a week
40770	Halkali (Turkey) - Kelebia (Hungary) - Gyor (Hungary) - Sopron-Rendez (Hungary)	container	3 times a week
	Hisar (Turkey) - Kelebia (Hungary) - Gyor (Hungary) - Sopron-Rendez (Hungary)	container	3 times a week
	Sopron-Rendez (Hungary) - Gyor (Hungary) - Kelebia (Hungary) - Halkali (Turkey)	container	3 times a week
40775	Sopron-Rendez (Hungary) - Gyor-Rendez (Hungary) - Kelebia (Hungary) - Halkali (Turkey)	container	3 times a week
40776	Halkali (Turkey) - Kelebia (Hungary) - Gyor (Hungary) - Sopron-Rendez (Hungary)	container	3 times a week
40838	Halkali (Turkey) - Kelebia (Hungary) - Komarom (Hungary) - Dunajska Streda (Slovakia)	container	2 times a week
40839	Dunajska Streda (Slovakia) - Komarom (Hungary) - Kelebia (Hungary) - Halkali (Turkey)	container	2 times a week
41126	Soroksar-Terminal (Hungary) - Hegyeshalom (Hungary) - Neuss (Germany)	container	5 times a week
41127	Neuss (Germany) - Hegyeshalom (Hungary) - Soroksar-Terminal (Hungary)	container	5 times a week
41129	Neuss (Germany) - Hegyeshalom (Hungary) - Soroksar-Terminal (Hungary)	container	5 times a week
41170	Dobra TKD (Slovakia) - Slovenske Nove Mesto (Slovakia) - Hegyeshalom (Hungary) - Villach Sud (Austria)	container	once a week
	Villach Sud (Austria) - Hegyeshalom (Hungary) - Slovenske Nove Mesto (Slovakia) - Dobra TKD (Slovakia)	container	once a week
	Dobra TKD (Slovakia) - Slovenske Nove Mesto (Slovakia) - Hegyeshalom (Hungary) - Villach Sud (Austria)	container	once a week
	Villach Sud (Austria) - Hegyeshalom (Hungary) - Hidasnemeti (Hungary) - Dobra TKD (Slovakia)	container	once a week
	Vienna (Austria) - Hegyeshalom (Hungary) - Soroksar-Terminal (Hungary)	container	on request
	Soroksar-Terminal (Hungary) - Hegyeshalom (Hungary) - Vienna	container	on request

Train Number	Route	Train Characteristics	Run Frequency
	(Austria)		
	Vienna (Austria) - Hegyeshalom (Hungary) - Soroksar-Terminal (Hungary)	container	on request
	Stamboliyski (Bulgaria) - Kelebia (Hungary) - Hegyeshalom (Hungary) - Sankt Michel (Austria)	container	once a week
	Zeltweg (Austria) - Hegyeshalom (Hungary) - Subotica (Serbia) - Stamboliyski (Bulgaria)	container	once a week
41382	Soroksar Ut (Hungary) - Hegyeshalom (Hungary) - Austria	container	5 times a week
41384	Soroksar-Terminal (Hungary) - Hegyeshalom (Hungary) - Austria	container	5 times a week
42020	Koper (Slovenia) - Hodos (Slovenia) - Soroksar-Terminal (Hungary)	container	5 times a week
42021	Soroksar-Terminal (Hungary) - Hodos (Slovenia) - Koper (Slovenia)	container	5 times a week
42022	Koper (Slovenia) - Hodos (Slovenia) - Soroksar-Terminal (Hungary)	container	5 times a week
42023	Soroksar-Terminal (Hungary) - Hodos (Slovenia) - Koper (Slovenia)	container	5 times a week
42024	Koper (Slovenia) - Hodos (Slovenia) - Soroksar-Terminal (Hungary)	container	5 times a week
42025	Soroksar-Terminal (Hungary) - Hodos (Slovenia) - Koper (Slovenia)	container	5 times a week
42050	Koper (Slovenia) - Hodos (Slovenia) - Budaors (Hungary)	container	2 times a week
42051	Budaors (Hungary) - Hodos (Slovenia) - Koper (Slovenia	container	2 times a week
42052	Koper (Slovenia) - Hodos (Slovenia) - Budaors (Hungary)	container	2 times a week
	Chiajna (Romania) - Curtici (Romania) - Gyor (Hungary) - Lambach (Austria)	container	3 times a week
	Lambach (Austria) - Gyor (Hungary) - Curtici (Romania) - Chiajna (Romania)	container	3 times a week
42900	Rijeka (Croatia) - Gyekenyes (Hungary) - Soroksar -Terminal (Hungary)	container	once a week
42901	Soroksar-Terminal (Hungary) - Gyekenyes (Hungary) - Rijeka (Croatia)	container	once a week
	Soroksar-Terminal (Hungary) - Gyekenyes (Hungary) - Koper (Slovenia)	container	on request
43796	Koper (Slovenia) - Gyekenyes (Hungary) - Soroksar-Terminal (Hungary)	container	on request
	Vintu de Jos (Romania) - Lokoshaya (Hungary) - Hegyeshalom (Hungary) - Koper (Slovenia)	container	once a week
	Hellein (Austria) - Hegyeshalom (Hungary) - Lokoshaya (Hungary) - Vintu de Jos (Romania)	container	once a week
	Bilk-Kombiterminal (Hungary) - Satoraljaujhely (Hungary) - Velka Ida (Slovakia)	container	on request
	Bratislava (Slovakia) - Rajka (Hungary) - Hodos (Slovenia) - Koper (Slovenia)	container	on request
	Vratimov (Czech Republic) - Rajka (Hungary) - Hodos (Slovenia) - Koper (Slovenia)	container	on request
	Dobra u Frydek-MIstek (Czech Republic) - Rajka (Hungary) - Hodos (Slovenia) - Koper (Slovenia	container	on request
	Zilina (Slovakia) - Rajka (Hungary) - Hodos (Slovenia) - Koper (Slovenia	container	on request
	Koper (Slovenia) - Hodos (Slovenia) - Rajka (Hungary) - Bratislava (Slovakia)	container	on request
	Koper (Slovenia) - Hodos (Slovenia) - Rajka (Hungary) - Vratimov (Czech Republic)	container	on request
	Koper (Slovenia) - Hodos (Slovenia) - Rajka (Hungary) - Dobra u Frydek-MIstek (Czech Republic)	container	on request
	Koper (Slovenia) - Hodos (Slovenia) - Rajka (Hungary) - Zilina (Slovakia)	container	on request
	Torokbalint (Hungary) - Gyekenyes (Hungary) - Rijeka (Croatia)	container	on request

Train Number	Route	Train Characteristics	Run Frequency
"Georgian Railway" JSC (GR)			
1201/1202	Poti/Batumi (Georgia) - Sadakhlo - Airum - Karmir-Blur/Erevan (South-Caucasus Railway)	container	according to time-table
	Erevan/Karmir-Blur - Airum - Sadakhlo - Poti/Batumi		
1203/1204	Poti/Batumi (Georgia) - Kishly - Aliat-ferry/Baku-Port (Azerbaijan)	container	according to time-table
	Aliat-ferry/Baku-Port (Azerbaijan) - Kishly - Poti/Batumi (Georgia)		
"Kazakhstan Temir Zholy National Company" JSC (KZH)			
1251/1252	Russia - Kazakhstan - Uzbekistan (Zabaikalsk/Rybniki/Vladivostok/Nakhodka-Vostochnaya/Bratsk/ Ust-Ilimsk/Lesosibirsk - Kulunda - Sary-Agach - Sergeli/Chukursai/ Tashkent-Tovarny)	container	on request
1275/1276	Uzbekistan - Kazakhstan - Russia (Ablyk/Jizzakh - Sary-Agach - Iletsk-1 - Moscow-Tovarnaya-Paveletskaya/Kuntsevo-2/Sbornaya-Ugolnaya/Moscow-Tovarnaya)	container	on request
1029/1030	Russia - Kazakhstan (Nakhodka-Vostochnaya/Bratsk/Ust-Ilimsk/ Lesosibirsk - Kulunda - Kustanai/Aksu-1)	container	on request
1257/1258	Kazakhstan - Russia (Kustanai - Kartaly-1 - Moscow-Tovarnaya-Paveletskaya/Kuntsevo-2/ Sbornaya-Ugolnaya/Moscow-Tovarnaya)	container	on request
1285/1286	Russia - Kazakhstan - Uzbekistan (Rybniki /Vladivostok/Nakhodka-Vostochnaya /Bratsk/Ust-Ilimsk/ Lesosibirsk - Lokot - Sary-Agach - Ablyk/Ulugbek/Nukus/Pitnjak/Qarshi/ Bukhara-2/Jizzakh/Karakul)	container	on request
	Russia - Kazakhstan - Uzbekistan - Afghanistan (Nakhodka-Vostochnaya - Lokot - Sary-Agach - Galaba)	container	on request
1031/1032	Russia - Kazakhstan (Perwaya Rechka/Ussuriysk/ Khabarovsk-2/ Zabaikalsk/ Vladivostok/ Nakhodka-Vostochnaya/Bratsk/Ust-Ilimsk/Lesosibirsk - Lokot - Zashchita/Zhety-Su/Almaty-1/Sorokovaya)	container	on request
	Russia - Kazakhstan(Nakhodka-Vostochnaya - Lokot - Sorokovaya/ Astana/Atyrau/Mangyshlak/Aktau-Port)	container	on request
	Kazakhstan - Russia(Zhinishke/Aksu-1 - Lokot - Nakhodka-Vostochnaya)	container	on request
	Kazakhstan - Russia(Zashchita - Lokot - Moscow-Tovarnaya-Paveletskaya/Kuntsevo-2/Sbornaya-Ugolnaya/Moscow-Tovarnaya)	container	on request
1033/1034	Russia - Kazakhstan (Novorossiysk - Kartaly-1 - Kustanai)	container	on request
1035/1036	Russia - Kazakhstan (Buslovskaya - Semiglavy Mar - Zhinishke)	container	on request
	Russia - Kazakhstan (Vorsino/Tuchkovo - Semiglavy Mar - Almaty-1)	container	on request
1070/1069	Czech Republic/Slovakia - Poland - Belarus - Russia - Kazakhstan (Malaszewicze - Brest - Krasnoye - Kartaly-1 - Zashchita)	container	on request
1045/1046	Russia - Kazakhstan - Turkmenistan (Nakhodka-Vostochnaya - Lokot - Bolashak - Turkmenbashi-2)	container	on request
1072/1071	Kazakhstan - Russia - Belarus (Aksu-1 - Kartaly-1 - Krasnoye - Brest)	container	on request
1076/1075	European countries - Belarus - Russia - Kazakhstan - China (Malaszewicze - Brest - Krasnoye - Iletsk-1 - Almaty-1 - Dostyk/Altynkol)	container	on request
	Altynkol - Almaty-1 – Altynkol		
1273/1274	Poland - Belarus - Russia - Kazakhstan - China (Malaszewicze - Brest - Krasnoye - Iletsk-1 - Dostyk/Altynkol - Chengdu)	container	on request

Train Number	Route	Train Characteristics	Run Frequency
1078/1077 Kazakhstan Vector	Germany - Poland - Belarus - Russia - Kazakhstan (Malaszewicze - Brest - Krasnoye - Semiglavy Mar - Arys-1)	container	on request
1142/1141	Aksu-1 – Dostyk	container	on request
1221/1222 Saule-2	Lithuania - Belarus - Russia - Kazakhstan - Uzbekistan - Afghanistan (Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Semiglavy Mar - Karakalpakstan - Galaba)	container	on request
	Lithuania - Belarus - Russia - Kazakhstan - Uzbekistan (Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Semiglavy Mar - Karakalpakstan - Ulugbek)	container	on request
	Lithuania - Belarus - Russia - Kazakhstan (Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Semiglavy Mar - Aktobe (ECP 6600-6640, 6648-6728, 67771-67772, 69740, 6976-6997, 6999, 7030-7042,7044-7047, 7057, 7049, 7059-7075)/Almaty-1)	container	on request
1271/1272 Saule-3	Lithuania - Latvia - Russia - Kazakhstan (Draugiste/Port Klaipeda) - Eglaine - Zilupe - Semiglavy Mar - Almaty-1)	container	on request
1226/1225 Baltic Wind	Lithuania - Belarus - Russia - Kazakhstan (Paneriai/Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Kartaly-1 - Kustanai)	container	on request
1253/1254 New Silk Way	China - Kazakhstan - Russia - Ukraine - Slovakia/Hungary (Dostyk/ Altynkol - Iletsk-1 - Zernovo - Chop - Dobra/Chop, Batevo - Budapest)	container	on request
1255/1256	China - Kazakhstan - Uzbekistan (Altynkol/Dostyk - Sary-Agach - Ablyk/ Sergeli/ Chukursai/Tashkent-Tovarny)	container	on request
1267/1268	Kazakhstan - Russia (Zhety-Su - Semiglavy Mar - Obninskoye)	container	on request
	China - Kazakhstan - Russia (Dostyk - Semiglavy Mar - Moscow-Tovarnaya-Paveletskaya/Silikatnaya)	container	on request
	China - Kazakhstan - Russia (Dostyk - Semiglavy Mar - Kupavna/ Khovrino/Kresty/Kuntsevo-2)	container	on request
1259/1260 Saule	China - Kazakhstan - Russia - Belarus - Lithuania - European countries (Dostyk/Altynkol - Iletsk-1 - Krasnoye - Gudogai - Draugiste (Port Klaipeda)/Sestokai)	container	on request
Saule-1	Lithuania - Belarus - Russia - Kazakhstan (Draugiste (Port Klaipeda)/ Sestokai - Gudogai - Krasnoye - Kartaly-1 - Almaty-1)	container	on request
1262/1261	China - Kazakhstan - Uzbekistan (Altynkol/Dostyk - Sary-Agach - Ablyk/Sergeli/ Chukursai)	container	on request
1263/1264	Kazakhstan - Russia - Belarus (Zhinishke - Semiglavy Mar - Zakopytie - Brest)	container	on request
1265/1266	China - Kazakhstan - Russia - Belarus - Poland - Germany (Dostyk/Altynkol - Iletsk-1 - Krasnoye - Brest - Malaszewicze)	container	on request
1269/1270	China - Kazakhstan - Russia (Dostyk/Altynkol - Semiglavy Mar - Novorossiysk/Krasnodar-Sortirovochny)	container	on request
1271/1272	Kazakhstan - Russia - Belarus - Lithuania (Zhinishke - Semiglavy Mar - Zakopytie - Gudogai - Klaipeda)	container	on request
1278/1277	Russia - Kazakhstan - China (Buslovskaya - Iletsk-1 - Dostyk)	container	on request
1280/1279 Nomad Express	China - Kazakhstan - Azerbaijan - Georgia (Dostyk/Altynkol - Aktau-Port-Ferry - Alyat - Beyuk-Kyasik - Tbilisi-Uzlovaya/Poti)	container	on request
1282/1281	China - Kazakhstan - Russia - Azerbaijan - Georgia (Dostyk - Semiglavy Mar - Samur - Beyuk-Kyasik - Tbilisi-Uzlovaya)	container	on request
1284/1283	China - Kazakhstan - Russia (Dostyk - Kartaly-1 - Formachyevo)	container	on request
1287/1288	China - Kazakhstan - Turkmenistan - Iran along the route Dostyk/ Altynkol - Bolashak – Sarahs	container	on request
1292/1291	Russia - Kazakhstan - China (Vartsila - Iletsk-1 - Dostyk)	container	on request
1293/1294	Kyrgyzstan - Kazakhstan - Russia	container	on request

Train Number	Route	Train Characteristics	Run Frequency
	(Alamedin - Lugovaya - Semiglavy Mar - Khovrino/ Kuntsevo-2/Vorsino)		
1350/1349 Eurasia-1	Latvia - Russia - Kazakhstan (Riga - Zilupe - Semiglavy Mar - Aktobe)	container	on request
1415/1416	Estonia - Russia - Kazakhstan (Muuga - Pechory-Pskovskiye - Iletsk-1 - Almaty-1)	container	on request
	Estonia - Russia - Kazakhstan - Uzbekistan - Afghanistan (Muuga - Pechory-Pskovskiye - Semiglavy Mar - Karakalpakstan - Galaba)	container	on request
	Estonia - Russia (Muuga - Pechory-Pskovskiye - Tolyatti/Zhigulyevskoye More)	container	on request
1418/1417 Baltica-Transit	Estonia/Lithuania - Latvia (Rezekne) - Russia - Kazakhstan - Uzbekistan (Valga/ Eglaine - Zilupe - Semiglavy Mar - Aktobe - Sary-Agach - Chukursai)	container	on request
	Estonia/ Lithuania - Latvia (Rezekne) - Russia - Kazakhstan (Valga/Eglaine - Zilupe - Semiglavy Mar - Almaty-1)	container	on request
	Estonia/Lithuania - Latvia (Rezekne) - Russia - Kazakhstan - Uzbekistan - Afghanistan (Valga/Eglaine - Zilupe - Semiglavy Mar - Karakalpakstan - Galaba)	container	on request
1420/1419 Baltica-Transit-2	Estonia - Russia - Kazakhstan - Uzbekistan (Muuga/Paldiski - Narva - Petropavlovsk - Sary-Agach - Chukursai)	container	on request
	Estonia - Russia - Kazakhstan - Kyrgyzstan (Muuga/Paldiski - Narva - Petropavlovsk - Lugovaya - Alamedin)	container	on request
	Estonia - Russia - Kazakhstan - China (Muuga - Narva - Petropavlovsk - Almaty-1/ Dostyk/Altynkol)	container	on request
1432/1431 Astana European Train	Slovakia - Ukraine - Russia - Kazakhstan (Mativcy - Uzhgorod-2 - Topoli - Kartaly-1 - Astana)	container-contrailer	on request
Chinese Railways (KZD)			
X8014/3	China - Kazakhstan - Russia - Belarus - Poland - European countries (Tuanjiecun - Alashankou (border) - Dostyk - Iletsk-1 - Krasnoye - Osinovka - Brest - Malaszewicze)	container	5 times a week
X8040/39	European countries - Poland - Belarus - Russia - Kazakhstan - China (Malaszewicze - Brest - Osinovka - Krasnoye - Iletsk-1 - Dostyk - Alashankou (border) - Tuanjiecun)	container	2 times a week
X8016/5	China - Kazakhstan - Russia - Belarus - Poland - European countries (Chengxiang - Alashankou (border) - Dostyk - Iletsk-1 - Krasnoye - Osinovka - Brest - Malaszewicze)	container	6 times a week
X8042	European countries - Poland - Belarus - Russia - Kazakhstan - China (Malaszewicze - Brest - Osinovka - Krasnoye - Iletsk-1 - Dostyk - Alashankou (border) - Chengxiang)	container	2 times a week
X8001	China - Kazakhstan - Russia - Belarus - Poland - European countries (Putian - Alashankou (border) - Dostyk - Iletsk-1 - Krasnoye - Osinovka - Brest - Malaszewicze)	container	once a week
X8202/3	China - Mongolia - Russia - Belarus - Poland - European countries (Putian - Erlian (border) - Zamyn-Uud - Sukhe-Bator - Naushki - Krasnoye - Osinovka - Brest - Malaszewicze)	container	2 times a week
X8002	European countries - Poland - Belarus - Russia - Kazakhstan - China (Malaszewicze - Brest - Osinovka - Krasnoye - Iletsk-1 - Dostyk - Alashankou (border) - Putian)	container	once a week
X8204/1	European countries - Poland - Belarus - Russia - Mongolia - China (Malaszewicze - Brest - Osinovka - Krasnoye - Naushki - Sukhe-Bator - Zamyn-Uud - Erlian (border) - Putian)	container	once a week
X8011/2/1	China - Kazakhstan - Russia - Belarus - Poland - European countries (Wujiashan - Alashankou (border) - Dostyk - Iletsk-I - Krasnoye - Osinovka - Brest - Malaszewicze)	container	3 times a week
X8044/3	European countries - Poland - Belarus - Russia - Kazakhstan - China (Malaszewicze - Brest - Osinovka - Krasnoye - Iletsk-I -	container	once a week

Train Number	Route	Train Characteristics	Run Frequency
	Dostyk - Alashankou (border) - Wujiashan)		
X8428/7	China - Kazakhstan - Russia - Belarus - Poland - European countries (Xia Ning - Alashankou (border) - Dostyk - Iletsk-1 - Krasnoye - Osinovka - Brest - Malaszewicze)	container	once a week
X8402/1	China - Russia - Belarus - Poland - European countries (Suzhouxi - Manchuria (border) - Zabaikalsk - Krasnoye - Osinovka - Brest - Malaszewicze)	container	2 times a week
X8408/7	Belarus - Russia - China (Brest - Osinovka - Krasnoye - Manchuria (border) - Suzhouxi)	container	on request
X8426/5	China - Kazakhstan - Russia - Belarus - Poland - European countries (Dalang, Shilong - Alashankou (border) - Dostyk - Iletsk-1 - Krasnoye - Osinovka - Brest - Malaszewicze)	container	on request
X8065	China - Kazakhstan - Russia - Belarus - Poland - European countries (Yiwu - Alashankou (border) - Dostyk - Iletsk-1 - Krasnoye - Osinovka - Brest - Malaszewicze)	container	1-2 times a week
X8054/3	European countries - Poland - Belarus - Russia - Kazakhstan - China (Malaszewicze - Brest - Osinovka - Krasnoye - Iletsk-1 - Dostyk - Alashankou (border) - Yiwu)	container	2 times a month
X8057	China - Kazakhstan - Russia - Belarus - Poland - European countries (Shenyangdong - Manchuria (border) - Zabaikalsk - Krasnoye - Osinovka - Brest - Malaszewicze)	container	on request
X8058	Belarus - Russia - China (Brest - Osinovka - Krasnoye - Zabaikalsk - Manchuria (border) - Shenyangdong)	container	on request
X8024/3	China - Kazakhstan - Russia - Belarus - Poland - European countries (Hefeidong - Alashankou (border) - Dostyk - Iletsk-1 - Krasnoye - Osinovka - Brest - Malaszewicze)	container	once a week
X8057	China - Russia (Bayujuan - Manchuria (border) - Zabaikalsk)	container	5-7 times a week
X9002/1	China - Kazakhstan (Xingang - Alashankou (border) - Dostyk)	container	on request
X9004/3	China - Kazakhstan (Xinzhu - Alashankou (border) - Dostyk)	container	2-3 times a week
X9032/3	China - Kazakhstan (Dongfu - Alashankou (border) - Dostyk)	container	on request
X9006/5	China - Kazakhstan (Jixi - Alashankou (border) - Dostyk)	container	on request
X9010/9	China - Kazakhstan (Hefeidong - Alashankou (border) - Dostyk)	container	on request
X9012/1	China - Kazakhstan (Lianyungangdong - Alashankou (border) - Dostyk)	container	on request
X9051	China - Kazakhstan (Hezenan - Alashankou (border) - Dostyk)	container	on request
X9401	China - Kazakhstan (Wuxi - Alashankou (border) - Dostyk)	container	on request
X9055	China - Kazakhstan (Lanzhoubey - Alashankou (border) - Dostyk)	container	1-2 times a week
X9024/3	China - Kazakhstan (Shilong, Xia Ning - Alashankou (border) - Dostyk/ Khorgos (border) - Altynkol)	container	on request
X9008/7	China - Kazakhstan (Jiaozhou - Khorgos (border) - Altynkol)	container	1-2 times a week
X9014/3	China - Kazakhstan (Lianyungangdong - Khorgos (border) - Altynkol)	container	5-7 times a week
X9403	China - Kazakhstan (Wuxi - Khorgos (border) - Altynkol)	container	on request
X8302/1	China - Russia (Xingang - Manchuria (border) - Zabaikalsk)	container	on request
X9202/1	China - Mongolia (Xingang - Erlian (border) - Zamyn-Uud)	container	on request
X9204/3	Mongolia - China (Zamyn-Uud - Erlian (border) - Xingang)	container	1-2 times a week
"Latvian Railway" State JSC (LDZ)			
1418/1417 Baltica-Transit	Estonia/Lithuania - Latvia - Russia - Kazakhstan - Uzbekistan (Rezekne/Sebezh - Ozinki - Aktobe - Sary-Agach - Chukursai) Rezekne/Sebezh - Ozinki - Aktobe - Karakalpatia - Galaba - Afghanistan (Hairatan)	container	1 time a week
1354/1353 Riga Express	Riga/Liepaja - Kuntsevo-2/Moscow-Tov./Silikatnaya /Khovrino	container	2 times a week
1356/1355	Riga/Moscow-Tov./Seliatino	container	on request

Train Number	Route	Train Characteristics	Run Frequency
Riga-Moscow			
1401/1402 Zubr	Estonia - Latvia - Belarus - Ukraine (Ulemiste/Muuga - Valga - Indra - Slovechno - Iliechyevsk/Odessa)/Mogilyev-Podolski - Giurgiulesti-Port)	container	2 times a week
1350/1349 Eurasia-1	Latvia - Russia - Kazakhstan (Riga - Rezekne - Sebezh - Ozinki/Aktobe)	container	on request
Lithuanian Railways JSC (LG)			
1022/1021	Kaliningrad - Kybartai (Russia) - Vaidotai - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Kuntsevo-2, Moscow-Tovarnaya- Smolenskaya, Kupavna (Russia)	container	on request
1220/ 1219 Mercury	Draugiste (Port Klaipeda) - Vaidotai - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Kuntsevo-2, Moscow-Tovarnaya- Smolenskaya, Silikatnaya, Kresty, Severnaya (Russia)		
VIT Express	Draugiste (Port Klaipeda) – Vaidotai	container	on request
Italy Express	Kaunas - Warszawa - Ludwigshafen – Milan	container	on request
1210/1209 Vilnius Shuttle	Draugiste (Port Klaipeda) - Paneriai - Draugiste (Port Klaipeda) Lithuania	container	2 times a week in both directions
1222/1221	Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Ozinki (Russia) - Semiglavy Mar - Oazis (Kazakhstan) - Karakalpakstan - Galaba (Uzbekistan) – Afghanistan	container	on request
Saule-2	Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Ozinki (Russia) - Semiglavy Mar - Aktobe, Almaty-1 (Kazakhstan)		
26/1225 Baltic Wind	Paneriai, Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Kartaly-1 (Russia) - Aksu (Oblast) - Kustanai, Karagandy (Kazakhstan)	container	on request
1259/1260	Zhinishke - Semiglavy Mar (Kazakhstan) - Ozinki - Zlynka (Russia) - Zakopytie - Gudogai (Belarus) - Kena - Klaipeda (Lithuania)	container	on request
1259 Saule	Dostyk - Iletsk-1 (Kazakhstan) - Kanisay - Krasnoye (Russia) - Osinovka - Gudogai (Belarus) - Kena - Draugiste (Port Klaipeda), Sestokai (Lithuania) - European countries	container	on request
1260 Saule-1	Draugiste (Port Klaipeda), Sestokai - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Aksu (Oblast) (Russia) - Kartaly-1 - Almaty-1 (Kazakhstan)	container	on request
1271/1272 Saule-3	Draugiste (Port Klaipeda) - Eglaine - Zilupe - Semiglavy Mar - Almaty-1)	container	on request
1253/1254 Saule-4	Draugiste (Port Klaipeda) - Eglaine - Zilupe - Kartaly-1 - Almaty-1)	container	on request
8 /1417* Baltica-Transit	Draugiste (Klaipeda) - Rokiskis (Lithuania) - Eglaine - Rezekne - Zilupe (Latvia) - Posin - Ozinki (Russia) - Semiglavy Mar - Aktobe - Sary-Agach (Kazakhstan) - Keles - Chukursai (Uzbekistan)		
	Draugiste (Port Klaipeda) - Rokiskis (Lithuania) - Eglaine - Skirotava/ Rezekne/Ziemelblazma - Zilupe - Semiglavy Mar - Dostyk/Altynkol)	container	on request
1418 /1417* Baltica-Transit	Draugiste (Port Klaipeda) - Rokiskis (Lithuania) - Eglaine - Skirotava/ Rezekne/ Ziemelblazma - Zilupe - Semiglavy Mar - Karakalpakstan - Jomboy)		
1421/1422 1423/1424 1425/1426	Grivno, Akulovo - Krasnoye (Russia) - Osinovka - Gudogai (Belarus) - Kena - Kybartai (Lithuania) - Nesterov - Lesnoye-Novoye (Russia)	container-contrailer	on request
	Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Slovechno (Belarus) - Berezhest - Iliechyevsk/ Iliechyevsk-Ferry /Odessa-Port (Ukraine)		
1430/1429 Viking	Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Slovechno (Belarus) - Berezhest - Mogilyev-Podolski (Ukraine) -	container-contrailer	daily

Train Number	Route	Train Characteristics	Run Frequency
	Giurgiule§ti-Port (Moldova)		
	Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Slovechno (Belarus) - Berezhest - Mogilyev-Podolski (Ukraine) - Ungheni (Moldova) (exp. to Romania)		
110191/110190 Sestokai Express	Gadki - Trakiszki (Poland)/Mockava - Sestokai (Lithuania)	container	once a week in both directions
1435/1436 Neman	Lithuania - Belarus (Kaunas - Gudogai - Koladichi)	contrailer	on request
"Railway of Moldova" State Enterprise (CFM)			
1401/1402 Zubr	Ulemiste/Muuga - Valka (Estonia) - Lugazhy - Indra (Latvia) - Bigosovo - Slovechno (Belarus) - Berezhest - Iliechyevsk/ Iliechyevsk-Ferry/ Odessa-Port/Mogilyev-Podolski/Izov (Ukraine) - Valcinej - Oknitsa (Moldova)/Hrubieszow - Stawkow (Poland)	container	3 times a week
1362/1361 Viking	Draugiste-Port - Kena (Lithuania) - Gudogai - Slovechno (Belarus) - Berezhest - Odessa/ Iliechyevsk/Iliechyevsk-Ferry (Ukraine) - Warna - Sofia (Bulgaria)	container-contrailer	2 times a week
Experimental	Rybnitsa - Kolbasnaya (Moldova)/Slobodka - Izov (Ukraine)/ Hrubieszow - Zamosc (Poland)		
Ulan-Bator Railway JSC (UBZD JSC)			
1406 Mongolian Vector	Brest (Belarus) - Naushki (Russia)/Sukhe-Bator (Mongolia) - Ulan Bator (Mongolia)	container	2 times a month
1405	Xingang (China) - Erlian (China)/Zamyn-Uud (Mongolia) - Ulan Bator (Mongolia)	container	on request
1201/1202 East Wind	Zamyn-Uud (Mongolia) - Ulan Bator (Mongolia)	Fast container train	2 times daily
1285	Erlian (China) - Zamyn-Uud (Mongolia) - Ulan Bator - Sukhe-Bator (Mongolia) - Naushki (Russia) - Brest (Belarus)	container	4 times a month
1286	Brest (Belarus) - Naushki (Russia) - Sukhe-Bator (Mongolia) - Ulan Bator - Zamyn-Uud (Mongolia) - Erlian (China)	container	2 times a month
Polish State Railways JSC (PKP JSC)			
42475	Hamburg (Germany) - Pruszkow (Poland)	container	7 times a week
42467 42466	Hamburg (Germany) - Mtawa (Poland) Mtawa (Poland) - Hamburg (Germany)	container	3 times a week once a week
42479 42478	Hamburg (Germany) - Wroclaw (Poland) Wroclaw (Poland) - Hamburg (Germany)	container	4 times a week 2 times a week
42473 42474	Hamburg (Germany) - Warszawa-Praga (Poland) Warszawa-Praga (Poland) - Hamburg (Germany)	container	6 times a week 3 times a week
42471	Hamburg (Germany) - Poznan (Poland)	container	2 times a week
41363 41369/ 41362	Rotterdam (Holland) - Poznan (Poland) - Rotterdam (Holland)	container	4 times a week
42477 42468	Bremerhaven (Germany) - Poznan (Poland) Poznan (Poland) - Bremerhaven (Germany)	container	4 times a week once a week
402404/ 42405	Ruhland (Germany) - Poznan (Poland) Ruhland (Germany) - Warszawa-Praga (Poland)	container	5 times a week
42333; 42331/42330	Rotterdam (Holland) - Warszawa-Praga (Poland) Warszawa-Praga (Poland) - Rotterdam (Holland)	container	3 times a week
41365	Rotterdam (Holland) - Malaszewicze (Poland) - CIS countries	container	once a week
42453 East Wind	GroUbeeren (Germany) - Malaszewicze (Poland) - CIS countries	container	6 times a week
42452 West Wind	CIS countries - Malaszewicze (Poland) - Seddin (Germany)	container	5 times a week
40503 40504	Piacenza (Italy) - Gliwice (Poland) Gliwice (Poland) - Piacenza (Italy)	container	2 times a week once a week
42463	Duisburg R.H. (Germany) - Pruszkow (Poland)	container	3 times a week
42455 42462	Duisburg (Germany) - Pruszkow (Poland) Pruszkow (Poland) - Duisburg (Germany)	container	once a week 4 times a week
4572/5472	Zilina (Slovakia) - Skandawa (Poland) - Zilina (Slovakia) (Chernyakhovsk, Russia)	container	7 times a week

Train Number	Route	Train Characteristics	Run Frequency
43202,43206/ 43205,43209	Mlada Boleslav (Czech Republic) - Malaszewicze (Poland) - Mlada Boleslav (Czech Republic) - Kaluga (Russia)	container	12 times a week
42467 42466	Hamburg (Germany) - Mtawa (Poland) Mtawa (Poland) - Hamburg (Germany)	container	once a week once a week
41372 42476/42472 42471 42475	Poznan (Poland) - Hamburg (Germany) Poznan (Poland) - Hamburg (Germany) Hamburg (Germany) - Poznan (Poland) Hamburg (Germany) - Poznan (Poland)	container	once a week 4 times a week times a week times a week
49408 49407	Malaszewicze (Poland) - Wolfsburg (Germany) Wolfsburg (Germany) - Malaszewicze (Poland)	container	5 times a week once a week
40424 40419	Malaszewicze (Poland) - Vesoul (France) Vesoul (France) - Malaszewicze (Poland)	container	5 times a week in both directions
41369/41367 41368	Rotterdam (Holland) - Poznan (Poland) Poznan (Poland) - Rotterdam (Holland)	container	2 times a week 2 times a week
42477 42468	Bremerhaven (Germany) - Poznan (Poland) Poznan (Poland) - Bremerhaven (Germany)	container	4 times a week in both directions
42404 42405	Poznan (Poland) - Ruhland (Germany) Ruhland (Germany) - Warszawa-Praga (Poland)	container	5 times a week 5 times a week
42331; 42333 42330	Rotterdam (Holland) - Warszawa-Praga (Poland) Warszawa- Praga (Poland) - Rotterdam (Holland)	container	3 times a week in both directions
40701 40702	Malaszewicze (Poland) - Gyor (Hungary) Gyor (Hungary) - Malaszewicze (Poland)	container	3 times a week in both directions
42453 East Wind	GroUbeeren (Germany) - Malaszewicze (Poland) - CIS countries	container	3 times a week
42452 West Wind	Malaszewicze (Poland) - GroRbeeren (Germany)	container	3 times a week
43303 43302	Duisburg R.H. (Germany) - Watbrzych (Poland) Watbrzych (Poland) - Duisburg R.H. (Germany)	container	once a week in both directions
42463	Duisburg R.H. (Germany) - Pruszkow (Poland)	container	3 times a week
42462	Pruszkow (Poland) - Duisburg (Germany)	container	2 times a week
4572/5472	Zilina (Slovakia) - Skandawa - Zilina (Slovakia) (Chernyakhovsk, Russia)	container	7 times a week in both directions
43202 43209	Mlada Boleslav (Czech Republic) - Malaszewicze (Poland) - Mlada Boleslav (Czech Republic) - (Kaluga, Russia)	container	7 times a week in both directions
41840 41841	Velka Ida (Slovakia) - Malaszewicze (Poland) - Velka Ida (Slovakia) (Kaluga, Russia)	container	7 times a week in both directions
17078 71078	Malaszewicze (Poland) - Kobylnica (Poland) (Project Kaluga) Kobylnica (Poland) - Malaszewicze (Poland) (Project Kaluga)	container	once a week in both directions
Individual timetable	Portogruaro (Italy) - Malaszewicze (Poland) Malaszewicze (Poland) - Portogruaro (Italy)	container	once a week in both directions
112002	Chengdu (China) - Malaszewicze (Poland) - todz Olechow	container	once a week
	Zamosc Bortatycze LHS (Poland) - Rybnitsa Oknitsa (Moldova) Rybnitsa Oknitsa (Moldova) - Zamosc Bortatycze (Poland)	container	4 times a week in both directions
Russian Railways JSC (RZD JSC)			
1022/1021	Kaliningrad - Nesterov (Russia) - Kybartai (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Kuntsevo-2/Moscow- Tovarnaya- Smolenskaya/Kupavna (Russia)	container	on request
1023/1024	Manchuria (China) - Zabaikalsk - Suzemka (Russia) - Zernovo - Chop - Dobra/Chop, Batevo (Ukraine) - Slovakia/Hungary	container	on request
	Nakhodka-Vostochnaya - Suzemka (Russia) - Zernovo - Chop - Dobra/ Chop, Batevo (Ukraine) - Slovakia/ Hungary	container	on request
1025/1026	Manchuria (China) - Zabaikalsk - Krasnoye (Russia) - Osinovka -	container	on request

Train Number	Route	Train Characteristics	Run Frequency
	Brest (Belarus)		
1027/1028	Nakhodka/Nakhodka-Vost. - Krasnoye (Russia) - Osinovka - Brest (Belarus)	container	on request
1251/1252	Zabaikalsk/Rybniki/Vladivostok/Nakhodka-Vostochnaya/Bratsk/ Ust-Ilimsk/Lesosibirsk - Kulunda (Russia) - Kurkamys - Sary-Agach (Kazakhstan) - Sergeli/Chukursai (Uzbekistan)	container	on request
1275/1276	Ablyk/Ulugbek/Nukus/Pitnjak/Qarshi/Bukhara-2/Jizzakh (Uzbekistan) - Sary-Agach - Iletsk-1 (Kazakhstan) - Kanisay - Moscow-Tovarnaya- Paveletskaya /Kuntsevo-2/Sbornaya-Ugolnaya/Moscow-Tovarnaya (Russia)	container	on request
1029/1030	Nakhodka-Vostochnaya/Bratsk/Ust-Ilimsk/ Lesosibirsk - Kulunda (Russia) - Kustanai/Aksu-1 (Kazakhstan)	container	on request
1257/1258	Kustanai (Kazakhstan) - Kartaly-1 - Moscow-Tovarnaya-Paveletskaya/ Kuntsevo-2/Sbornaya-Ugolnaya/Moscow-Tovarnaya (Russia)	container	on request
1285/1286	Rybniki /Vladivostok/Nakhodka-Vostochnaya /Bratsk/Ust-Ilimsk/ Lesosibirsk - Lokot (Russia) - Sary-Agach (Kazakhstan) - Ablyk/ Ulugbek/ Nukus/ Pitnjak/Qarshi/Bukhara-2/Jizzakh (Uzbekistan)	container	on request
	Nakhodka-Vostochnaya - Lokot (Russia) - Sary-Agach (Kazakhstan) - Galaba (Uzbekistan) – Afghanistan	container	on request
1031/1032	Zabaikalsk/Vladivostok/Nakhodka-Vostochnaya/Bratsk/Ust-Ilimsk/ Lesosibirsk - Lokot (Russia) - Zashchita/Zhety-Su/Almaty-1 (Kazakhstan)	container	on request
	Zhinishke/Aksu-1 (Kazakhstan) - Lokot - Nakhodka-Vostochnaya (Russia)	container	on request
	Zashchita (Kazakhstan) - Lokot - Moscow-Tovarnaya-Paveletskaya/ Kuntsevo-2/Sbornaya-Ugolnaya/Moscow-Tovarnaya (Russia)	container	on request
1033/1034	Novorossiysk - Kartaly-1 (Russia) - Kustanai (Kazakhstan)	container	on request
1035/1036	Buslovskaya - Ozinki (Russia) - Semiglavy Mar - Zhinishke (Kazakhstan)	container	on request
	Vorsino - Ozinki (Russia) - Semiglavy Mar - Almaty-1 (Kazakhstan)	container	on request
1037/1038	China - Zabaikalsk - Krasnoye (Russia) - Osinovka - Brest (Belarus) - Malaszewicze (Poland)	container	on request
	Vladivostok/Nakhodka-Vostochnaya - Krasnoye (Russia) - Osinovka - Brest (Belarus) - Malaszewicze (Poland)	container	on request
1039/1040	Zabaikalsk/Vladivostok/Nakhodka-Vostochnaya - Krasnoye (Russia) - Osinovka - Brest (Belarus) - Malaszewicze (Poland)	container	on request
1062/1061	European countries - Bruzgi - Osinovka (Belarus) - Krasnoye - Novojerusalimskaya (Russia)	container	on request
1064/1063	France - Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Vorotynsk (Russia)	container	on request
1066/1065 East Wind	(Germany - Poland - Belarus - Russia) (France - Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Bekasovo-Sort./ Kuntsevo-2/ Vorsino (Russia)	container	on request
1068/1067	Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Moscow-Tovarnaya-Paveletskaya/ Sbornaya-Ugolnaya (Russia)	container	on request
	Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Kuntsevo-2/Silikatnaya (Russia)		
1070/1069	Czech Republic/Slovakia - Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Lokot (Russia) - Kartaly-1 - Zashchita (Kazakhstan)	container	on request
1072/1071	Aksu-1 (Kazakhstan) - Kartaly-1 - Krasnoye (Russia) - Osinovka - Brest (Belarus)	container	on request
1074/1073	Germany - Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Nakhodka-Vostochnaya (Russia)	container	on request
1076/1075	Berlin/ Duisburg/Hamburg (Germany) - Malaszewicze (Poland) -	container	on request

Train Number	Route	Train Characteristics	Run Frequency
	Brest - Osinovka (Belarus) - Krasnoye - Kanisay (Russia) - Iletsk-1 - Almaty-1 - Dostyk/Altynkol (Kazakhstan) - Chongqing/Zhengzhou (China)		
	Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Kanisay (Russia) - Iletsk-1 - Dostyk/Altynkol (Kazakhstan) - Chengdu (China)	container	on request
1078/1077 Kazakhstan Vector	Germany - Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Ozinki (Russia) - Semiglavy Mar - Arys-1 (Kazakhstan)	container	on request
1080/1079	Brest - Osinovka (Belarus) - Krasnoye - Kaluga-1/ Perspektivnaya (Russia)	container	on request
1082/1081	Brest - Osinovka (Belarus) - Krasnoye - Kaluga-1/ Perspektivnaya (Russia)	container	on request
1084/1083	Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Tihonovo/Silikatnaya/Kuntsevo-2/Sbornaya-Ugolnaya/ Moscow-Tovarnaya-Paveletskaya (Russia)	container	on request
1086/1085 Mongolian Vector	Brest - Osinovka (Belarus) - Krasnoye - Naushki (Russia) – Mongolia	container	on request
1088/1087	Brest - Osinovka (Belarus) - Krasnoye - Kaluga-1/ Perspektivnaya (Russia)	container	on request
1090/1089	Brest - Osinovka (Belarus) - Krasnoye - Kostarikha/Nizhny Novgorod Avtozavod (Russia)	container	on request
1096/1095	Brest - Osinovka (Belarus) - Krasnoye - Nizhny Novgorod Avtozavod (Russia)	container	on request
1144/1143	Dorne^ti (Romania) - Vadul-Siret - Zernovo (Ukraine) - Suzemka - Moscow-Tovarnaya-Paveletskaya (Russia)	container	on request
1156/1155	Dorne^ti (Romania) - Vadul-Siret - Zernovo (Ukraine) - Suzemka - Tolyatti (Russia)	container	on request
1158/1157 Odessa	Odessa-Port - Zernovo (Ukraine) - Suzemka - Moscow - Tovarnaya- Paveletskaya/Vorsino (Russia)	container	on request
1162/1161	Kosice (Czech Republic/Slovakia) - Uzhgorod-2 - Zernovo (Ukraine) - Suzemka - Perspektivnaya/Nizhny Novgorod Avtozavod (Russia)	container	on request
1164/1163	Dobra (Slovakia) - Chop - Zernovo (Ukraine) - Suzemka - Moscow-Tovarnaya-Paveletskaya/Kuntsevo-2/ Silikatnaya/Vorsino (Russia)	container	on request
1219/1220 Mercury	Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Kuntsevo-2/ Moscow-Tovarnaya- Paveletskaya/ Kresty/Silikatnaya/Severnaya (Russia)	container	on request
1221/1222	Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Ozinki (Russia) - Semiglavy Mar (Kazakhstan) - Karakalpakstan (Uzbekistan) - Galaba (Afghanistan)	container	on request
Saule-2	Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Ozinki (Russia) - Semiglavy Mar - Karakalpakstan (Kazakhstan) - Ulugbek (Uzbekistan)	container	on request
	Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Krasnoye - Ozinki (Russia) - Semiglavy Mar - Aktobe /Almaty-1 (Kazakhstan)	container	on request
1226/1225 Baltic Wind	Paneriai/Draugiste (Port Klaipeda) (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Kartaly-1 (Russia) - Kustanai (Kazakhstan)	container	on request
1253/1254 New Silk Way	China - Dostyk/Altynkol - Iletsk-1 (Kazakhstan) - Kanisay - Suzemka (Russia) - Zernovo - Chop (Ukraine) - Dobra (Slovakia)/Chop, Batevo - Budapest (Hungary)	container	on request
1255/1256	China - Altynkol/Dostyk - Sary-Agach (Kazakhstan) - Ablyk/Sergeli/ Chukursai (Uzbekistan)	container	on request
1267/1268	Zhety-Su - Semiglavy Mar (Kazakhstan) - Ozinki - Obninskoye (Russia)	container	on request

Train Number	Route	Train Characteristics	Run Frequency
	China - Dostyk - Semiglavy Mar (Kazakhstan) - Ozinki - Moscow-Tovarnaya-Paveletskaya/Silikatnaya (Russia)	container	on request
1259/1260	Zhinishke - Semiglavy Mar (Kazakhstan) - Ozinki - Zlynka (Russia) - Zakopytie - Gudogai (Belarus) - Kena - Klaipeda (Lithuania)	container	on request
Saule	China - Dostyk/Altynkol - Iletsk-1 (Kazakhstan) - Kanisay - Krasnoye (Russia) - Osinovka - Gudogai (Belarus) - Kena - Draugiste (Port Klaipeda)/Sestokai (Lithuania) - European countries	container	on request
Saule-1	Draugiste (Port Klaipeda)/Sestokai - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye (Russia) - Kartaly-1 - Almaty-1 (Kazakhstan)	container	on request
1265/1266	China - Dostyk/Altynkol - Iletsk-1 (Kazakhstan) - Kanisay - Krasnoye - Ozinki (Russia) - Brest (Belarus) - Malaszewicze (Poland) – Germany	container	on request
1269/1270	China - Dostyk/Altynkol - Semiglavy Mar (Kazakhstan) - Ozinki - Novorossiysk (Russia)	container	on request
1278/1277	Buslovskaya - Kanisay (Russia) - Iletsk-1 - Dostyk (Kazakhstan) – China	container	on request
1282/1281	China - Dostyk - Semiglavy Mar (Kazakhstan) - Ozinki - Samur (Russia) - Yalama (Azerbaijan) - Beyuk-Kyasik - Tbilisi-Uzlovaya (Georgia)	container	on request
1284/1283	China - Dostyk (Kazakhstan) - Kartaly-1 - Formachyevo (Russia)	container	on request
1292/1291	Vartsila - Kanisay (Russia) - Iletsk-1 - Dostyk (Kazakhstan) – China	container	on request
1350/1349 Eurasia-1	Riga - Zilupe (Latvia) - Posin - Ozinki (Russia) - Semiglavy Mar - Aktobe (Kazakhstan)	container	on request
1354/1353 Riga Express	Riga/Liepaja - Zilupe (Latvia) - Posin - Bekasovo-Sort./Kaluga-1/ Kuntsevo-2/Moscow-Tovarnaya/Moscow-2 Mitkovo/Obninskoye/ Vorotynsk/Khovrino/Vorsino (Russia)	container	on request
1356/1355 Riga-Moscow	Riga - Zilupe (Latvia) - Posin - Bekasovo-Sort./Moscow-Tovarnaya/ Seliatino (Russia)	container	on request
1409/1410	Muuga - Koidula (Estonia) - Pechory-Pskovskiye - Moscow-Tovarnaya/ Shushary Octyabrskaya RW./ Moscow-2 Mitkovo/Kaluga-1/Kuntsevo-2/ Obninskoye/Tuchkovo/Vorotynsk/Khovrino/Chernikovka (Russia)	container	on request
1411/1412	Muuga - Koidula (Estonia) - Pechory-Pskovskiye - Moscow-Tovarnaya/ Vorotynsk (Russia)	container	on request
	Muuga - Koidula (Estonia) - Pechory-Pskovskiye - Kanisay (Russia) - Iletsk-1 - Almaty-1 (Kazakhstan)	container	on request
1415/1416	Muuga - Koidula (Estonia) - Pechory-Pskovskiye - Ozinki (Russia) - Semiglavy Mar (Kazakhstan) - Karakalpakstan – Galaba	container	on request
	Muuga - Koidula (Estonia) - Pechory-Pskovskiye - Tolyatti/ Zhigulyevskoye More (Russia)	container	on request
	Valga (Estonia)/Eglaine (Latvia) - Zilupe (Latvia) - Posin - Ozinki (Russia) - Semiglavy Mar - Aktobe - Sary-Agach (Kazakhstan) - Chukursai (Uzbekistan)	container	on request
1418/1417 Baltica-Transit	Valga (Estonia)/Eglaine (Latvia) - Zilupe (Latvia) - Posin - Ozinki (Russia) - Semiglavy Mar - Almaty-1 (Kazakhstan)	container	on request
	Valga (Estonia)/Eglaine (Latvia) - Zilupe (Latvia) - Posin - Ozinki (Russia) - Semiglavy Mar (Kazakhstan) - Karakalpakstan - Galaba (Uzbekistan) – Afghanistan	container	on request
	Muuga/Paldiski - Narva (Estonia) - Ivangorod-Narvski - Petropavlovsk (Russia) - Sary-Agach (Kazakhstan) - Chukursai (Uzbekistan)	container	on request
1420/1419	Muuga/Paldiski - Narva (Estonia) - Ivangorod-Narvski - Petropavlovsk (Russia) - Lugovaya (Kazakhstan) - Alamedin (Kyrgyzstan)	container	on request

Train Number	Route	Train Characteristics	Run Frequency
Baltica-Transit-2	Muuga - Narva (Estonia) - Ivangorod-Narvski - Petropavlovsk (Russia) - Almaty-1/Dostyk/Altynkol (Kazakhstan) - China	container	on request
	Muuga - Narva (Estonia) - Ivangorod-Narvski - Ekaterinburg-Tov./ Blochnaya/Batareynaya/Kitoy - Kombinatskaya (Russia)	container	on request
1421/1422	Grivno - Krasnoye (Russia) - Osinovka - Gudogai (Belarus) - Kybartai (Lithuania) - Nesterov - Lesnoye-Novoye (Russia)	contrailer	on request
1423/1424	Grivno - Krasnoye (Russia) - Osinovka - Gudogai (Belarus) - Kybartai (Lithuania) - Lesnoye-Novoye (Russia)	contrailer	on request
1425/1426	Akulovo/Grivno - Krasnoye (Russia) - Osinovka - Gudogai (Belarus) - Kybartai (Lithuania) - Lesnoye-Novoye (Russia)	contrailer	on request
1427/1428	Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Mikhnevo (Russia)	contrailer	on request
1432/1431 Astana European Train	Mativcy (Slovakia) - Uzhgorod-2 - Topoli (Ukraine) - Kartaly-1 (Russia) - Astana (Kazakhstan)	contrailer	on request
1101/1102 Russia-Express	Berlin - Brest - Osinovka (Belarus) - Krasnoye - Bekasovo-Sort./ Kuntsevo-2 (Russia)	fast container train	on request
Europe-Express	Kuntsevo-2/Bekasovo-Sort. - Krasnoye (Russia) - Osinovka - Brest (Belarus) - Berlin (Germany)	fast container train	on request
O'zbekiston temir yo'llari JSC (UTI)			
1029/1030	Russia - Kazakhstan - Uzbekistan (Vladivostok/Nakhodka-Vostochnaya - Kulunda - Sary-Agach - Sergeli/ Tashkent-Tov./Chukursai)	container	on request
1031/1032	Russia - Kazakhstan - Uzbekistan (Rybniki /Vladivostok/Nakhodka-Vostochnaya - Lokot - Sary-Agach - Ablyk/Ulugbek/Nukus/Pitnjak)	container	on request
	Russia - Kazakhstan - Uzbekistan - Afghanistan (Nakhodka-Vostochnaya - Lokot - Sary-Agach - Galaba)	container	on request
1221/1222	Lithuania - Belarus - Russia - Kazakhstan - Uzbekistan - Afghanistan (Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Semiglavy Mar - Karakalpakstan - Galaba)	container	on request
1255/1256	China - Kazakhstan - Uzbekistan (Altynkol/ Dostyk - Sary-Agach - Ablyk/Sergeli/ Chukursai)	container	on request
1262/1261	China - Kazakhstan - Uzbekistan (Altynkol/Dostyk - Sary-Agach - Ablyk/Sergeli/ Chukursai)	container	on request
1415/1416	Estonia - Russia - Kazakhstan - Uzbekistan - Afghanistan (Muuga - Pechory-Pskovskiye - Semiglavy Mar - Karakalpakstan - Galaba)	container	on request
1420/1419 **Baltica Transit-2**	Estonia - Russia - Kazakhstan - Uzbekistan (Muuga/Paldiski - Narva - Petropavlovsk - Sary-Agach - Chukursai)	container	on request
Ukrainian Railway PJSC (UZ)			
1023/1024	Manchuria (China) - Zabaikalsk - Suzemka (Russia) - Zernovo - Chop (Ukraine), Batevo (Ukraine) - Dobra (Slovakia)/Eperjeske (Hungary)	container	on request
	Nakhodka - Suzemka (Russia) - Zernovo - Chop), Batevo (Ukraine) - Dobra (Slovakia)/Eperjeske (Hungary)	container	on request
1072/1071	Cierna-nad-Tisou - Dobra, Kosice - Mativcy (Slovakia)/Zahony - Eperjeske (Hungary)/Medyka, Hrubieszow (Poland) - Chop/Uzhgorod-2/ Chop - Batevo/ Mostyska-2, Izov - Iliechyevsk-Ferry - Poti/Batumi - Gardabani (Georgia) - Beyuk-Kyasik - Alyat (Azerbaijan) - Aktau-Port - Dostyk (Kazakhstan) - Altynkol (China)	container	on request
1152/1151	Stawkow - Hrubieszow (Poland) - Izov - Mogilyev-Podolski (Ukraine) - Valcinej - Rybnitsa (Moldova)	container	on request
1156/1155	Chumesti - Dornesti (Romania) - Vadul-Siret - Zernovo (Ukraine) - Suzemka - Tolyatti (Russia)	container	once a week
1158/1157 **Odessa**	Odessa - Zernovo (Ukraine) - Suzemka - Moscow-Tov.- Paveletskaya/ Vorsino (Russia)	container	on request

Train Number	Route	Train Characteristics	Run Frequency
1162/1161	Villanova-de-Asti (Czech Republic) - Kosice - Mativcy (Slovakia) - Uzhgorod-2 - Zernovo (Ukraine) - Suzemka - Perspektivnaya/ Nizhny Novgorod Avtozavod (Russia)	container	once a week
1164/1163	Kosice - Mativcy (Slovakia) - Chop - Zernovo (Ukraine) - Suzemka - Moscow-Tovarnaya-Paveletskaya/Kuntsevo-2/Silikatnaya/Vorsino (Russia)	container	on request
1181/1182 **Kreschatik**	Odessa/Iliechyevsk - Kiev-Liski (Ukraine)	container	on request
1183/1184 **Podolje**	Odessa/Iliechyevsk - Khmelnitski (Ukraine)	container	on request
1185/1186 **Dneprovets**	Odessa/Iliechyevsk - Dneppetrovsk-Liski (Ukraine)	container	on request
1187/1188 1189/1190 **Nika**	Nikopol - Iliechyevsk (Ukraine)	container	on request
1191/1192	Odessa/Iliechyevsk - Kharkov-Liski (Ukraine)	container	on request
1193/1194	Mariupol-Port - Kiev-Liski (Ukraine)	container	on request
1195/1196	Odessa/Iliechyevsk - Dnepropetrovsk-Liski (Ukraine)	container	on request
1402/1401 **Zubr**	Ulemiste/Muuga - Valga (Estonia) - Lugazhy - Indra (Latvia) - Bigosovo - Slovechno (Belarus) - Berezhest - Iliechyevsk/Iliechyevsk- Ferry/ Odessa-Port/Mogilyev-Podolski (Ukraine) - Valcinej - Giurgiule^ti (Moldova)	container	3 times a week
1430/1429 **Viking**	Draugiste-Port - Kena (Lithuania) - Gudogai - Slovechno (Belarus) - Berezhest - Odessa/ Iliechyevsk/ Iliechyevsk-Ferry/Mogilyev-Podolski (Ukraine) - Warna - Sofia (Bulgaria)/Poti/Batumi - Gardabani (Georgia) - Beyuk-Kyasik - Alyat (Azerbaijan)/Valcinej - Giurgiule^ti/ Ungheni (Moldova) - Iasi (Romania)	combined	3 times a week
1144/1143	Chumesti - Dornesti (Romania) - Vadul-Siret - Zernovo (Ukraine) - Suzemka - Moscow-Tovarnaya-Paveletskaya (Russia)	container	once a week
1432/1431 **Astana European Train**	Kosice - Mativcy (Slovakia) - Uzhgorod-2 - Zernovo (Ukraine) - Suzemka - Kartaly-1 (Russia) - Aksu – Astana	contrailer	on request
1433/1434 **Jaroslav**	Kiev-Liski - Izov (Ukraine) - Hrubieszow - Stawkow (Poland)	combined	on request
Czech Railways JSC (CD)			
40736	Budapest (Hungary) - Kuty (Slovakia) - Decin (Czech Republic) - Bremerhaven (Germany)	container	once a week
40737	Bremerhaven (Germany) - Decin (Czech Republic) - Kuty (Slovakia) - Budapest (Hungary	container	2 times a week
40738	Budapest (Hungary) - Kuty (Slovakia) - Decin (Czech Republic) - Bremerhaven (Germany)	container	once a week
41341	Hamburg (Germany) - Decin (Czech Republic) - Melnik (Czech Republic)	container	5 times a week
41342	Melnik (Czech Republic) - Decin (Czech Republic) - Hamburg (Germany)	container	4 times a week
41343	Hamburg (Germany) - Decin (Czech Republic) - Melnik (Czech Republic)	container	5 times a week
41344	Melnik (Czech Republic) - Decin (Czech Republic) - Hamburg (Germany)	container	4 times a week
41345	Bremerhaven (Germany) - Decin (Czech Republic) - Kuty (Slovakia) - Bratislava (Slovakia)	container	once a week
41347	Bremerhaven (Germany) - Decin (Czech Republic) - Melnik (Czech Republic)	container	once a week
41348	Melnik (Czech Republic) - Decin (Czech Republic) - Bremerhaven (Germany)	container	once a week
41349	Bremerhaven (Germany) - Decin (Czech Republic) - Kuty (Slovakia) - Bratislava (Slovakia)	container	once a week

Train Number	Route	Train Characteristics	Run Frequency
41355	Bremerhaven (Germany) - Decin (Czech Republic) - Melnik (Czech Republic)	container	once a week
41356	Melnik (Czech Republic) - Decin (Czech Republic) - Bremerhaven (Germany)	container	1 time a week
41357	Bremerhaven (Germany) - Decin (Czech Republic) - Melnik (Czech Republic)	container	once a week
41360	Lovosice (Czech Republic) - Decin (Czech Republic) - Duisburg (Germany)	container	5 times a week
41361	Duisburg (Germany) - Decin (Czech Republic) - Lovosice (Czech Republic)	container	5 times a week
41362	Lovosice (Czech Republic) - Decin (Czech Republic) - Hamburg (Germany)	container	once a week
41369	Hamburg (Germany) - Decin (Czech Republic) - Lovosice (Czech Republic)	container	2 times a week
41378	Lovosice (Czech Republic) - Decin (Czech Republic) - Hamburg (Germany)	container	4 times a week
41379	Hamburg (Germany) - Decin (Czech Republic) - Lovosice (Czech Republic)	container	once a week
41720	Dunajska Streda (Slovakia) - Kuty (Slovakia) - Havirov (Czech Republic)	container	once a week
41721	Havirov (Czech Republic) - Kuty (Slovakia) - Dunajska Streda (Slovakia)	container	once a week
41730	Dunajska Streda (Slovakia) - Kuty (Slovakia) - Ceska Trebova (Czech Republic)	container	7 times a week
41731	Ceska Trebova (Czech Republic) - Kuty (Slovakia) - Dunajska Streda (Slovakia)	container	7 times a week
41732	Dunajska Streda (Slovakia) - Kuty (Slovakia) - Ceska Trebova (Czech Republic)	container	7 times a week
41733	Ceska Trebova (Czech Republic) - Kuty (Slovakia) - Dunajska Streda (Slovakia)	container	7 times a week
41752	Bratislava (Slovakia) - Kuty (Slovakia) - Melnik (Czech Republic)	container	2 times a week
41753	Melnik (Czech Republic) - Kuty (Slovakia) - Bratislava (Slovakia)	container	once a week
42328	Praha Zizkov (Czech Republic) - Decin (Czech Republic) - Hamburg (Germany)	container	6 times a week
42335	Hamburg (Germany) - Decin (Czech Republic) - Praha Zizkov (Czech Republic)	container	6 times a week
42340	Praha Zizkov (Czech Republic) - Decin (Czech Republic) - Pirna (Germany)	container	once a week
42343	Hamburg (Germany) - Decin (Czech Republic) - Praha Zizkov (Czech Republic)	container	2 times a week
42361	Pirna (Germany) - Decin (Czech Republic) - Praha Zizkov (Czech Republic)	container	once a week
42362	Praha Zizkov (Czech Republic) - Decin - Pirna (Germany)	container	2 times a week
43201	Malaszewicze (Poland) - Petrovice (Czech Republic) - Mlada Boleslav (Czech Republic)	container	2 times a week
43202	Mlada Boleslav (Czech Republic) - Petrovice (Czech Republic) - Malaszewicze (Poland)	container	2 times a week
43204	Mlada Boleslav (Czech Republic) - Petrovice (Czech Republic) - Malaszewicze (Poland)	container	2 times a week
43205	Malaszewicze (Poland) - Petrovice (Czech Republic) - Mlada Boleslav (Czech Republic)	container	2 times a week
43206	Mlada Boleslav (Czech Republic) - Petrovice (Czech Republic) - Malaszewicze (Poland)	container	2 times a week
43207	Malaszewicze (Poland) - Petrovice (Czech Republic) - Mlada Boleslav (Czech Republic)	container	2 times a week
43400	Koper (Slovenia) - Kuty (Slovakia) - Dobra (Czech Republic)	container	4 times a week
43401	Dobra (Czech Republic) - Kuty (Slovakia) - Koper (Slovenia)	container	2 times a week

Train Number	Route	Train Characteristics	Run Frequency
Estonian Railway JSC (EVR)			
1401/1402 **Zubr**	Ulemiste/Muuga-Valga (Estonia) - Indra (Latvia) - Bigosovo - Slovechno (Belarus) - Berezhest - Iliechyevsk/ Iliechyevsk-Ferry/Odessa-Port/ Mogilyev-Podolski/Izov (Ukraine) - Valcinej - Oknitsa (Moldova)	container	on request
1409/1410	Muuga - Koidula (Estonia) - Pechory-Pskovskiye (Russia) - Moscow-Tov.-Oct./Shushary Oct./Moscow-2 - Mitkovo/ Kaluga-1/ Kuntsevo-2/Obninskoye/ Tuchkovo/Vorotynsk/Khovrino/Vorsino	container	on request
1411/1412	Muuga - Koidula (Estonia) - Pechory-Pskovskiye (Russia) - Moscow-Tov.-Oct./Vorotynsk	container	on request
1415/1416	Muuga - Koidula (Estonia) - Pechory-Pskovskiye (Russia) - Iletsk-1 (Kazakhstan) - Almaty-1	container	on request
	Muuga - Koidula (Estonia) - Pechory-Pskovskiye (Russia) - Semiglavy Mar (Kazakhstan) - Karakalpakstan (Uzbekistan) - Galaba (Afghanistan)		
	Muuga - Koidula (Estonia) - Pechory-Pskovskiye (Russia) - Tolyatti/ Zhigulyevskoye More		
1418/1417 **Baltica-Transit**	Muuga - Valga (Estonia) - Rezekne (Latvia) - Sebezh - Ozinki (Russia) - Aktobe (Kazakhstan) - Sary-Agach (Uzbekistan) – Chukursai	container	on request
	Muuga - Valga (Estonia) - Rezekne (Latvia) - Sebezh (Russia) - Semiglavy Mar (Kazakhstan) - Dostyk/Altynkol		
	Muuga - Valga (Estonia) - Rezekne (Latvia) - Sebezh - Semiglavy Mar (Russia) - Oazis (Kazakhstan) - Karakalpatia (Uzbekistan) – Jomboy		
1420/1419 **Baltica Transit-2**	Muuga/Paldiski - Narva (Estonia) - Ivangorod-Narvski (Russia) - Petropavlovsk (Kazakhstan) - Sary-Agach (Kazakhstan) - Chukursai (Uzbekistan)	container	on request
	Muuga - Narva (Estonia) - Ivangorod-Narvski (Russia) - Petropavlovsk (Kazakhstan) - Almaty-1 /Dostyk (China)		
	Muuga - Narva (Estonia) - Ivangorod-Narvski (Russia) - Petropavlovsk (Kazakhstan) - Lugovaya (Kyrgyzstan) - Alamedin		
	Muuga - Narva (Estonia) - Ivangorod-Narvski (Russia) - Ekaterinburg-Tov./Blochnaya/ Batareynaya/Kitoy – Kombinatskaya		
South Caucasus Railway CJSC (SCRW CJSC)			
1202/1201	Karmir Blur/Erevan - Airum (Armenia) - Sadakhlo (Georgia) - Poti/Batumi	container	on request

Source: OSJD

The container trains, as compared to conventional trains, were 20-30 per cent more efficient since they used simplified documents of carriage and could go faster through border crossing.

According to CCTT TSR Annual digest[20] 2016 competitive advantages of cargo transport with container block trains included:

- Relatively low rates for a long-distance transport (per the 'price - delivery period' criteria);
- Absence of real alternatives for some routes (for example for routes from/to landlocked regions);
- High delivery speed, especially in transit;

[20] CCTT TSR Annual digest 2016

- Quality of service;
- Cargo safety;
- Regular service and stable transit time;
- Simple and transparent document flow.

In order to further improve competitiveness of block trains, in particular vis-à-vis other modes of transport, and since the quality of physical infrastructure of the EATL routes was uneven, the EATL project had identified and prioritized infrastructure investment needs to remove existing gaps as well as upgrade and modernize infrastructure, equipment and facilities along the routes (i.e. electrification of railways, building and upgrading container depots or intermodal terminals).

Nonetheless, it was even more important to adjust to requirements of modern supply chains if block trains were to further develop in EATL area.

"Supply chains compete, not companies" - this principle developed by Martin Christopher, one of the classics of logistics and supply chain management, was the key to understanding the situation and the prospects of the Euro-Asian inland routes.

Globalization together with introduction of logistics principles into production, trade and distribution had dramatically changed the nature of supply chains. To be adequate to their desirable role, EATL inland routes should meet the requirements of modern supply chains for which the transport routes provide proper connectivity, capacity and economic efficiency.

The following principal features of modern supply chains should be mentioned in this context.

1) Integrated management: The first principle feature of modern supply chains that, in many ways, predetermines the rest is the presence of the integrated management.

Traditional supply chains (the "old" Silk Way is probably the best historic example) had represented the long enough series of sales in the trading cities along the route connected by trade caravans on land or by commercial shipping. Fragmentation was the key characteristics of the players' relationship. Each of them was interested and responsible only for one particular chain link.

Modern supply chains are under the constant control which is usually carried out by high level logistic providers acting on behalf of the focus companies of the supply chains. The entire logistic network within the supply chain is constantly customized according to the market situation. Functions, costs, responsibilities and risks are distributed among the players and planning is done across the supply chain according to the strategic interests of the whole system.

The management criteria within the supply chain are much more complicated than just "time and costs". The economic idea of supply chain management is sometimes expressed as "to reduce the total cost of owning materials and services across the entire chain", which leads to integrated control of stock – either moving or at rest - as well as of all kinds of services, costs, risks, etc.

Accordingly, modern supply chains managers are not using just one particular "best" route or mode of transportation or transport operator while making decisions. They need to have several options to combine them within the currently optimal decision. Their choice is not only the transport route itself, however "short" or "fast" or "cheap" it can be. The logistics business environment along the trade lane, availability of logistic services, friendly and predictable administrative procedures, ability to flexibly switch the flow between different intermediate

points – all this is important in decision making as well as political stability along the entire trade lane and safety and security factors.

2) Flexible routing: While the traditional supply chain is something like the fixed sequence of nodes and links between the origin and destination points, the modern supply chain looks more than a network connecting the regions where commodity flows are nucleated and absorbed. The actual routes can vary within this network depending on the changing situation on the commodity markets served by the supply chain and on the transport services market.

In many cases the actual route is not the shortest one, even for one particular mode, because of the hub&spoke technologies often used by long-haul transport operators (for the sake of transport flows efficiency) and logistic providers (for the sake of commodity flows efficiency).

3) Special role of nodes: Nodes of traditional supply chains – sea and inland waterway ports, dry ports, railway stations, etc., had always performed the obviously necessary connecting and transshipment functions within the supply chains. At the same time, traditionally they also created inevitable obstacles for traffic and cargo flows, sometimes being the bottlenecks within the supply chains.

"Traditional" node is the spot where the flow of vehicles and commodities are interrupted and players that have to cooperate in resumption of this flow often having contradictory interests. Some local players – both state agencies and commercial intermediaries - pursue pure revenue goals. The procedures are often aimed not at speeding the process but at collecting more fees (formal and sometimes informal). Scarcity of resources is a typical system problem and long enough waiting time for cargo - either onboard the vehicles or in the warehouses - is a rule. Different types of cargo are handled which aggravates the problems. Additional services adding to the total value of goods are rare. The market position of the "traditional" node is often a monopoly since it gains an advantage, primarily, due to its geographical position.

Nodes of modern supply chains are quite different. Supply chain connectivity and increasing of flows is the main goal for the players in charge, including the governmental agencies. Fast and cheap transshipment is the main efficiency factor. The technologies used are focused on intermodal units, primarily – containers. Handling operations are complemented by value added logistic services. Nodes compete with each other because their main advantages – services quality, price as well as the set of transport services catering for particular node – do not so much depend on the location factors.

4) Intermodality. Modern intercontinental supply chains are intermodal by their nature. Most of origins and destinations in the Euro-Asian trade in principle cannot be connected by services of one single transport mode. It means that in spite of intermodal competition (which is one of the drivers of transport system efficiency) different modes are compelled to co-operate within the transportation process. If the transport operator is in the position to succeed in the supply chain he must either be capable to design intermodal transport product engaging other modes' operators on attractive terms (as many shipping companies do) or it should be ready to be engaged to participate in such a product designed by someone else. The latter means offering reliable transport service with guaranteed parameters as well as meeting the market standards for intermodal transportation.

5) Regular transport services. One of the most important qualities highly valued in modern supply chains is the availability of regular transport services. Regular service with pre-announced call points, schedules and tariffs is ideal from the point of view of supply chain design and planning and it can be utilized on the "plug and play" basis without additional trimming. It is commonly accepted that the minimum frequency of the regular long-haul

transport service suitable for most international supply chains is a weekly service although the well-developed trade lanes show the example of several serviced a day offered by a number of competing transport operators. Combining the regular services of different modes (e.g., ship and rail) allows creating efficient intermodal transport services within the supply chains.

I.3.4. Road transport

Road transport played an undeservedly small role in Euro-Asian trade, serving primarily intra-regional connectivity. However, as various programs and project implemented during EATL phase 3 showed, for example ADB CAREC Program or a NELTI Project road transport could be an efficient option for moving cargo between Europe and some Asian countries, such as Central Asian countries, Mongolia or Afghanistan). They also showed that road infrastructure was not an impediment to a long-distance transport.

The projects further showed advantages that road transport could offer, among them:

- Guarantee competitive tariff rates
- High quality and safety of cargo delivery (cargo safety conditions, absence of transloading, door-to-door logistics, customs safety,);
- Absence of cargo shipment accumulation (in contrast to rail or maritime transport);
- Benefits for small and medium enterprises, involved into export and import of goods, as well as for customers.

According to IRU Permits Study[21] based on the World Bank QuARTA methodology[22], permit systems were one of the key mechanisms to obtain access to markets for international road transport operators.

There were 286 bilateral road transport agreements applied only in 12 countries of Eurasia – Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan - participated in the EATL Project (with more than 10 million paper permits issued annually). There were too many agreements which complicated business (especially permits obtaining and using)/

At the same time if two countries of Europe and Asia did not have concluded intergovernmental road transport agreement (as China and Germany for example), then no bilateral, transit or third country operations was possible between them.

Table 1.30 indicates existence of bilateral or/and multilateral agreements on international road transport concluded by countries of Europe and Asia. If bilateral or multilateral agreement was concuded and entered into force (indicated as "+" in the table) then road transport operations between two countries were possible.

[21] IRU (2016) An analysis of international road transport permit systems in Eurasia: current practices and prospects
[22] World Bank (2013) Quantitative Analysis of Road Transport Agreements (QuARTA)

Table 1.30 – Existing (possible) cargo flows by road transport between Europe and Asia in accordance with concluded bilateral/multilateral agreements on international road transport

Countries of Asia	Countries of Europe										
	Belarus	**Bosnia and Herzegovina**	**Georgia**	**EU-28**	**FYR Macedonia**	**Moldova**	**Russian Federation**	**Serbia**	**Switzerland**	**Turkey**	**Ukraine**
Afghanistan	-	-	+	+/-	-	-	-	-	-	+	-
Armenia	+	+	+	+/-	+	+	+	+	+	-	+
Azerbaijan	+	+	+	+/-	+	+	+	+	+	+	+
China	-	-	-	-	-	-	+	-	-	-	-
Iran	+	-	+	-	-	-	+	-	-	+	+
Kazakhstan	+	-	+	+/-	-	+	+	-	+	+	+
Kyrgyzstan	+	-	+	+/-	-	+	+	-	-	+	+
Mongolia	+	-	-	-	-	-	+	-	-	-	+
Pakistan	-	-	-	-	-	-	-	-	-	+	-
Russian Federation	+	+	+	+/-	+	+		+	+	+	+
Tajikistan	+	-	-	+/-	-	-	+	-	-	+	+
Turkey	+	+	+	+/-	+	+	+	+	+		+
Turkmenistan	+	-	+	+/-	-	-	+	-	-	+	+
Uzbekistan	+	-	+	+/-	-	+	+	-	+	+	+
India *)	-	-	-	-	-	-	-	-	-	-	-
Japan *)	-	-	-	-	-	-	-	-	-	-	-
Republic of Korea*)	-	-	-	-	-	-	-	-	-	-	-

Source: IRU, World Bank

*) India, Japan and Republic of Korea are non EATL Project countries

Legend:

+	Existing cargo flows
+	Road transport operations under ECMT multilateral quota
+/-	Concluded agreements and existed road transport operations with some EU member states
-	No agreements, no road transport operations (bilateral, transit, to/from third countries)

China during the period of EATL phase 3 Project was poorly integrated in the international Euro-Asian road transport system. Intergovernmental bilateral agreements on international road transport were concluded only with 4 countries (Kazakhstan, the Kyrgyzstan, Russian Federation and Tajikistan). Trilateral agreement China – Mongolia – Russian Federation (Intergovernmental Agreement on International Road Transport Along Asian Highway Network) signed on December 2016, was still expected to enter into force. Furthermore, there was a quadrilateral agreement signed between China, Kazakhstan, the Kyrgyzstan and Pakistan that envisages transit cargo transportation related to Chinese and Pakistani trade across the Central Asia. But this quadrilateral agreement was not used in practice.

China had a restrictive permit systems for road transport of goods. These restrictions included:

– Lack of possibility of transit across the Chinese territory for transport operators from the Eurasian countries,

- Strictly prescribed routes and border crossing points for transport of goods,

- Lack of possibility for entering China for transport operators of a country even if such concluded a bilateral agreement with China through another country (e.g., the Russian carriers were not allowed to enter China through the territory of Kyrgyzstan),

- Limitations related to the distance of entering into the territory of China for the transport operators from the Eurasian countries,

- Lack of possibility for transport of goods between China and its neighbours by the carriers from third countries.

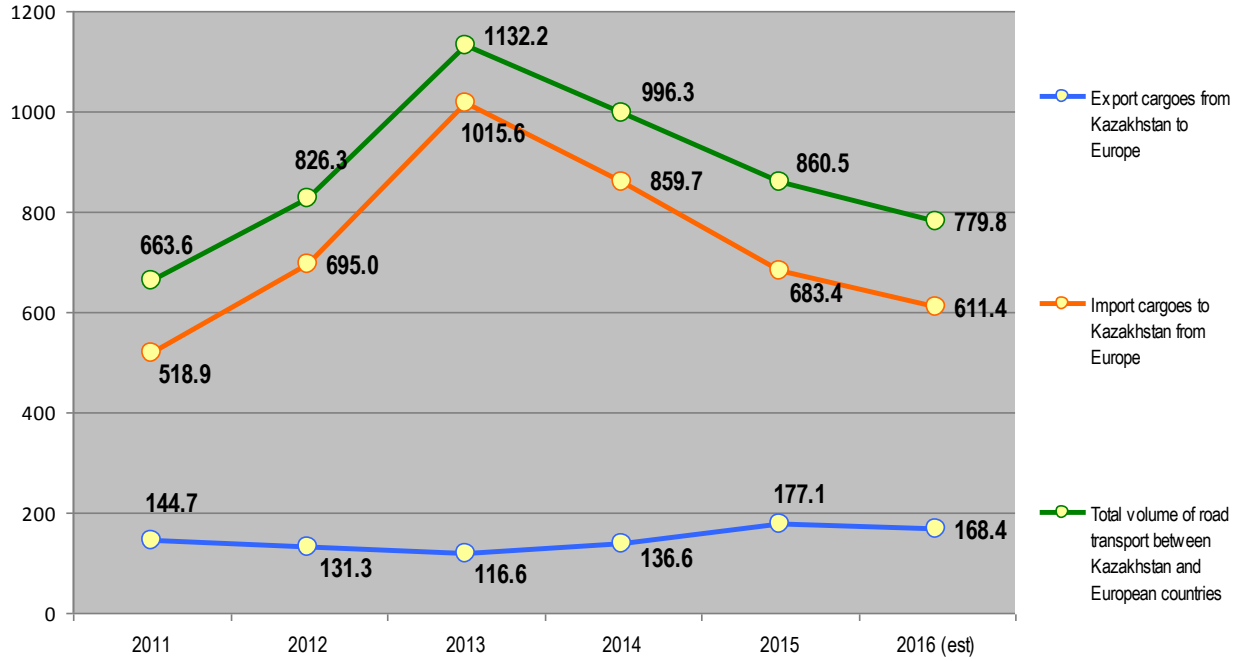
The indicated limitations resulted in the situation that all international transport of goods to and from China were of near-border nature with the exception of transport between Pakistan and China. The prerequisite of international transport for long distances was cargo reloading near the Chinese border. Thus, the volume of international road transport between China and its trade partners was significantly small as compared to the Chinese trade potential. Moreover, until the time this report was prepared, road transport of goods between China and Europe was impossible.

Thus, to integrate China in regional and the Eurasian road transport market would require review of provisions of the existing bilateral agreements on international road transport. Development mechanisms for transport shall be found, however, not only between China and its neighbours but between China and the European countries. The latter would require a solutions to transit of Chinese cargo across the territory of Central Asia. The entry in force of Schanghai Cooperation Organization (SCO) Agreement between China and the Central Asian countries (to the extent of transit, bilateral transport and transport to/from third countries) in the beginning of 2017 should help develop the road transport.

In view of poor integration of China in the international road transport, the most significant market of road transport between Europe and Asia were road transport operations between Kazakhstan and European countries.

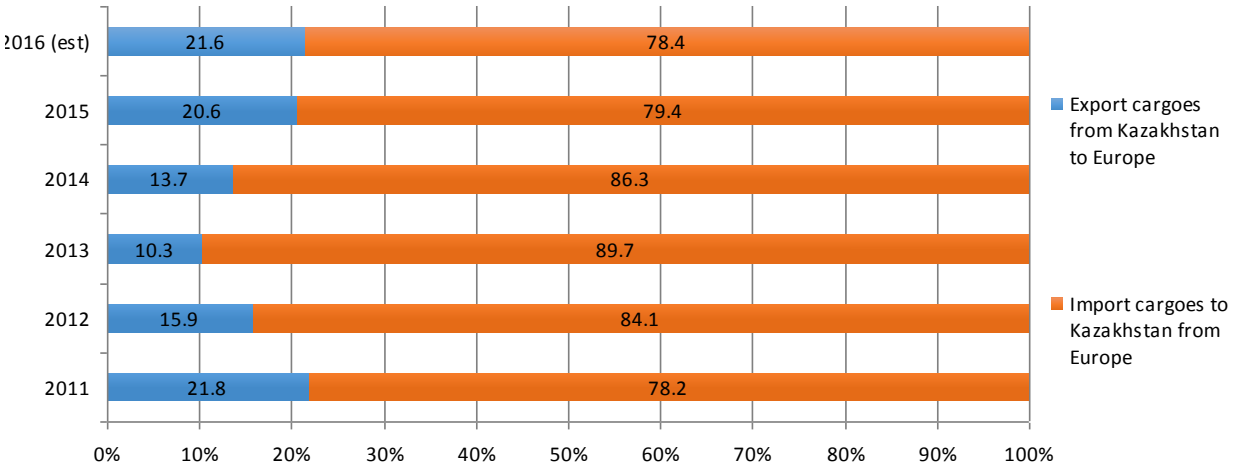
In 2016, this market was estimated at 780 thousand tons, a decrease by 9.4% compared to the level of 2015 and 31.1% compared to the level of 2013, mainly due to the continuing decline in the supply of imported goods from Europe by road transport (Figure 1.28).

Figure 1.28 – Volume of international road transport between Kazakhstan and European countries in 2011-2016, thousands tonnes



The share of Europe – Asia direction in the total volume of road transport between Kazakhstan and European countries was estimated in 2016 approximately at 78 per cent at the same level as in 2011 but more lower than in 2013, when the Tenge exchange rate to Euro was the highest, which contributed to an increase in import of goods from Europe to Kazakhstan. (figure 1.29).

Figure 1.29 – The share of Europe – Asia and Asia Europe directions in the total volume of road transport of goods between Kazakhstan and European countries in 2011-2016, per cent



I.3.5. Air transport

As a result of improving fuel efficiency of planes, the development of e-commerce and air transport logistics, the civil aviation started to play an increasingly important role in facilitating trade between Europe and Asia, competing with both maritime and inland modes of transport.

Cargo air transport serves the trade lanes that connect Asia with Europe grew well above long-term trend – from 2000s to 2017 (table 1.31)

Table 1.31- Historical and forecast air cargo annual growth rates, %

Air cargo markets	History 2005-2015	Forecast 2015-2035
World	2.0	4.2
Europe – Asia	2.1	4.6

Source: Boeing (2016) World Air Cargo Forecast 2016-2017

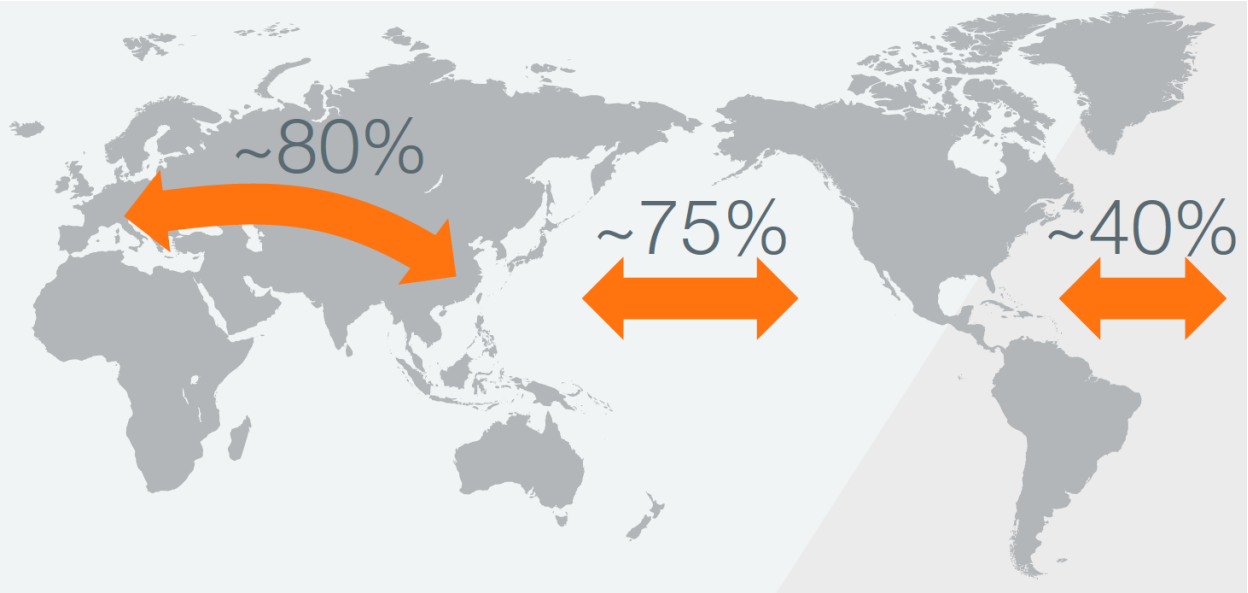
Global e-commerce was projected to more than double over between 2015 and 2020, growing from $1.7 trillion to $3.6 trillion by 2020. The Asia-Pacific region was the fastest growing e-commerce trading bloc, with China at the forefront. China's e-commerce market was expected to be bigger than the combined existing markets of the US, Britain, Japan, Germany and France by 2020.

The explosive growth of e-commerce demand for business to consumer (B2C) deliveries of retail purchases may usher the next freight transport revolution and competitive switching e-commerce flows to air transport from traditional shipping liners. For the major express carriers, including UPS, DHL, and FedEx, as well as newer entrants such as SF Express in China, e-commerce flows were already the core business.

In 2015 air cargo was less than 1 percent of world trade tonnage, yet 35 percent of world trade value was carried by air. Air transport was critical for serving markets that demand speed and reliability for delivery of goods. The highest value commodities, including computing equipment, machinery and electrical equipment, accounted for the highest share of airborne trade tonnage versus their share of containership tonnage. It was therefore expected that until 2030, as the world GDP would grow and the world population would demand higher value goods, the value per tonne of goods traded between Europe and Asia would rise. As the average value per tonne of traded goods would rise, air cargo should be able to gain more trade market.

Airlines used freight planes (freighters) which were particularly well suited for transporting high-value goods between Europe and Asia. They provided highly controlled transport, direct routing, reliability, and unique capacity considerations (volume, weight, hazmat, and dimensional). The distinct advantages of freighter aircraft allowed operators to offer a higher value of service. Freighters generated 90 per cent of air cargo industry revenues, a percentage that has remained relatively constant over time. Additionally, more than half of air cargo traffic was carried on freighters. The share of cargo carried on freighters remained high in markets across the world, especially in the world's largest trade routes Asia–Europe, where approximately 80 per cent of total air cargo traffic was carried by freighter airplanes (figure 1.30).

Figure 1.30- Total air cargo traffic carried by freight airlines on the Europe Asia routes in comparison with other main transcontinental air transport markets, per cent



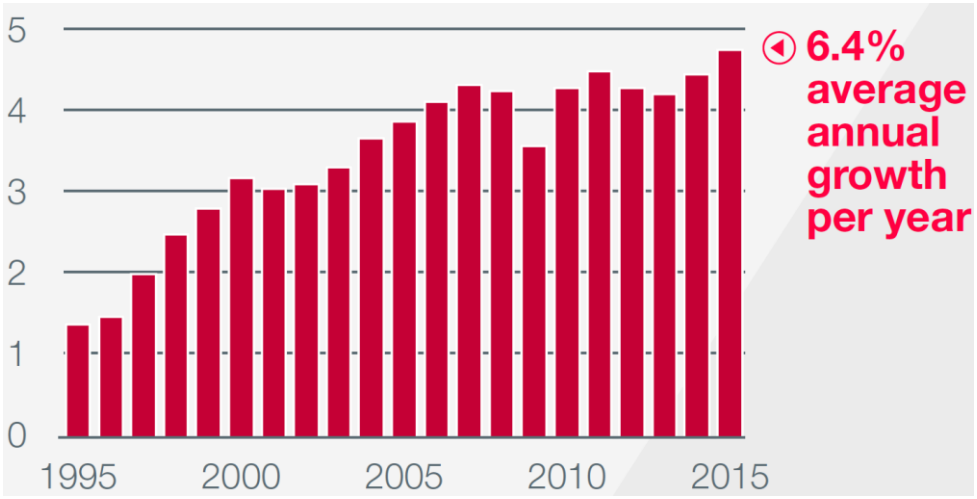
Express carriers continued to operate substantial freighter fleets, flying 40 per cent of the widebody freighters and generating 40 per cent of air cargo industry revenues in 2015. These operators used freighters as a link in their door-to-door proprietary transport network—a network that is tailored to the needs of their customers by using unique schedules. The business model of express carriers cannot be replicated using only lower-hold capacity.

The majority of the remaining large freighter capacity was deployed for air freight. Air freight demand was highly concentrated—85 percent of scheduled large freighter flights operated out of the top 50 cargo airports, including airports across Asia, Middle East and Europe. Air cargo between Europe and Asia was composed of three main service sectors: scheduled freight, charter freight, and mail. Scheduled freight was the largest component, accounting for more than 90 per cent of all air cargo traffic. Scheduled freight included general and express (sometimes referred to as "integrator") freight. The scheduled freight market share remained more or less stable since 1992. Most shippers used regularly scheduled cargo services whenever possible because it was generally the least expensive way to ship by air.

In accordance with Boeing data[23] the Europe-Asia market comprised approximately 20.3 per cent of the world's air cargo traffic in tonne-kilometers and 10.5 per cent in tonnage. Europe-Asia air cargo traffic averaged 6.4 percent growth per year since 1995. The market grew 6.0 percent in 2014 and 6.5 percent in 2015 (figure 1.31). The Europe-Asia annual growth chart shows overall air traffic flows between Europe and Asia that also contain some sixth-freedom traffic that flows into or out of other regions (for example, Emirates flights between Europe and Asia with commercial stops in Dubai International Airport, Qatar – in Doha Hamad International airport or AirBridgeCargo in Moscow Sheremetyevo airport).

Figure. 1.31
Volume of Europe – Asia air cargo traffic in 1995-2015, millions tonnes

[23] Boeing (2016) World Air Cargo Forecast 2016–2017

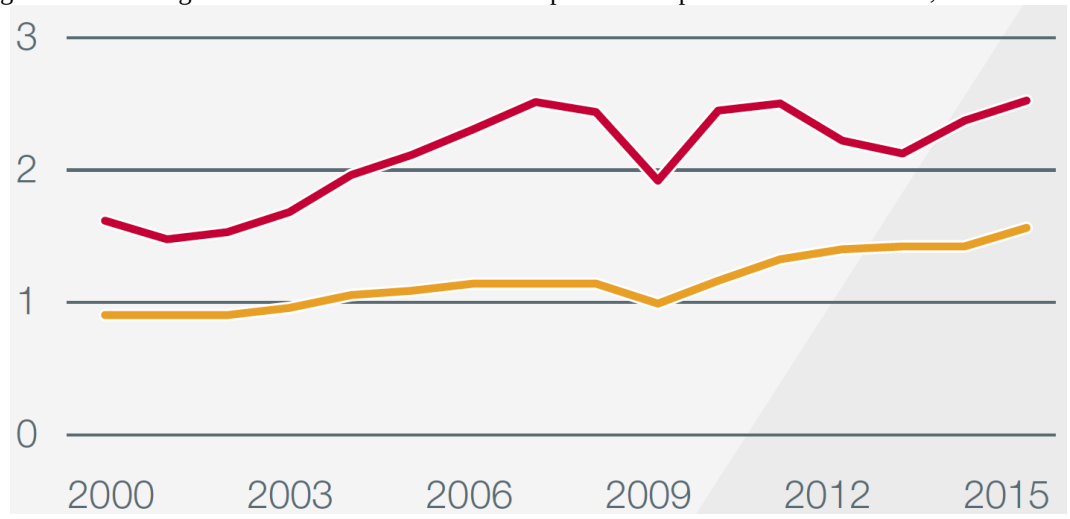


Source: Boeing (2016) World Air Cargo Forecast 2016–2017

Asia air exports to Europe accounted for approximately 60% of Asia-Europe market - Europe was importing 2.4 million tonnes from and exporting 1.4 million tonnes to Asia.

In 2015, the gap between Europe's imports and exports was approximately 956,000 tonnes (figure 1.32). The overall Europe-Asia market grew 6.5 per cent and 6.0 percent in 2015 and 2014, respectively. The Europe-to-Asia flow grew 7.7 per cent in 2015 and 0.2 per cent in 2014 (5.3 percent per year over the same 20-year period). In the Asia-to-Europe direction, traffic grew 5.7 per cent and 10.1 percent in 2015 and 2014 (7.2 percent per year over the same 20-year period).

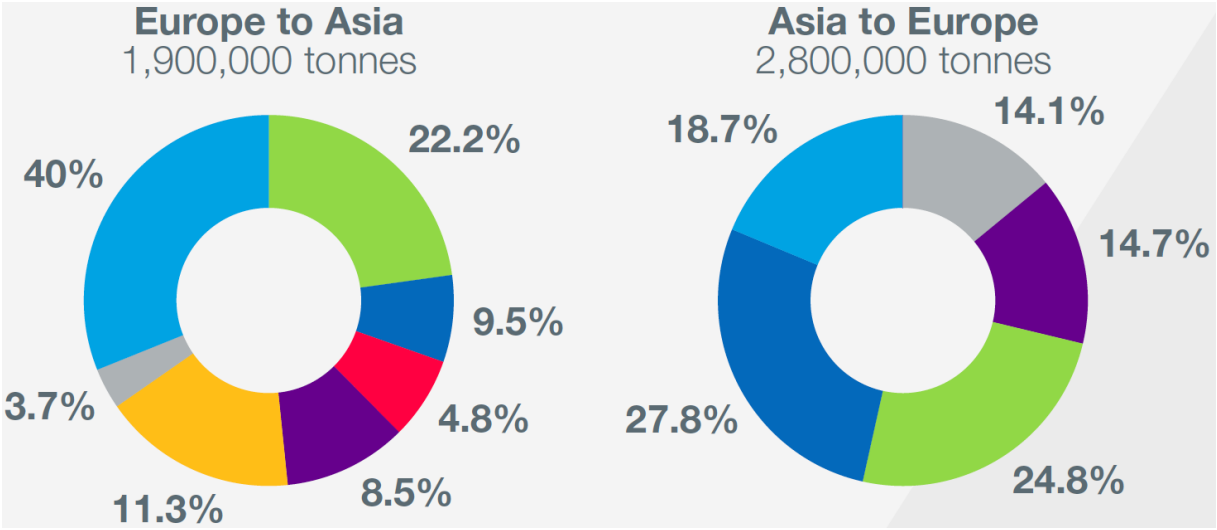
Figure. 1.32
Annual growth of air cargo flows on the routes Asia – Europe and Europe – Asia in 1998-2013, million tonnes



Source: Boeing (2016) World Air Cargo Forecast 2016–2017

In the Europe-to-Asia direction, the top six commodity categories account for 60 percent of air cargo traffic (figure 1.33).

Figure. 1.33
Air cargo structure by main commodity groups on the routes Asia – Europe and Europe – Asia in 2015, %



Source: Boeing (2016) World Air Cargo Forecast 2016–2017

In descending order, the categories are machinery and electrical equipment; perishables; computers, office, and communication equipment; documents and small packages; transportation equipment and parts; and apparel. In the Asia-to-Europe direction, the top five commodity categories account for 81 percent of air trade. The categories are:

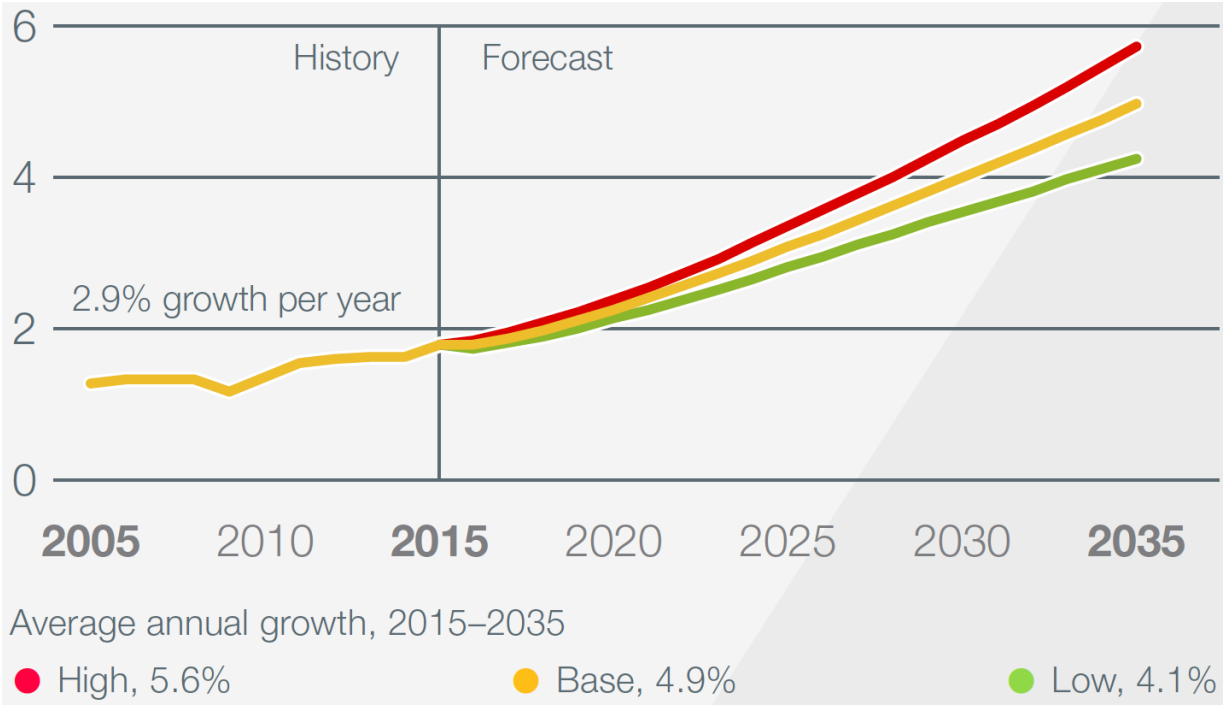
- computers
- office and communication equipment
- machinery and electrical equipment
- documents and small packages and
- apparel.

One particularly fast-growing market segment between Europe and Asia was for documents and small packages, sometimes referred to as "traditional express traffic." This trade flow averaged 6.2 percent annual growth in daily shipment count in both directions since 2000, as the movement of business samples, legal documents, and other expedited small-batch items between Europe and Asia increased. The total bidirectional express market averaged nearly 420,500 shipments per day in mid-2015.

Air trade flowing in both directions for the Europe-Asia air cargo market was forecast to grow an average of 4.6 per cent per year over until 2035. The flow from Asia-to-Europe was forecasted to grow at an average rate of 4.5 per cent per year. The flow from Europe-to-Asia was forecast to grow 4.9 per cent annually.

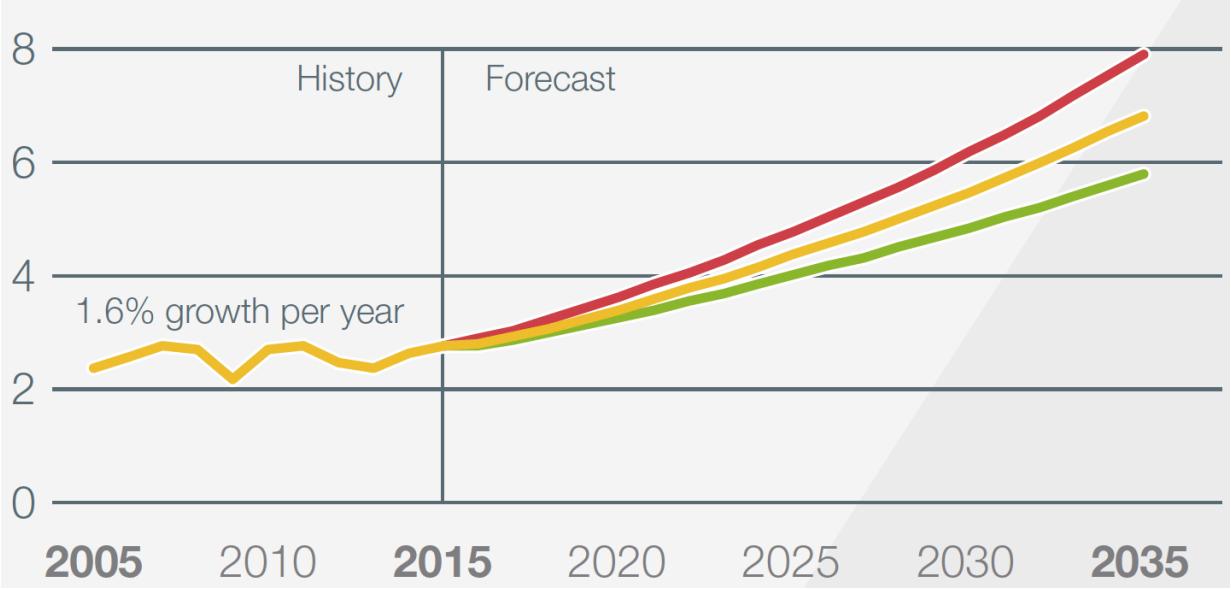
Base, low, and high models were developed to forecast the Europe-Asia air cargo market. GDP projections of 0.5 per cent below and above the baseline were assessed, and the results of these growth rates were reflected in the low and high-growth scenarios.

Figure. 1.34
Europe-Asia air cargo market forecast till 2033 by Boeing, millions tonnes



Source: Boeing (2016) World Air Cargo Forecast 2016–2017

Figure. 1.35
Asia-Europe air cargo market forecast till 2033 by Boeing, millions tonnes



Source: Boeing (2016) World Air Cargo Forecast 2016–2017

1.3.6 Conclusions

1. The market of freight transport between Europe and Asia was highly competitive, where operators of sea, rail, road and air transport were present, as well as transnational multimodal operators and leading international logistics providers. Sea transport accounted for about 97% of the total volume of cargo transported between Europe and

Asia (in tonnes), but the share of rail and air transport was increasing during the EATL Project Phase 3.

2. Maritime transport was by large the main transport mode due to low rates, high accuracy and timetable compliance, close cooperation with logistics providers in Europe and Asia, the established geography of production located near seaports, the introduction of new solutions such as slow steaming with reduced costs as effect. However, maritime transport was not suited to meet the expectations of e-commerce consumers, who were interested in short delivery times.

3. The contribution of railways into the Euro-Asian transport linkages development was growing steadily through the increasing of the number of regular scheduled block train runs along EATL routes.

4. Road transport served only intra-regional connectivity and trade of Central Asian LLDCs with Europe, China and Middle East. Possible start of long distance haulage between China and Europe was associated with practical implementation of the SCO Intergovernmental Agreement and thus creation of favourable conditions for road transport. The conditions for non-discriminatory market access should be settled between China and all interested countries in Europe by concluding bilateral or multilateral agreements on international road transport to commence commercial operations on the China-Europe routes.

5. Air transport was expected to become a serious competitor to both maritime and land transport in the segment of delivery of high-value and time-sensitive cargo between Europe and Asia. Air transport claimed to be a key player in the delivery of e-commerce and express postal items from China and other Asian countries to Europe, taking into account the "explosive" growth of this segment.

I.4. Transport Infrastructure of EATL routes development

I.4.1. Sea ports and their hinterland connections role in EATL corridors

Sea ports were of great importance for EATL countries. They not only enabled overseas trade for maritime and landlocked countries but also offered effective transhipment between maritime and other transport modes. Trade and transport flows passing through sea ports and the port access infrastructure benefited from the economies of scale that makes inland transport in hinterland areas (which can extend for thousands of kilometres) cost-effective.

The role of seaports in Euro-Asian trade was evolving with the progress in development of supply chains. This evolution had been most evident in the transport system of the European Union and thereafter in East Asia, where sea ports were deeply integrated in the whole logistic infrastructure.

Since the first decade of XXI century, a 'terminalization phase' of ports development was continuing. Port business was increasingly focused on specialized terminals through which the hinterland was served. Ports were no longer considered to be purely transfer centres, but were

becoming comprehensive flow-through areas within logistics chains, which were functionally linked to distribution developments in the hinterland.

Inland logistic centres, terminals and dry ports (in accordance with Intergovernmental Agreement on Dry Ports, a dry port of international importance shall refer to an inland location as a logistics centre connected to one or more modes of transport for the handling, storage and regulatory inspection of goods moving in international trade and the execution of applicable customs control and formalities) in Europe and in East Asia were becoming important consolidation hubs for seaports. They acted not only as cargo-bundling points, reducing capacity pressure on seaport terminals, but also as distribution centres. Seaports and inland terminals belonged to the intermodal transport system serving the supply chains.

While 'port terminalization' was further unfolding at the time this report was written, the formation of genuine port networks – considered as the next phase in the rapidly changing logistics of trade flows between Europe and Asia – also started to emerge in the EATL area

In such an environment the sea ports, although competing, are more and more in constant cooperation within supply chains and the cargo flows are flexibly distributed between them following the market situation. This is achieved when the ports are connected through well-working physical infrastructure that provides enormous added value in supply chains.

With the strong economic growth of Asia, mainly of China, cargo throughput in Asian seaports had steadily grown in the period 2007-2017. Also, in the same period, the major European ports of Rotterdam, Antwerp, and Hamburg, had grown respectively by 167 per cent, 159 per cent and 144 per cent. In 2016, the ports of Ningbo-Zhousan, Shanghai, Tianjin and others ports in Eastern Asia serving Euro-Asian trade flows became the biggest seaports by tonnage in TEU, and world's biggest container ports[24].

The 20 most important seaports in EATL area were located in the Baltic and North Sea, in the Mediterranean, on the Pacific coast, and on the Gulf in the Arabian Sea (See Table 1.32).

Table 1.32
EATL system seaports and their relation to EATL routes

	Port	EATL rail routes connected	EATL road routes connected
	Aktau/Kuryk (Kazakhstan)	5d,6d	3d,4,6c,6g
	Alexandroupolis (Greece)		5c
	Amirabad (Iran)	5a	
	Anzali (Iran)	5	6
	Arkhangelsk (Russia)		1c
	Astrakhan (Russia)	5,5a,5b,5c	6,6a,6c
	Atyrau (Kazakhstan)		6g
	Alat/Baku (Azerbaijan)	3, 3a	4,4f,6a
	Bandar Abbas (Iran)	5	6,6f
	Bandar Imam (Iran)	5e	6d
	Batumi (Georgia)	3, 3g, 3h, 3i, 3h,8d	3e,3f,4,4b,4c, 4d,4e,4i,4j,4n
	Burgas (Bulgaria)	3j	3e
	Bushehr (Iran)	5f	6e
	Chabahar (Iran)	5g	6g
	Constanta (Romania)	3,4,4h,4i	4,5i
	Derince (Turkey)	4,4g,4h	5,5j
	Galati (Romania)	3o	
	Haydarpasha (Turkey)	4	5,5i
	Igoumenitsa (Greece)		5c
	Ilyichevsk (Ukraine)	3g,4b,4g	4c,4i,4m,5d,5j,7

[24] UNCTAD (2016) Review of Maritime Transport

	Port	EATL rail routes connected	EATL road routes connected
	Iskenderun (Turkey)	3f,4a	
	Izmir (Turkey)	4d,4e	
	Kaliningrad (Russia)*	8b	3c
	Kavala (Greece)		5c
	Kavkaz (Russia)	8c	3e,3f
	Lianyungang (China)	2,3,4,7	2,3,4,5
	Makhachkala (Russia)		3d
	Mersin (Turkey)	3f,4a	
	Murmansk (Russia)	5h	7
	Nakhodka (Russia)		1
	Novorossiysk (Russia)	8d	3e,3f
	Odessa (Ukraine)	3g	4b,4c,4i,4m,5d,7
	Olya (Russia)	5,5a,5d	6,6a,6c
	Poti (Georgia)	3, 3g, 3h, 3i, 3h,8d	3e,3f,4,4b, 4c,4d,4e,4i,4n
	Samsun (Turkey)	4b,4i	3e,4e,4m,4n,5d
	Shanghai (China)	2,3,7	2,3,4,5
	St-Petersburg (Russia)	1a, 2a,5,5h	1,7
	Thessaloniki (Greece)		5c
	Trabzon (Turkey)		4e,4m,4n
	Turkmenbashi (Turkmenistan)	3a	4f,6g
	Varna (Bulgaria)	3h, 3i,8d	4d
	Vladivostok (Russia)	1,6	1
	Vostochny (Russia)	1,6	1

The biggest container seaports on the Baltic Sea serving trade flows from Asia were St.-Petersburg (Russian Federation), with an annual cargo throughput in 2016 of 1.7 million TEUs, Gdansk (Poland) – 1.3 million TEUs, Gdynia (Poland) – 0.7 million TEUs, Khamina/Kotka (Finland) – 0.6 million TEUs, – 1.7 million TEUs, Klaipeda (Lithuania) - 0.4 million TEUs, Helsinki (Finland) – 0.4 million TEUs, Riga (Latvia) – 0.4 million TEUs.

The Baltic Sea ports actively positioned themselves as regional hubs in the East-West transport link between Europe and the Russian Federation and the North-South transport link to the Black Sea and the Caucasus.

In North Europe the biggest ports serving Euro-Asian trade by throughput were Rotterdam, Antwerp and Hamburg with an annual throughput of 30.7 million TEUs in 2015 (Table 1.33).

Table 1.33
Biggest Western European container terminals served Europe – Asia shipping lines and their throughput, 2013, 2014 and 2015 (Thousands of 20-foot equivalent units and percentage change)

Port	Country	2013	2014	2015	Percentage change 2014 - 2013	Percentage change 2015 -2014
Rotterdam	Netherlands	11 621	12 298	12 235	5,83	-0,51
Antwerp	Belgium	8 578	8 978	9 654	4,66	7,53
Hamburg	Germany	9 257	9 720	8 821	5,00	-9,25

Source: UNCTAD (2016)

In the Mediterranean the biggest ports by throughput were Piraeus (Greece) with 3.3. million TEUs (2015) and Mersin (Turkey) with 1.46 million TEUs (2016), while on the Pacific coast Chinese ports Shanghai, Shenzhen, Ningbo and Zhoushan, Guangzhou, Qingdao, Tianjin, Dalian, Xiamen as well as Hong Kong and Busan (Republic of Korea) were the biggest ports (Table 1.34) with total annual throughput of 43.4 million TEUs (2015). The biggest container seaports on the Russian Far East serving trade flows between Europe and Asia were Vladivostok, with an annual cargo throughput in 2016 of 0.6 million TEUs and Nakhodka/Vostochny - 0.3 million TEUs.

Table 1.34
Biggest Asian container terminals served Europe – Asia shipping lines and their throughput, 2013, 2014 and 2015 (Thousands of 20-foot equivalent units and percentage change)

Port	Country	2013	2014	2015	Percentage change 2014 - 2013	Percentage change 2015 -2014
Shanghai	China	33 617	35 290	36 540	4,98	3,54
Shenzhen	China	23 279	24 040	24 200	3,27	0,67
Ningbo and Zhoushan	China	17 351	19 450	20 630	12,10	6,07
Hong Kong	China	22 352	22 200	20100	-0,68	-9,46
Busan	Republic of Korea	17 686	18 683	19 467	5,64	4,20
Guangzhou	China	15 309	16610	17 590	8,50	5,90
Qingdao	China	15 520	16 580	17 430	6,83	5,13
Tianjin	China	13 000	14 060	14110	8,15	0,36
Dalian	China	10015	10130	9 450	1,15	-6,71
Xiamen	China	8 008	8 572	9180	7,04	7,09

Source: UNCTAD (2016)

The seaports Vladivostok (Russia) and Nakhodka/Vostochny (Russia) as well as Chinese port Lianyungan played an important role for the EATL as they connected Eurasia with the Republic of Korea, Japan and Taiwan Province of China. Car manufacturers such as Daewoo Motors, Kia Motors and Hyundai used these ports as entry gates to the Russian and Chinese markets, and used the Trans-Siberian Railways for container freight trains of automotive parts and cars from and to their production sites inside the Russian Federation and Uzbekistan.

Other important ports that were not direct end points of EATL routes but were in close proximity were the major Middle Eastern port of Dubai (UAE) – with annual throughput of 15.6 million TEUs (2015), as well as the ports of Bandar Abbas (Iran) and Karachi (Pakistan) – 1.7 million TEUs (2015) and 2.0 million TEUs (2015) respectively.

These ports, as well as the new port Gwadar in Pakistan, were expected to play an important role in the operationalization of North-South Euro-Asian transport routes. Gwadar port, which should be operationalized in 2017, was also expected to become an important component of the Chinese OBOR initiative.

The Iranian ports of Bandar Abbas and Chabahar were engaged in building a land bridge to Afghanistan, Central Asia and China through Central Asia. At the time this report was prepared, the Iran Railways were working to operationalize a railway connection from Sangan, in the South East of the country close to both ports, to Herat in Afghanistan. Port of Amirabad on the Caspian Sea is the 3rd generation of the ports, which connected to the railway network of the Islamic Republic of Iran and Bandar Abbas port, has been completed and ready to provide the services for customers.

Sea ports of the Caspian Sea – new Alat port (Azerbaijan), Turkmenbashi (Turkmenistan), Astrakhan, Olya (Russia), Aktau, Kuryk (Kazakhstan), Amirabad, Anzali (Iran) – were expected to play a key role in the operationalization of Euro-Asian railway routes 3, 5, 6 and Euro-Asian road routes 3, 4, 6.

The countries of the Caspian region were therefore making efforts to develop the infrastructure of these ports and to develop intermodal transport by regular ferry and Ro-Ro lines. First scheduled regular ferry line Alat – Aktau was operationalized in 2016 for block trains China – Azerbaijan – Georgia – Turkey.

The Black Sea ports – Ilyichevsk/Odessa (Ukraine), Varna, Burgas (Bulgaria), Constanta (Romania), Novorossiysk (Russia), Poti and Batumi (Georgia), Trabzon (Turkey) served the

East-West Euro-Asian rail routes 3, 4, 8 and road routes 3, 4, 5, 7, including intermodal services via regular ferry and Ro-Ro lines.

In the Black Sea region the biggest ports by throughput were Constanta with 0.7 million TEUs (2016), Novorossiysk - 0.6 million TEUs (2016) and Odessa – 0.5 million TEUs (2016).

In conclusion, Seaports located in the EATL area, as showed above, played a dual role in the operationalization of Euro-Asian inland transport links. Baltic, North and Pacific seaports as well as port on Persian Gulf created conditions for the development of hinterlands by actively cooperating with railway and road transport operators (the length of hinterlands can be very significant for landlocked countries, for example, Kazakhstan's transport links with ports on the Black and Baltic seas exceed 3000 km). Ports on the Caspian Sea and, in part, ports on the Black Sea ensured the connectivity of sections of some Euro-Asian routes. The development of intermodal technologies and services, including ferry and Ro-Ro lines from these ports, was further expected to significantly enhance the efficiency and competitiveness of rail and road routes connecting Europe and Asia in both West-East and North-South directions.

I.4.2. Infrastructure of EATL railway routes

Railway corridors in and outside the EATL region connect the countries with ports and international markets. However, the existing rail network did not necessarily match the changing trade patterns it was meant to serve. Growing export and import activity with China and Europe were being served insufficiently. Railways had the potential to transform the EATL region especially landlocked countries in Central Asia into being land-linked and connecting it better with its rapidly growing neighbours. Although rail infrastructure has contributed in maintaining the competitiveness of the Euro-Asian trade, its quality needed to be improved so that the improved railways would facilitate increased regional cooperation and integration.

Out of the nine EATL rail routes, six were in the East-West Direction, and three in the North-South direction (Figure 1.36, Table 1.35). Eight from nine of rail routes at the time this report was written were already used by regular or ad-hoc block trains connecting Asia, East Russia and Europe.

Figure 1.36
Scheme of EATL Rail Routes

Source: UNECE, 2013

Table 1.35 - EATL Rail Routes

1	"Trans-Siberian Railway, Northern Road" West (N and E EU (Finland, Latvia, Lithuania, Poland, Hungary)) to East (Russia Pacific) Countries crossed: Russia, Belarus or Ukraine Number of gauge changes: 0
2	"Trans-Siberian Railway, Southern Route" West (N and E EU (Finland, Lithuania, Poland, Hungary)) to East (China) Countries crossed: Ukraine, or Belarus, Russia, Kazakhstan, China Number of gauge changes: 1 (Kazakhstan/China)
3	West (SE EU (Hungary, Romania, Bulgaria) through Caucasus and Central Asia to East (China) Countries crossed: Moldova, Turkey, Georgia, Azerbaijan, Armenia, Turkmenistan, Uzbekistan, Tajikistan, Kyrgyzstan, Kazakhstan, China Number of gauge changes: 1 (Kazakhstan/China) Number of ferry crossings: 2 (Caspian and Black Sea)
4	"Southern Silk Road" or "Trans Europe-Asia Route" West (SE EU (Bulgaria) through Iran and Central Asia to East (China) Countries crossed: Turkey, Iran, Turkmenistan, Uzbekistan, Kazakhstan, China Number of gauge changes: 2 (Iran/ Turkmenistan, Kazakhstan/China)
5	North (N EU (Finland)) through Caucasus and Central Asia to South (Iran) Countries crossed: Russia, Azerbaijan, Iran, Turkmenistan, Kazakhstan, Uzbekistan Number of gauge changes: 1 (Kazakhstan/China) Number of ferry crossings: 1 (Black Sea)
6	West (E EU (Hungary, Poland)) to through Central Asia to East (Russia Pacific Coast)[23] Countries crossed: Ukraine, Moldova, Russia, Kazakhstan Number of gauge changes: 0
7	West (E EU (Hungary and Poland)) through Central Asia to East (China) Countries crossed: Ukraine, Kazakhstan, Uzbekistan, China) Number of gauge changes: 1 (Kazakhstan/China)
8	North (N and E EU (Latvia, Poland and Lithuania)) through Caucasus to South (Azerbaijan, Iran) Countries crossed: Ukraine, Russia, Georgia, Azerbaijan, Iran Number of gauge changes: 1 (Azerbaijan/Iran)

9	North (N EU) Finland) and Baltic Russia) through Central Asia to South (Central Asia) Countries crossed: Russia, Kazakhstan, Uzbekistan, Tajikistan Number of gauge changes: 0

EATL Rail Route 1

The EATL **Rail Route 1** (known also as the Trans-Siberian route) was over 10 000 km long with its branches stretching from the eastern borders of the European Union (Finland, Hungary, Poland, Lithuania) to the Russian Pacific port of Nakhodka and the Russian-Chinese border. Route 1 extended the Pan-European Transport Corridors (PETCs) II, V and IX eastwards. Its principal advantages included a small number of border crossings and an electrified traction and the uniform (1520 mm) gauge. Parts of the route situated within the European part of the Russian Federation belonged to the E-rail and E-combined transport networks. Most of the route was also part of the TAR network.

At the time this report was written, Route 1 provided the backbone for the long-distance surface container transport between Europe and East Asia. The capacity of Rail Route 1 in the eastern part of Russia was limited. Therefore, the Government of the Russian Federation and Russian Railways was implementing the project of Transsiberian and Baikal-Amur mainlines modernization with the aim to increase their capacity volumes for Euro-Asian traffic and to stimulate socio-economic development of the entire region.

The implementation of this project was expected to bring:

- additional 574 km of mainlines,
- the new Baikal Tunnel of 6.7 km,
- 42 switch-tracks,
- 680 km of autoblocking system,
- reconstruction of 91 stations,
- enhancement of power supply devices along all main destinations of the operation domain,
- reconstruction of the number of large and medium artificial facilities and railway lines, and
- Reconstruction of railroad yards, border crossing stations, port and pre-port stations.

EATL Rail Route 2

EATL **Rail Route 2** spanned over more than 8 000 km from the eastern borders of the European Union with Belarus and Ukraine across the Russian Federation, Kazakhstan and Eastern China to the ports of Lianyungang and Shanghai. Route 2 extended PETCs II and IX towards Asia with most parts of this route belonging to the TAR network. It coincided with Route 1 on the sections between the European Union border and the city of Yekaterinburg in central Russian Federation. There were some infrastructural limitations identified for this route:

- Change of gauge: the broad 1520 mm gauge changed at the Kazakh-Chinese border to the 1435 mm standard prevailing in China;

- Electrification sections of the routes were not electrified (Dostyk – Aktogay – Mointy railway line);

- Out of date infrastructure and equipment at border crossings;

- The capacity of the sections between Kazakhstan and the Chinese ports was limited (some sections, i.e. Iletsk – Zhaysan, Kyzyl-Orda – Shieli are single track railways).

EATL Rail Route 3

The main branch of the EATL **Rail Route 3** led from the south-eastern European Union border (Hungary-Romania) to the Lianyungang and Shanghai ports. Route 3 extends PETCs IV, VIII and IX as well as the TRACECA routes to Eastern China. Significant parts of the route belong to the TAR network.

Route 3 included two ferry crossings, from Constanta on the Romanian Black Sea coast to the Georgian ports of Batumi or Poti and from the Azerbaijan port of Alat on the Caspian Sea to the Kazakh ports of Aktau and Kuryk (Kazakhstan in 2016 completed the construction of a new railway line Borzhakty - Ersai (length 16.6 km) to Kuryk port) in Kazakhstan.

Route 3 and its branches passed through a significant number of countries and border crossings. Gauge changes were necessary at the borders of EECCA countries with China and Romania.

In 2016 a new electrified railway line Angren-Pap (section 3n of Rail Route 3) in Uzbekistan with a length of 123.2 km, as well as the Kamchik Tunnel (19.2 km) were put in operation. Railway stations Kul, Orzu, Chodak, Kop, Koshminor and Pap were opened for operation.

Also, after completion in 2017 of the new railway section EATL 3m from Kars (Turkey) to Akhalkalakhi (Georgia) with total length105 kilometres Eurasian Rail, Route 3 was expected to be fully operationalized between Azerbaijan (Baku/Alat) and Europe via Turkey. The capacity of railway line Baku – Tbilisi – Kars was expected to reach 15 million tons.

EATL Rail Route 4

The EATL **Rail Route 4** provided a link between South-Eastern Europe and the Lianyungang and Shanghai ports, passing through Bulgaria, Turkey, Islamic Republic of Iran, Uzbekistan and Kazakhstan. It provided an extension to PETCs IV, VIII, X and the TRACECA route to the Chinese seaboard, also with parts of the route belonging to the TAR network. There were two main limitations for this route:

- there were two gauge changes (Iran-Turkmen border and the Kazakh-Chinese border), and

- large sections of Route 4 were not electrified.

EATL Rail Route 5

The EATL **Rail Route 5** connected northern Europe to Iran, extending from the Finnish-Russian border southward to the Caspian Sea and terminating at the port of Bandar Abbas in the Persian Gulf. Almost the entire route was part of the TAR network. At the time this report was written,

the capacity of Route 5 was limited by one missing link on the territory of Islamic Republic of Iran between Gazvin-Rasht-Astara.

The Gazvin-Rasht section with 164 km length was under construction with 93 percent physical progress. It was predicted that this section would be completed by the end of 2017. For the Rasht –Astara segment with 164 km there was a search for investors.

EATL Rail Route 6

The EATL **Rail Route 6** provided a connection between the eastern borders of the European Union (Hungary, Poland) with Russian Pacific coast, moving across Ukraine and the Russian Federation (south of Route 1) towards the port of Vladivostok as well as traversing the Kazakh territory.

Route 6 provided an extension of PETCs III, V and IX towards the Pacific Ocean. Again, parts of the route belong to the TAR network.

EATL Rail Route 7

The EATL **Rail Route 7** provided a connection between the European Union and the Lianyungang and Shanghai ports, passing through the territory of Ukraine, the Russian Federation, Kazakhstan, Uzbekistan and China. It extended PETCs III and V and belonged to the TAR network. Large sections of Route 7 on the Kazakh, Uzbek and Chinese territory were not electrified.

EATL Rail Route 8

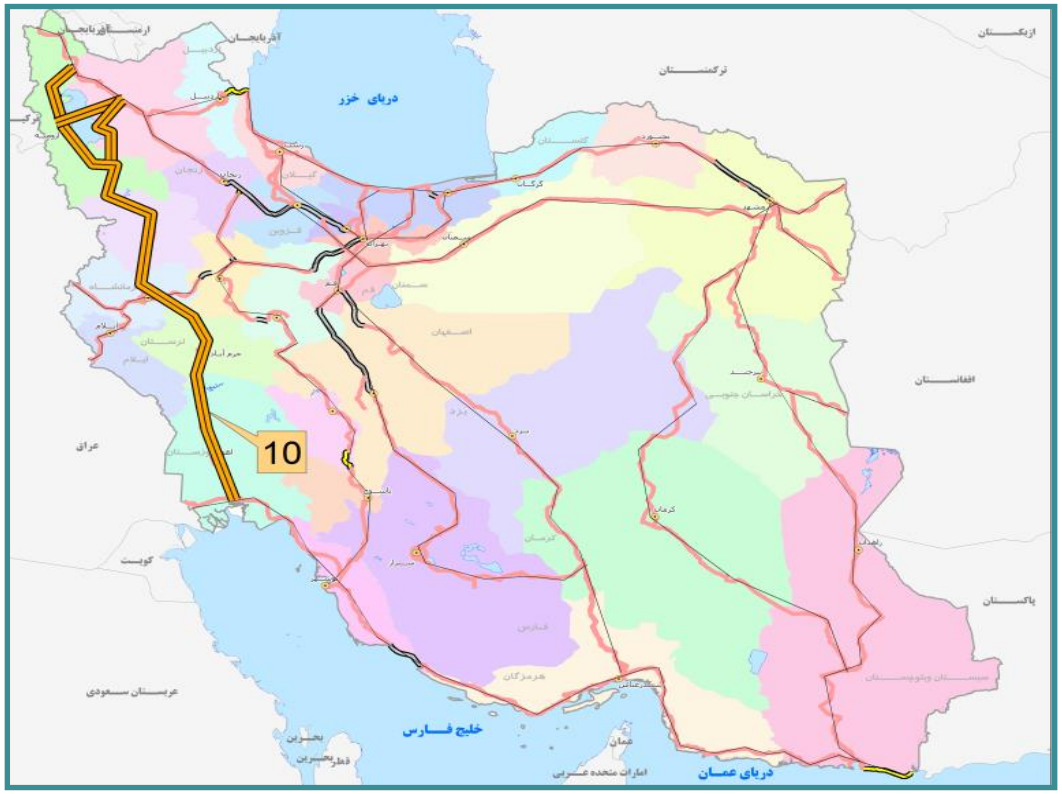
The EATL **Rail Route 8** passed from Poland to Ukraine, southern Russian Federation, Georgia and Azerbaijan to the Iranian border at Astara. It provided another extension to PETCs III and V with most parts of the route belonging to the TAR network. Imam Khomeini port (Iran) – Bazargan (border with Turkey) - Caucuses, as part of this route was one of the priorities of the transport infrastructure development in Islamic Republic of Iran (Figure 1.37). Projects on upgrading of railway sections along this route were under consideration.

This route was one of the main routes of the Persian Gulf- Black Sea Corridor Agreement which was under negotiation among Iran, Azerbaijan, Armenia, Georgia, Bulgaria, and Greece during the phase 3 of the EATL project.

EATL Rail Route 9

The EATL **Rail Route 9** provided a connection from the northern Europe through the Russian Federation to Central Asia (Kazakhstan, Uzbekistan and Tajikistan). Significant parts of the route belonged to the TAR network. Since long sections of Route 9 were not electrified, the capacity of the route was subject to limitations.

Figure 1.37
Scheme of Imam Khomeini port (Iran) – Bazargan (border with Turkey) corridor as a section of EATL8, EATL5 rail routes



Source: Ministry of Roads and Urban Development of Islamic Republic of Iran

After finalization of the Rasht-Astara railway section's construction in the Islamic Republic of Iran, the network of Euro-Asian nine railway routes would not have infrastructure gaps (except for proposed railways network in Afghanistan).

Nevertheless, as noted in the CAREC Railway Transport Strategy[25], considerable efforts and financial resources would be required to upgrade and renovate some specific railway sections and to modernize railway rolling stock.

Synergies between railway and maritime transport. Railway and shipping was a typical combination for intercontinental transport and logistics decisions. During phase III of the EATL project much attention was devoted to its development.

The main goal of such a synergy was to achieve the most efficient combination of low cost transport (maritime transport) and low travel times (railways).

The strongest synergy between overland and maritime transport occurred in container intermodal transportation. In recent decades the containerization of cargoes was developing rapidly due to possibility for easy and fast change of transport modes.

The most developed model of such synergy is the traditional intermodal or "consecutive" modal combination, when the maritime leg was complemented by a railway section of the route.

An example that has gained much attention in recent years is the transport of goods by sea from China to the port of Piraeus (Greece) and then by rail to major distribution centres in Central

[25] Asian Development Bank (2017) Unlocking the Potential of railways. A Railway Strategy for CAREC, 2017-2030

Europe. This type of transport may be enhanced by further improving the connection and reducing the handling time during the transfer process, between modes.

The second model of sea-rail synergy was the combination of maritime and railway delivery in parallel commodity flows within a logistic solution known as “faster than sea, cheaper than rail’’.

Such a solution would allow for more flexibility than shipping and fewer costs than pure rail (or air freight) for time-sensitive shipments. Within this model, unlike the “consecutive” model of sea-rail synergy, the shares of “cheap” and “fast” flows can be regulated. Within these chains rail transportation is used for a minority share freight so as to be able to smooth and reduce their inventory requirements, fill in the “gaps” in market demand or to be fast with some market novelties. This solution is used for time-sensitive supply chains involving manufacturing production such as electronics and auto parts.

According to expert opinions, the following conditions can provide effective and sustainable sea + rail synergy in the logistics chains connecting Asia and Europe:

Asian terminal points should be located in western and central China (for example, as far east as Chongqing),

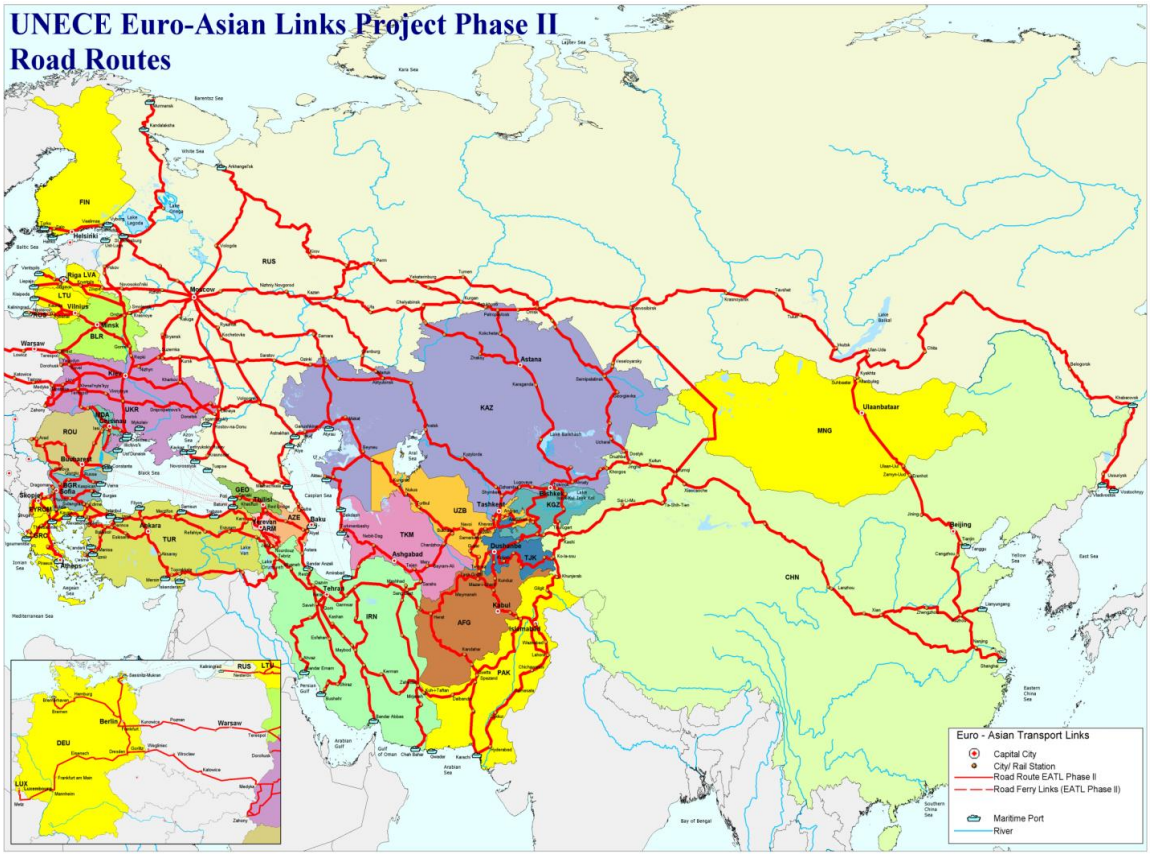
European terminal points should be located in Eastern Europe (as far west as Berlin)

Guaranteed flow of high-value and time-sensitive cargo (automotive parts, electronics, etc.) from one shipper or a limited group of shippers as a basis for sustainable regular service.

I.4.3. Infrastructure of EATL road routes

Out of the nine EATL road routes, six are in the East—West Direction, and three in the North—South direction (Figure 1.38, Table 1.36).

Figure 1.38
Scheme of EATL Road Routes



Source: UNECE, 2013

Table 1.36
EATL road routes

1	West (N and E EU (Finland, Latvia, Lithuania, Poland, Hungary)) to East (Russia Pacific and connects to China and Mongolia - Parallel to Trans-Siberian-Railways Countries crossed: Russia, Belarus or Ukraine
2	West (N and E EU (Finland, Lithuania, Poland, Hungary)) to East (China) Parallel to Trans-Siberian- Railways with branches to Kazakhstan and Kyrgyzstan Countries crossed: Ukraine, or Belarus, Russia, Kazakhstan, China
3	West (E EU (Poland, Hungary) to East (China) Countries crossed: Ukraine, Russia, Kazakhstan, Kyrgyzstan, China
4	West (SE EU (Bulgaria) to East (China) Countries crossed: Georgia, Azerbaijan, Kazakhstan, Uzbekistan, Kyrgyzstan, China Number of ferry crossings: 2 Ro-Ro ferry crossings
5	West (SE EU (Bulgaria and Slovakia) to South (Iran) and East (China) Countries crossed: Turkey, Iran, Afghanistan, Kyrgyzstan, Tajikistan, Uzbekistan
6	North (N EU (Finland)) to South (Iran) Countries crossed: Russia, Azerbaijan, Iran Kyrgyzstan, Turkmenistan Number of ferry crossings: 1 Ro-Ro ferry crossings /Caspian Sea
7	North (N Russia) to South (Ukraine) Countries crossed: Russia, Belarus and Ukraine
8	North (NW (Russia)) to South (China) Countries crossed: Russia, and China
9	North (Central Russia) to South (China) Countries crossed: Russia and China

EATL Road Route 1

The EATL **Road Route 1** started on the eastern borders of the European Union with Belarus as well as the Russian Federation and continued across the Russian territory to its Pacific coast, extending PETCs II, V and IX. Parts of the route belonged to the Asian Highway network. It ran

parallel to the EATL Route 1. The uneven quality of road infrastructure implied that this route was unlikely to be used widely for transcontinental trucking or passenger car trips, especially during the winter months.

There were a number of projects to improve the infrastructure. On the territory of the Russian Federation, the construction of a new motorway St. Petersburg-Moscow was in the development. Two sections of this motorway entered in operation in 2017. Also, a construction of a new motorway - Moscow bypass ("Central Ring Road") was carried out.

EATL Road Route 2

The EATL **Road Route 2** is parallel to the Rail Route 2. It extends PETCs II and IX and almost the whole route belongs to the AH network.

EATL Road Route 3

The EATL **Road Route 3** started on the eastern borders of the EU with Ukraine and ended on the Chinese seaboard (Lianyungang and Shanghai ports), passing through the Ukraine, Russian Federation, Kazakhstan, Kyrgyzstan and eastern China. Route 3 extended PETCs II, IV, V, VIII and IX eastward and parts of the route belonged to the AH network. Altogether, there were eight border crossings between the points of origin and final destinations in China. The road quality varied significantly, especially in Central Asia.

The construction of the road route Europe - Western China (part of the EATL Route 3, as well as part of EATL Routes 2 and 4 between Shymkent and Lianyungang) was completed on the territories of Kazakhstan and China. In 2017, a modern crossing point was expected to be commissioned (length of the route is 2787 km in Kazakhstan and 3425 km in China). The construction of the Nur-Jol border crossing point was expected to be completed by the end of 2017. On the territory of the Russian Federation the construction of road route Europe - Western China was in the process.

EATL Road Route 4

The EATL **Road Route 4** connected South-Eastern Europe to the Lianyungang and Shanghai ports, passing across Romania, Georgia, Azerbaijan, Kazakhstan, Uzbekistan, Kyrgyzstan and eastern China. It provided an extension to PETCs IV, V and IX. Route 4 involved two Ro-Ro ferry crossings (from Romania to Georgia and Azerbaijan to Kazakhstan) and eight border crossings. The quality of the route was uneven, changing from a broad four-lane highway to a narrow two-lane road in some parts.

EATL Road Route 5

The EATL **Road Route 5** connected South-East Europe to the Lianyungang and Shanghai ports, starting at the Serbian-Bulgarian border and continuing through Bulgaria, Turkey, Iran, Afghanistan, Uzbekistan and Kyrgyzstan. It extended PETCs IV, V, VIII and IX. Significant parts of the route belong to the AH network. There were eight border crossings and the road quality varied significantly, in particular in Central Asia.

EATL Road Route 6

The EATL **Road Route 6** connected northern Europe to Iran, extending from the Finnish-Russian border southward to the Caspian Sea and terminating at the port of Bandar Abbas in the Persian Gulf. Almost the whole route belonged to the AH network and it ran in parallel to the EATL Rail Route 5.

EATL Road Route 7

The EATL **Road Route 7** connected the Murmansk port on the northern shore of the Kola Peninsula (in the proximity of Finland and Norway) with the Odessa port in southern Ukraine while passing through northwest Russian Federation and Belarus. Between St Petersburg and Odessa, Route 7 coincided with the PETC IX.

There were a number of common infrastructural issues identified for the routes that impeded the development of long road haulage. Due to different standards for axle load, weight and dimensions of trucks in the EATL countries, and especially between the European Union, CIS and China the available road infrastructure did not support the operation of same vehicles from the start to the end of any of the routes. Also, all the routes were characterized by outdated infrastructure of border crossing points and undeveloped roadside ancillary infrastructure.

The harmonization of standards for road parameters and introduction of long and heavy vehicles (LHV), or road trains, was considered to be one of the opportunities to increase the efficiency of road transport in the EATL area.

The average standard gross weight of the freight road vehicle all around the world was about 40 tons which provided the payload of about 20 tons. The allowed length of the road combination rarely exceeded 20 meters. And yet, the full vehicle weight was limited by the bridges construction on the EATL routes; the allowed axle load depended on the carrying capacity of the road along the various routes' sections. The vehicle length depended on road safety standards adopted in certain country.

This trucking concept came from remote areas in Australia, the United States, and Western Canada. In this concept, a road train consists of a relatively conventional prime mover, but instead of pulling one trailer or semi-trailer, the road train pulls two or more of them.

Australia had the largest and heaviest road-legal vehicles in the world, with some configurations topping out at close to 200 tons of the gross vehicle weight. The majority were between 80 and 120 tons. The train length reached 53 meters (see figure 1.39).

Axle loads of the road train did not exceed the limit because the number of axles supporting the LHV was higher according to its increased length. As for the high gross vehicle weight, it was sometimes necessary to enforce or rebuild the bridges along the routes where the LHV are operated.

Driving and manoeuvring the Australian road trains safely without unduly obstructing traffic was only possible because of the sparse traffic and extremely flat and straight terrain through the Australian outback. The same requirements were taken into account in all the countries where LHV were allowed or tested. Strict regulations also applied regarding licensing and driving experience. The multiple trailers were unhooked, the dollies removed and then connected individually to multiple trucks at assembly points (often located at terminals or logistic centres) when the road train arrived at populated areas with denser traffic.

Many of the EATL countries, especially in the Central Asian region, have conditions to make operation of the LHV possible. But this concept was developed not only in the regions with low economic and transport density.

In Europe the so called European module system (EMS), or Eurokombi concept was widely discussed at the time this report was written. The idea was to allow longer and heavier

combinations within one road vehicle using the existing equipment. Figure 1.40 shows how three standard European combinations can be converted into two by just recoupling the equipment. The EMS road train had the 25.25 m maximal length and the gross weight of 60 or 44 tons for different combinations (for volume or for weight cargoes). The average economic effect in comparison with traditional combinations was about 20-25%.

The Eurokombi vehicles were used for many years in Sweden and Finland and were already tested in the Netherlands, Denmark and Germany with positive experience.

The supporters of the LHV idea argued that this type of vehicle:

- increased transport efficiency and economic competitiveness;

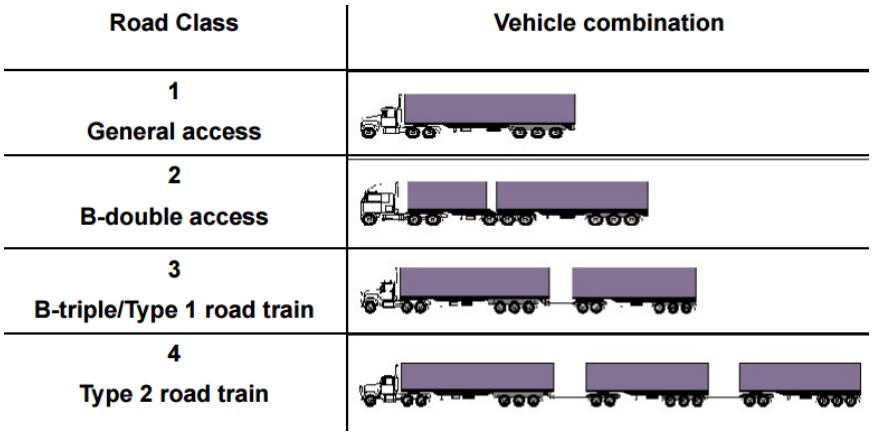
- dramatically reduced the number of vehicles for a given amount of goods;

- reduced environmental impact of trucking;

- reduced road congestion and road wear;

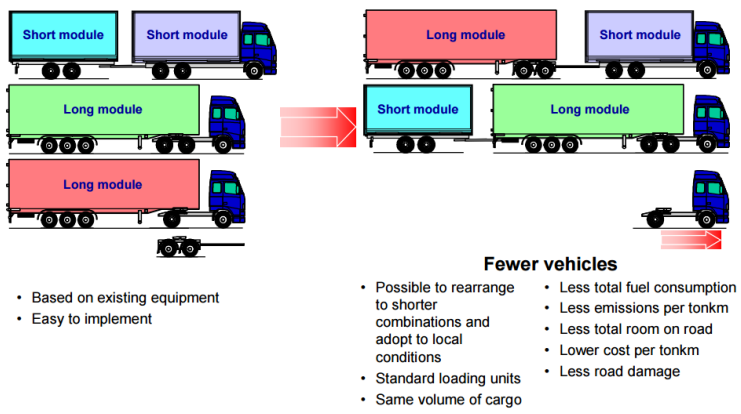
- supported intermodal transport.

Figure. 1.39
Australian road vehicle types



Source: Anders Lundström President of the International Forum for Road Transport Technology, IFRTT. Potential of High-Productivity Vehicles. Workshop presentation, June 24, 2009, Brussels)

Figure. 1.40
Eurokombi concept



Source: Stefan Larsson, Director, Regulatory Projects. Weight and dimensions of heavy commercial vehicles as established by Directive 96/53/EC and the European Modular System (EMS). Workshop presentation, June 24, 2009, Brussels)

I.4.4. Air transport infrastructure

In contrast to maritime transport, which, as shown above, can effectively facilitate the operationalization of Euro-Asian inland routes, air transport can be seen as a pure competitor in the segment for the delivery of high-value goods and small postal shipments between Europe and Asia.

In Europe and Asia, the transcontinental cargo transport was concentrated at hub airports. The largest hubs were, traditionally, Hong Kong, Shanghai, Seoul, Narita (Tokyo), Paris Charles de Gaulle, Frankfurt and Beijing, China's largest airports, have significantly increased their cargo traffic in recent years (Table 1.37).

Table 1.37 – Top airports served Euro-Asian cargo flows, 2011-2016, thousands tons

Airports	2011	2012	2013	2014	2015	2015/2011, %
Hong Kong (HKG)	3968.4	4062.3	4161.7	4411.2	4422.2	111,4
Shanghai Pudong (PVG)	3103.0	2939.2	2928.5	3181.4	3275.2	105,5
Seoul Incheon (ICN)	2539.2	2456.7	2464.4	2557.7	2595.7	102,2
Dubai (DXB)	2269.8	2267.4	2435.6	2367.6	2506.1	110,4
Tokyo Narita (NRT)	1945.1	2006.2	2019.8	2132.4	2122.1	109,1
Paris Charles de Gaulle (CDG)	2095.7	2151.0	2069.2	1890.8	2090.8	99,8
Frankfurt (FRA)	2215.2	2066.4	2094.5	2132.1	2076.7	93,7
Taiwan Taoyuan (TPE)	1627.5	1577.7	1571.8	2088.7	2021.9	124,2
Beijing Capital (PEK)	1668.8	1787.0	1843.7	1831.2	1889.8	113,2
Singapore Changi (SIN)	1898.9	1898.9	1886.0	1879.9	1887.0	99,4
Amsterdam (AMS)	1549.7	1511.8	1566.0	1670.7	1655.4	106,8
London Heathrow (LHR)	1569.5	1556.2	1515.1	1588.7	1591.6	101,4
Guangzhou Baiyun (CAN)	1193.0	1246.5	1309.7	1454.0	1537.8	128,9
Doha Hamad (DOH)	808.1	844.5	883.3	995.4	1455.0	180,1
Bangkok Suvarnabhumi (BKK)	1321.8	1345.5	1236.2	1231.4	1230.6	93,1
Tokyo Haneda (HND)	873.0	909.7	954.4	1098.2	1171.3	134,2
Shenzhen Bao'an (SZX)	826.0	854.9	913.5	963.9	1013.7	122,7
Leipzig/Halle (LEJ)	744.0	846.1	878.0	906.5	984.4	132,3
Al Maktoum (DWC)	…	…	…	758.4	890.9	-
Abu Dhabi (AUH)	…	…	712.5	806.1	837.6	-
Luxembourg Findel (LUX)	656.7	614.9	673.5	708.1	737.6	112,3
Kuala Lumpur (AUH)	702.1	702.2	713.3	776.7	775.0	110,4
Osaka Kansai (KIX)	759.3	723.1	682.3	745.9	755.0	99,4
Cologne Bonn (CGN)	726.3	730.1	717.1	742.5	739.5	101,8

Source: ACI

The infrastructure of air transit of cargo and multimodal air transport logistics was being actively developed in a number of EATL countries during the phase III of the EATL project. Among others, the following airports were expanding their cargo capacities: Ataturk (Istanbul), Sheremetyevo (Moscow), Geydar Aliev (Baku), Ashgabat International Airport.

A serious challenge to the growth of the inland transport of high-value goods and postal shipments by EATL routes was the intensive development of cargo terminals at the airports in the countries of Middle East and related growth of transit air cargo traffic (the share of transit reaches 60-70% of the total volume of air cargo and mail transhipment at these airports).

I.4.5. Logistic centres and dry ports in the EATL system

Smooth functioning of the supply chain always required adequate infrastructure. At the time this report was written logistic centres were considered to be the mandatory components of logistic infrastructure carrying on numerous functions in the supply chains.

Logistics centres (LC) or dry ports had the most extensive structure of all components comprising the logistics network. They were composed of many facilities collaborating with each other and co-operating logistics operators. LC enabled to conduct operations on goods in connection with warehousing and relocating them between the shipper and the consignee, providing intermodal transport and value-added services against the transported commodities.

Intermodal terminal was the specific component of the logistic centre. It served not only as a pivot where cargo (usually in containers, contrailers or swap-bodies) was transhipped between the modes. Intermodal terminals were the origin/destination points for regularly operating block-trains linking the LC with other LCs located in sea ports, surface transport nodes, logistic hubs, industrial areas, etc.

While in Europe and in North America LCs had become the compulsory component of logistic infrastructure, Asia was in the early stage of LC development during the phase III of the EATL project. To speed up their development, in 2013 the Intergovernmental Agreement on Dry Ports was concluded under the auspices of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). The Agreement was aimed to promote the cooperation of the development of dry ports in the Asia-Pacific region. As of August 2017, the Agreement has been signed by 17 and ratified by 13 UNESCAP member states.

The Agreement identified a number of existing and potential dry port locations that were to be the basis of a coordinated effort to create nodes along an international integrated intermodal transport and logistics system.

According to the Agreement, a dry port of international importance ("dry port") referred to an "inland location as a logistics centre connected to one or more modes of transport for the handling, storage and regulatory inspection of goods moving in international trade and the execution of applicable customs control and formalities".

The Agreement (in its Annex I) identified the dry ports subject to the agreement. The locations of the dry ports listed in the Agreement were chosen considering the following factors:

a) inland capitals, provincial/state capitals;

b) existing and potential industrial and agriculture centres;

c) major intersection of railways (Trans-Asian Railways), highways (Asian Highways) and inland waterways;

d) along trunk railways lines (Trans-Asian Railways), major highways (Asian Highways), inland waterways and airports.

The dry ports listed in the Agreement should be brought into conformity with the guiding principles for the development and operation of dry ports as described by Annex II of the Agreement. The guiding principles considered dry port functions, institutional, administrative and regulatory framework, design, layout and capacity of dry ports, their equipment and facilities.

According to the Agreement, the Parties adopted the list of dry ports as the basis for the coordinated development of important nodes in an international integrated intermodal transport and logistics system. They also intended to develop these dry ports within the framework of their national programmes and in accordance with national laws and regulations.

The implementation of the Agreement was considered by a Working Group on Dry Ports created in accordance with the Agreement.

Figure 1.41 illustrates the location of dry ports (envisaged by the 2013 Intergovernmental Agreement on Dry Ports) related to EATL railway routes.

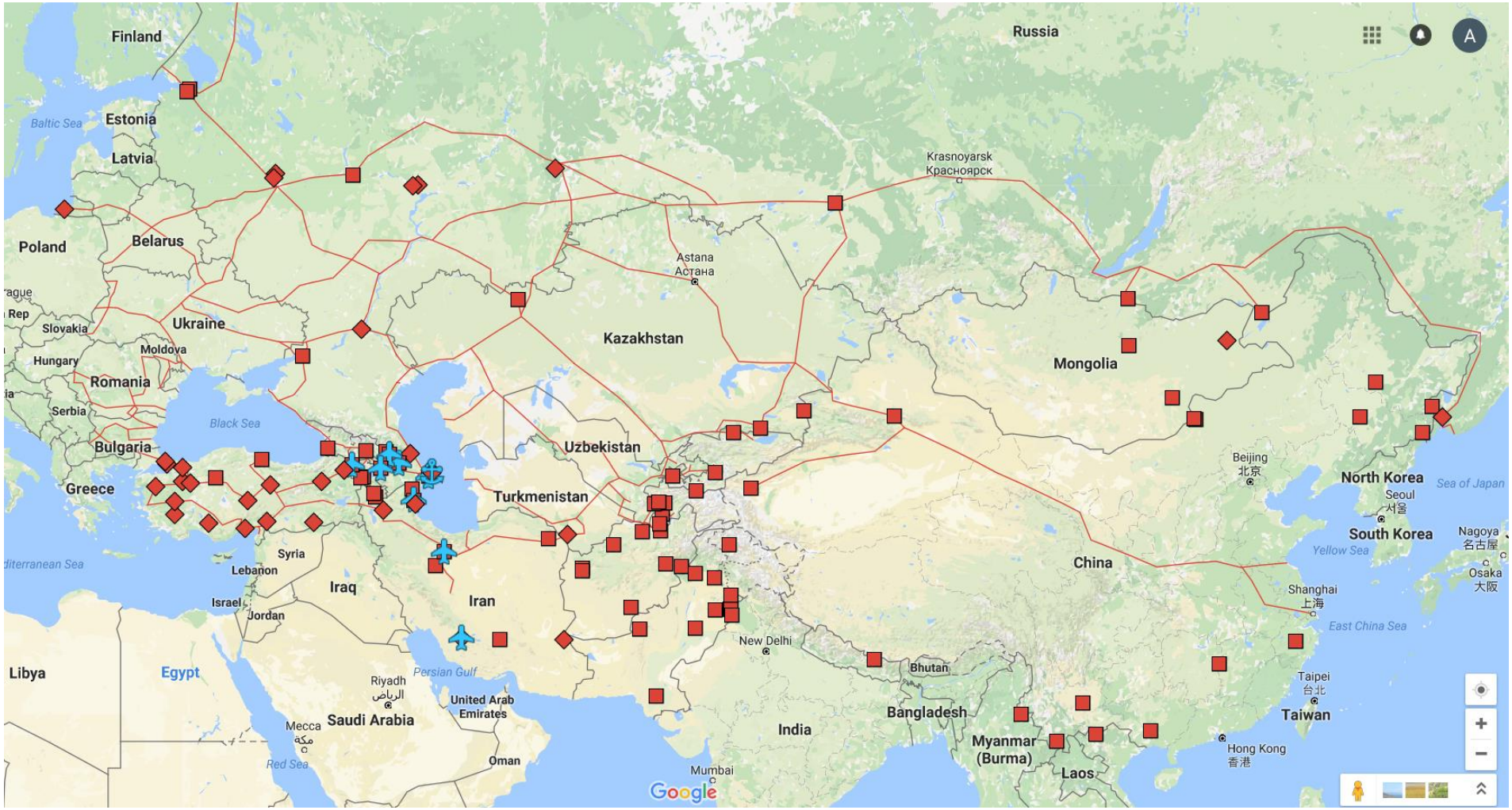


Figure 1.41. Dry ports listed in the 2013 Intergovernmental Agreement on Dry Ports related to EATL corridors

Conclusions

The existing infrastructure of Euro-Asian rail and road routes as well as ports facilities provided good potential opportunities for further development of inland transport of goods between Europe and Asia.

However, competition of transport routes on the Euro-Asian continent was not about the simple choice between transport routes and/or transport modes. It was the competition of logistic decisions based on intermodal services and value-added services and focused at the needs of particular supply chains. Main supply chains would require regular services, high punctuality, flexible costs, value added services availability, delivery speed appropriate for certain types of cargo, which unfortunately do not apply to particular sections of Euro-Asian routes, but to entire transport-logistic chains.

Considering that, any transport route within the Eurasian continent would be able to attract traffic and trade if it was competitive in the context of supply chains. No political decisions or investment projects developed beyond this context can be therefore successful. For the same reasons, any attempt to bind freight flows to particular fixed routes, points or to selected transport modes would seem counterproductive.

At the same time, as studies showed, there was potential for railway routes to develop and attract cargo. Railway transport could therefore play a leading role within the EATL area provided that:

a) terminal points were placed in North-Western China and Eastern Europe, and

c) guaranteed flows of high-value and time-sensitive cargo (automotive parts, electronics, etc.) from one shipper or a limited group of "anchor" shippers were available as a basis for sustainable regular service. Besides, the service should be better operated not by pure railway carrier but by market-oriented logistic operator experienced in design of transport-logistic chains.

The road transport within the EATL corridors should be organized to complement railway services rather than directly compete with rail. The following spheres would look most reasonable: a) short-run cross border trade; b) long haul transport on the lanes where railway links do not exist or can't provide effective services for certain commodities (perishable, expensive, etc.); c) "road section" of intermodal rail-road transport service.

For effective long-haul trucking it would be important to provide the even weight/length limitations for road transport along the main EATL routes.

Nevertheless, on short and mid-term horizon, air transport logistics would be increasingly competitive in comparison with the Euro-Asian inland transport routes in the sector of high-value goods and e-Commerce parcels delivery.

The role of logistic centres in the EATL development was underestimated. Being created in the hubs of EATL network, logistic centres could play the role of modern market-oriented nodes of supply chains improving the competitiveness of the entire EATL system.

1.5. Comparative analysis of the duration and expenses of different modes of transport between Europe and Asia on selected Euro-Asian routes

Factors such as total transport time (including the delays on the way), full delivery costs, service frequency and reliability, cargo "time sensitivity", value added services *en route* require adequate consideration for choosing the most appropriate transport route for a specific cargo. . These factors were evaluated for different maritime and inland routes between Europe and Asia in various research studies so as to reach a better understanding whether:

- routes had principle advantages or disadvantages compared to others;

- any route could be considered as the most competitive one; and

- any route had specific limitations to attract specific volumes of cargo.

This section of the report contains conclusions from several studies on the maritime and inland routes comparative analysis, as follows:

- Study 1: an upgraded analysis undertaken during Phase II of the EATL;

- Study 2: an analysis undertaken by the Russian Centre for Economic and Financial Research at the New Economic School (CEFIR);

- Study 3:a research provided by PLASKE – freight forwarding company involved into the Euro-Asian intermodal container transportation; and

- Study 4: a research by the Eurasian Development Bank.

Study 1The Phase II EATL Study had contained the section dedicated to comparative analysis of the maritime and inland Eurasian routes based on the time-cost methodology. The analysis had included the total time and costs within the entire supply chain, which include road transport costs of moving containers from/to the warehouse/port, terminal handling charges, and documentation and other administrative costs. The structure of time and cost for compared routes is illustrated by figure 1.42.

Nine routes had been analysed. For all routes, rail transport performed better than maritime in terms of travel time. The Study had showed that Euro–Asian rail transport, and its intermodal combination with maritime and road transport, was a feasible and competitive transport option provided that efficient rail corridor management was established, governments were willing to cooperate and rail companies served customers' needs in an effective manner along the whole route.

Figure 1.42
Structure of time/costs considered by the EATL Phase II study

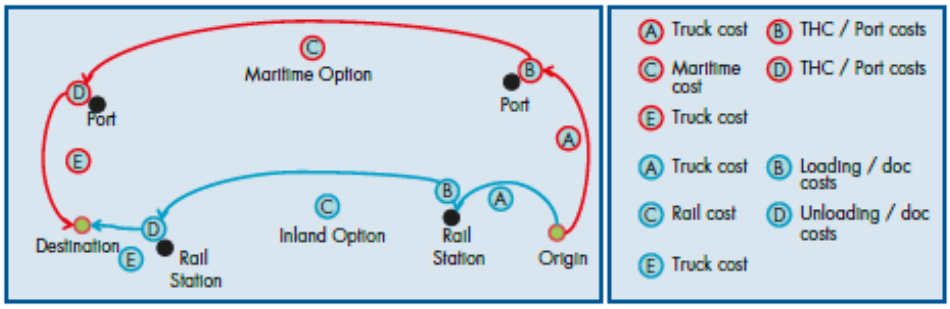


Table 1.38 presents data for 6 out of 9 routes analysed. The data do not always show definite advantage for certain option.

Table 1.38
Selected results of the comparative analysis of the maritime and inland Eurasian routes (EATL Phase II study)

Trade lane	Maritime		Inland		Result		
	Time	Cost	Time	Cost	Time	Cost	Total
Khabarovsk - Potsdam	1093	6533	341	6967	+	-	0
Hangzhou – Kaluga	637	6786	277	4715	+	+	++
Tashkent – Varna	529	7550	165	5946	+	+	++
Almaty – Istanbul	672	4970	250	5881	+	-	0
Ussuriysk (Russian Federation) to Kyiv (Ukraine)	463	6290	289	5875	+	+	++
Shanghai – Warsaw	569	6300	446	8937	+	-	0

"Total Result" column of table * where ++ means both the time and cost advantage of overland route and 0 means that the comparison result is undefined.

To have a more clear outcome of the time-cost analysis, the initial comparison was "upgraded" on the base of value of time data used in the World Container Model. Since the value of time can dramatically differ for different commodities, three options were used for calculations – low, average and high value (see table 1.39).

Table 1.39
Value of time options

	Commodities	Value of time, Euro/day/ton
Low	Solid mineral fuels	1
Average	Food stuffs and animal fodder	5
High	Machinery, transport equipment, manufactured and miscellaneous articles	8

For calculations it was assumed that the average payload of the FEU is 15 tons. The values given in table 1.40 were converted into US dollars. After that the "Total costs difference" including all the charges *en route* plus the "time costs" were calculated for all the routes compared. The results are shown in table 1.33. The negative value of the total cost difference means that the inland transport option had a competitive advantage in terms of costs and time over the maritime route.

Table 1.40
Comparison of routes taking into account the value of time

Trade lane	Total cost difference		
	Low	Average	High
Khabarovsk - Potsdam	-92.40	-2 221.50	-3 814.80
Hangzhou - Kaluga	-2 323.00	-3 342.25	-4 105.00
Tashkent – Varna	-1 858.80	-2 889.38	-3 660.60
Almaty – Istanbul	615.60	-579.19	-1 473.30

Ussuriysk (Russian Federation) to Kyiv (Ukraine)	-536.80	-1 029.44	-1 398.10
Shanghai - Warsaw	2 550.90	2 202.66	1 942.05

The results confirm the general conclusion made during Phase II of the project that at certain conditions many commodities can be transported by EATL inland routes with a competitive advantage to maritime routes. Among the analysed routes, maritime option performed better only on one route Shanghai – Warsaw (for all types of commodities considered). The reason for this result was a very short inland leg to bring cargo between the points of origin or destination and the sea ports.

Study 2:

This study was conducted in order to evaluate the transit potential of the Russian Federation in respect to goods flows between Asia and the European Union. The study compiles the information available from the RETRACK project (FP6 EC program) and work done on the development of the World Container Model (WCM). The main goal of the study was to evaluate the Euro-Asian cargo volumes that can be transported via the following routes:

– **TransSib (TSR) (**red line on figure 1.43).This rail link began in North Eastern China, going north directly to the Russian Federation. The Russian TSR ended in Moscow, from where the line continued further via Belarus to central Poland;

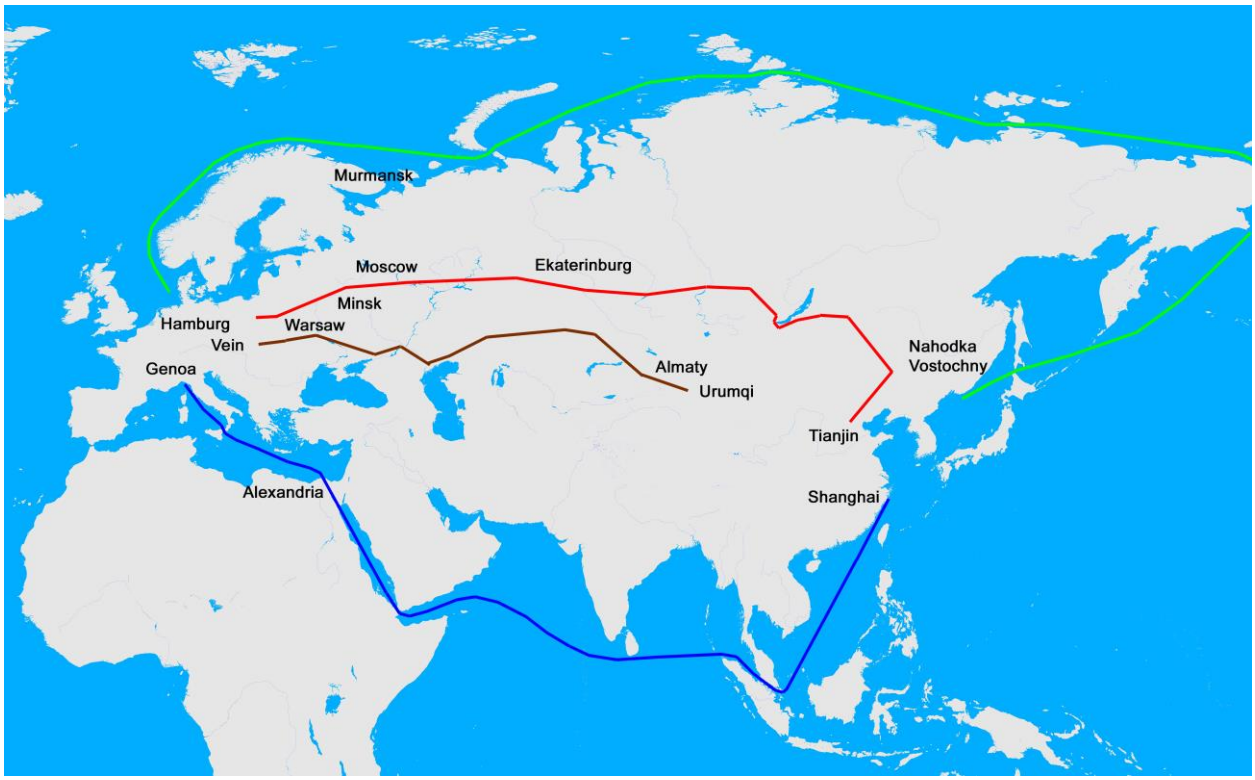
– **TransSib – Kazakh** (light blue line). This rail link started in Western China, going via Kazakhstan in the North-Western direction. It joined the TSR line in the Russian Federation and followed the Trans-Siberian corridor further to central Poland;

– **Central corridor (**brown line). This rail link started in Western China, going via Kazakhstan in the Western direction and entered the Russian Federation in the South, then continued via Ukraine to end in Slovakia;

– **Maritime (Suez) route** (dark blue line). The maritime link started in the Eastern coastal China, used Suez Canal to get into the Mediterranean Sea. For the West Europe, the link can be extended further through the Straits of Gibraltar.

– **Arctic route** (green line). The potential of this route was a special point of the study. It is not described in this report.

Figure 1.43
Transport routes considered by the CEFIR study



The potential assessment was made using the concept of the total logistics costs. The costs of transport between origin and destination points consist of two main components.

The first component contains the costs attributed to physical transport. These include the costs of moving loading units (containers, bulk units) between loading and discharge points and costs of transhipment (deep sea terminal costs, rail terminal costs, etc.). These are the so-called "out of pocket" costs that the cargo owners have to pay to move their goods.

The second cost component of the total logistics costs is related to the time that the goods spend in transit. The goods in transit freeze capital, causing the so-called pipeline stock keeping costs. However, the cost for capital frozen in transported goods is often not the greatest time-related cost component. While the goods are in transit, the market situation can change. Demand variability leads to capital expenditure on safety stocks that cover the uncertainty in demand during the period of transport. Transit time also reduces company ability to react to other market events, such as introduction of new products by the competitors. In the case of new product introduction, the goods arriving later lose a substantial part of their value and are sold at a discount. The time-related component of the total logistics costs can be summed up in the Value of Time (VOT), which is commodity-specific.

The relevant estimations of time value for different goods are used in the World Container Model (WCM)[26]. The model has been calibrated to reflect worldwide goods flows: the VOT values used in the model have thus been proven to be realistic estimates.

For the assessment of the maritime and rail land bridge potential the total logistics costs for three rail and the sea routes indicated above were computed. The assessment of the routes was based on their economic attractiveness: the corridors with smaller total logistics costs would be more attractive for the cargo owners.

[26]A strategic network choice model for global container flows: specification, estimation and application, LórántTavasszy, MichielMinderhoud, Jean-François Perrin, Theo Notteboom, Journal of Transport Geography, Volume 19, Issue 6, November 2011, Pages 1163–1172

For the objectives of the calculation, China had been split into 4 distinct regions, each having different growth prospects, economy properties, available infrastructure and various access costs to the Eastern sea ports: Western China (CN1), Central China (CN2), Coastal China North (CN3), Coastal China Centre / South (CN4).

The model performed computations for the 4 Chinese regions, linking the regions to each of the 27 European Union countries (EU-27). All trade and transport volumes went to or come from the "centres" of those 4 regions.

Table 1.41
Regionalization of trade between the European Union and China within Chinese regions

Chinese Region	Share of import / export
Western China	0,05
Central China	0,05
Coastal China North (CN3)	0,45
Coastal China Centre / South (CN4)	0,45

The model estimated the average distances to and from each of the 27 European Union countries to the European end points of the routes. The same was also done for China: the distances were estimated between the 4 considered Chinese regions and the starting points of the routes. These distances were used to determine the total logistics costs of transport to and from the rail routes.

The scenario 2020 used estimations over the expected at the time trade growth between China and the EU-27, expected improvements in rail infrastructure and spatial changes in the Chinese economy for the decade.

The VoT in the model was expressed in euro/day/tonne per NSTR (*Nomenclature uniforme des marchandises pour les Statistiques de Transport, Revisée*) commodity type computed for the World Container Model (WCM). Commodity groups and corresponding VoT considered are presented in table 1.42.

Table 1.42
NSTR/1 commodity classification and value of time for commodity groups

NSTR/1 code	Commodity type	Value of time (Euro/day/ton)
NSTR0	Agricultural products and live animals	3,8
NSTR1	Food stuffs and animal fodder	5,0
NSTR2	Solid mineral fuels	1,0
NSTR3	Petroleum products	3,4
NSTR4	Ores and metal waste	2,6
NSTR5	Metal products	7,0
NSTR6	Crude and manufactured minerals, building materials	1,0
NSTR7	Fertilizers	1,0
NSTR8	Chemicals	7,0
NSTR9	Machinery, transport equipment, manufactured and miscellaneous articles	8,0

Main model parameters are presented in table 1.43.

For the basic model (year 2010) transit time was calculated after the interviews with the stakeholders and expert opinion (RETRACK project[27]). Transhipment and shadow costs (reflecting a "resistance" for the goods flow, in particular, the non-physical barriers) were based on expert opinions and model calibration runs.

As for 2020, the assumption was made that the transit time between Europe and China across the rail corridors would improve. In addition, the ton-kilometre tariff and shadow costs were also expected to be reduced. These assumptions were all based on the proposed investments into the railway systems improvement between 2010 and 2020. The shadow costs for the rail corridors were estimated to be lower than in 2010, reflecting expected improvements in infrastructure and service. The maritime shadow costs were kept constant.

Table 1.43
Main model parameters for 2010 and 2020

Corridor	**Distance, km**	**Transit Time, days**		**Transport Cost, Euro/tonne/ km**		**Transhipment and shadow costs, Euro/tonne**	
		2010	**2020**	**2010**	**2020**	**2010**	**2020**
TSR	8,000	20	14	0,07	0,035	400	300
TransSib – TransKazakh	5,200	16	12	0,07	0,035	500	400
Central	5,500	18	12	0,07	0,035	800	400
Maritime (Suez)	16,000	30	30	0,0025	0,0025	100	100

Table 1.44 shows the model cargo distribution between the corridors.

Table 1.44
Estimated 2010 and 2020 rail corridor and maritime volumes between China and EU-28

Volumes distribution, China – EU28, % to total	2010	2020
TSR corridor	1,4	8,1
TransSib – Kazakh corridor	0,2	6,0
Central corridor	0,3	4,4
Maritime (Suez) corridor	98,1	81,5
Total	100	100

One of the interesting aspects of the modelling was the assessment of internal competition between the inland routes. In the basic 2010 scenario the low volumes imply that inter-inland routes competition does not exist. In 2020 competition would have an effect on rail volumes with less attractive inland routes loosing market to the more attractive ones.

According to the modelling results, in 2010 the TSR and Kazakh routes were the most attractive options, with the Kazakh route being slightly more attractive than TSR. Central corridor was not a viable option according to the modelling results.

In 2020, the TSR would become the most attractive rail land bridge, while the Kazakh land bridge would slightly lose its attractiveness. The most important expectation for 2020 was that the Central corridor would also become a good transport option, not being far behind the leading corridors.

[27]Retrack – Reorganization of Transport Networks by advanced Rail freight concepts: http://www.retrack.eu/

The increased competitiveness of the TSR corridor in 2020 can be explained by the fact that this corridor has the fewest number of border crossings and transhipments (and the shadow costs are the lowest). Even assuming favourable developments in respect to infrastructure and alleviation of institutional barriers, border crossings and transhipment would still add extra transit time and costs.

Generally, the modelling demonstrated that the total share of inland Euro-Asian transport can increase from 1.9 to 18.5 per cent. But to obtain such a result, changes should occur: transit time should decrease by 25-30 per cent, transport costs should be at 50 per cent level compared to the 2010 basis and transhipment and shadow costs should decrease significantly.

Study 3

The target of the research was the comparison of time and cost for cargo transportation via three rail EATL routes (No. 1, 2 and 7) and the sea route from China. The origin points were located nearby the sea (Shanghai) and inland (Beijing). Destination point was Warsaw (Poland).

The 40'box containing motors for household sewing machines (cargo that requires no additional control measures), net weight 20 tons, was chosen as the object of transport.

The specified delivery time was the smallest possible on the market.

Seven routes were chosen for the analysis: two of them connecting Shanghai and Warsaw and four between Beijing and Warsaw:

1a) **Shanghai**-Shanghai sea port – containership by sea - port of Gdańsk – railway container train - **Warsaw**;

1b) **Shanghai**- Railway route EATL No. 7 (China-[BCP Alashankou/Dostyk]-Kazakhstan-[BCP Saryagash/Keles]-Uzbekistan-[BCP Beyneu (Karakalpakia) /Oasis]- Kazakhstan -[BCP Aksaraiskaya/Ganyushkino]-Russia-[BCP Gukovo/Krasnaya Mogila] - Ukraine-[BCP Mostiska/Pshemyshl]-Poland), **Warsaw**;

2a) **Beijing**-railway container train -port Shanghai- containership by sea-port of Gdańsk- railway container train - **Warsaw**;

2b) **Beijing** - railway route EATL No. 7 (China-[BCP Alashankou/Dostyk]-Kazakhstan-[BCPSaryagash/Keles]-Uzbekistan-[BCP Beyneu (Karakalpakia) / Oasis]- Kazakhstan-[BCP Aksaraiskaya / Ganyushkino]-Russia-[BCP Gukovo/Krasnaya Mogila] – Ukraine - [BCP Mostiska/Pshemyshl] -Poland), **Warsaw**;

3a) **Beijing**-railway container train -port Shanghai-containership by sea -port of Gdańsk-railway container train -**Warsaw** (coincides with route 2 (a));

3b) **Beijing**-railwaycontainer train route No. 1 EATL (China-[BCPMančžouli/Zabaykalsk]-Russia (Trans-Siberian railway)-[BCP Red/Osinovka]-Belarus-[BCP Brest/Terespol]-Poland), **Warsaw**;

4a) **Beijing**-railway container train -port Shanghai-containership by sea -port of Gdańsk-railway container train -**Warsaw** (coincides with route 2 (a));

4b) **Beijing**-railway route EATL No. 2 (China-[BCPAlashankou/Dostyk]-Kazakhstan-[BCP Petropavlovsk (Mamlyutka)/Kokchetav]-Russia-[Red/Osinovka]-Belarus-[BCP Brest/Terespol]-Poland), **Warsaw**.

The results of the routes' comparison are presented below.

Case 1. Comparison of routes 1a and 1b (tables 1.45-1.48, figures 1.44-1.47) shows that rail traffic between China and Poland through Central Asia will be competitive for the carriage of containers in container trains only (average speed of 1000 km/day). The difference in delivery times in favour of railways in this case is big enough: 28 days.

Under normal conditions (standard train) this time advantage will likely be lost due to downtime of a train on the border crossings.

At the same time, cost difference was the largest of all of the scenarios in the study: inland route was more expensive than sea by 8 444.5 United States Dollars. The railroad crosses the territory of 7 countries (Kazakhstan, twice), and the total length of the route is 11 653 km.

Table 1.45
Route 1a components

Route section	Length, km	Price, USD (Commercial offer)	Price, USD (Internet data)	Time, hours
Port Handling costs Shanghai sea port	-	100	100	-
Other costs Shanghai sea port	-	150	150	-
Shanghai port-port of Gdansk (by sea)	20 486	2189	2 350	981
Port Handling costs Gdansk sea port	-	165.5	165.5	-
Other costs Gdansk sea port	-	250	250	-
Port Gdansk- Warsaw (by rail)	373	445	445	14,5
Warsaw rail terminal handling costs	-	35	35	-
Warsaw rail terminal other costs	-	45	45	-
TOTAL	20 859	3 379.5	3 540.5	995.5

Table 1.46
Route 1b components

Route section	Length, km	Price, USD (Railway tariffs)	Time, hours
Shanghai rail terminal handling costs	-	25	-
Shanghai rail terminal other costs	-	30	-
China (by rail) Shanghai Jun-Gunlu-Alashankou	4 529	6 247	114
Kazakhstan (by rail) Dostyk-Sary-Agach	1 831	910	50
Uzbekistan (by rail) Keles-Karakalpakia	1 686	1 399	46.5
Kazakhstan (by rail) Oasis-Dina Nurpeisova	796	982	25
Russian Federation (by rail) Kigaš-Gukovo	862	988	27
Ukraine (by rail) Krasnaya Mogila-Mostiska II	1 576	718	43
Poland (by rail) Pshemyshl-Warsaw	380	445	9
Warsaw rail terminal handling costs	-	35	-
Warsaw rail terminal other costs	-	45	-
Total	11 660	11 824	314.5

Figure 1.44

Time – distance diagram for routes 1a and 1b

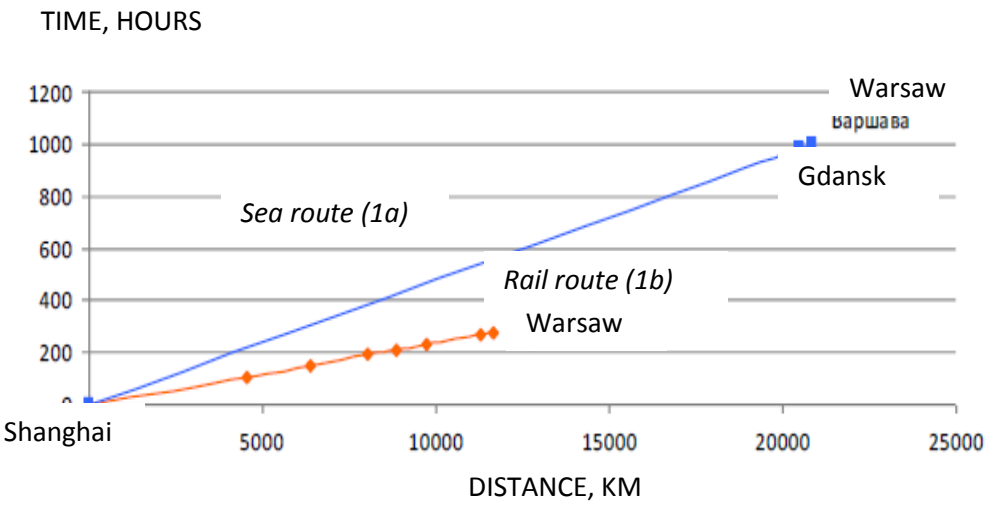


Figure 1.45
Cost – distance diagram for routes 1a and 1b

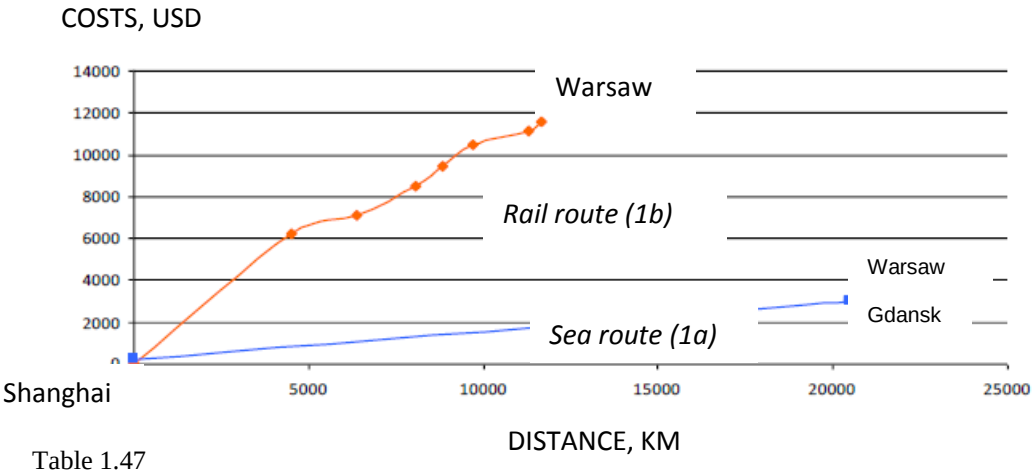


Table 1.47
Route 2a components

Route section	Length, km	Price, USD (Commercial offer)	Price, USD (Internet data)	Time, hours
Beijing – Shanghai sea port (by rail)	1 095	1 548	1 548	26
Other costs Shanghai sea port	-	100	100	-
Shanghai port-port of Gdansk (by sea)	-	150	150	-
Port Handling costs Gdansk sea port	20 486	2 189	2 350	981
Other costs Gdansk sea port	-	165.5	165.5	-
Port Gdansk- Warsaw (by rail)	-	250	250	-
Warsaw rail terminal handling costs	373	445	445	14,5
Warsaw rail terminal other costs	-	35	35	-
Other costs Shanghai sea port	-	45	45	-
TOTAL	21 954	4 927	5 088	1 021.5

Table 1.48
Route 2b components

Route section	Length, km	Price, USD (Railway tariffs)	Time, hours
Beijing rail terminal handling costs	-	25	-

Beijing rail terminal other costs	-	30	-
China (by rail) Beijing -Alashankou	3 354	4 724	86.5
Kazakhstan (by rail) Dostyk-Sary-Agach	1 831	910	50
Uzbekistan (by rail) Keles-Karakalpakia	1 686	1 399	46.5
Kazakhstan (by rail) Oasis-Dina Nurpeisova	796	982	25
Russian Federation (by rail) Kigaš-Gukovo	862	1 113	27
Ukraine (by rail) Krasnaya Mogila-Mostiska II	1 576	718	43
Poland (by rail) Pshemyshl-Warsaw	380	445	9
Warsaw rail terminal handling costs	-	35	-
Warsaw rail terminal other costs	-	45	-
Total	10 485	10 426	287

Figure 1.46
Time – distance diagram for routes 2a and 2b

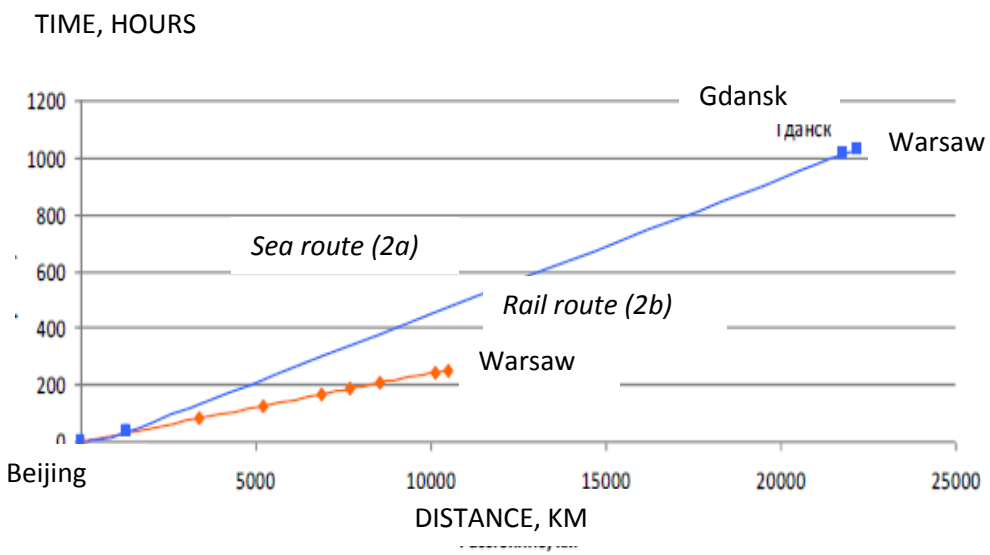
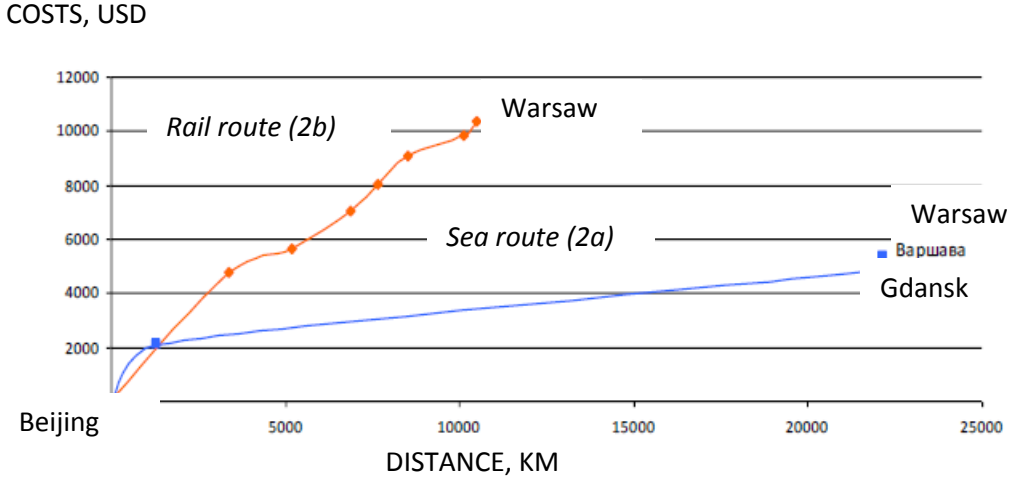


Figure 1.47
Cost – distance diagram for routes 2a and 2b



Case 2. Comparison of routes 2a and 2b shows the same tendency as in case 1.

Case 3. Route 3a is identical to route 2a. Data for route 3b components is shown in table 1.49.

Table 1.49
Route 3b components

Route section	Length, km	Price, USD (Railway tariffs)	Time, hours
Beijing rail terminal handling costs	-	25	-
Beijing rail terminal other costs	-	30	-
China (by rail) Beijing-Manzhouli	2 335	3 234	62
Russian Federation (by rail) Zabaikalsk-Krasnoe	7 069	1 806	174
Belarus (by rail) Osinovka-Brest	609	487	20
Poland (by rail) Terespol-Warsaw	210	330	5
Warsaw rail terminal handling costs	-	35	-
Warsaw rail terminal other costs	-	45	-
TOTAL	10 223	5 992	261

Figure 1.48
Time – distance diagram for routes 3a and 3b

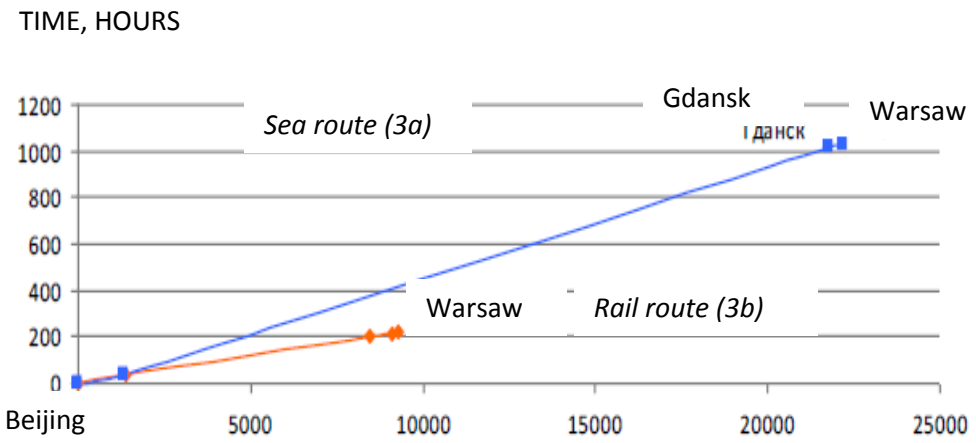
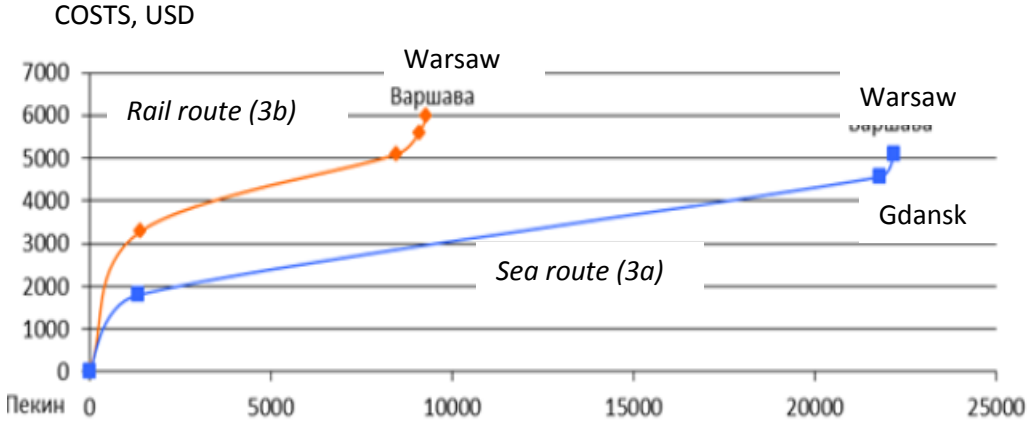


Figure 1.4
Cost – distance diagram for routes 3a and 3b



Beijing

In this case, the advantage of rail transport is obvious. The difference in delivery times is enormous: 31 days in favour of rail. Due to this and given the cost difference that accounts for only $ 1 065 railway route be quite competitive with sea in this case.

Case 4. Data for route 4b is shown in table 1.50.

Table 1.50
Route 4b components

Route section	Length, km	Price, USD (Railway tariffs)	Time, hours
Beijing rail terminal handling costs	-	25	-
Beijing rail terminal other costs	-	30	-
China (by rail) Beijing -Alashankou	3 354	4 675	86.5
Kazakhstan (by rail) Dostyk-Petropavlovsk	1 904	942	52
Russian Federation (by rail) Petropavlovsk-Krasnoe	2 845	1 311	74
Belarus (by rail) Osinovka-Brest	609	487	20.5
Poland (by rail) Terespol-Warsaw	210	330	5
Warsaw rail terminal handling costs	-	35	-
Warsaw rail terminal other costs	-	45	-
Total	8 922	7 880	238

Figure 1.50
Time – distance diagram for routes 4a and 4b

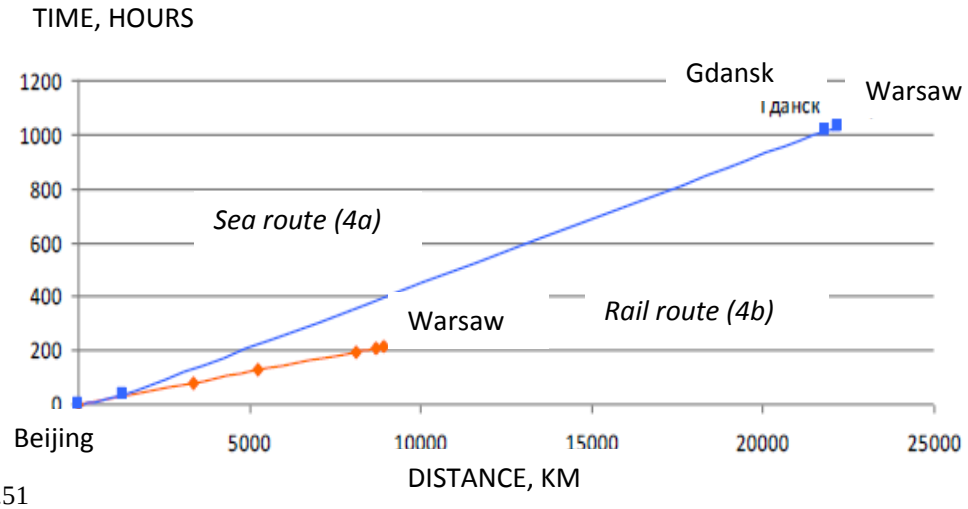
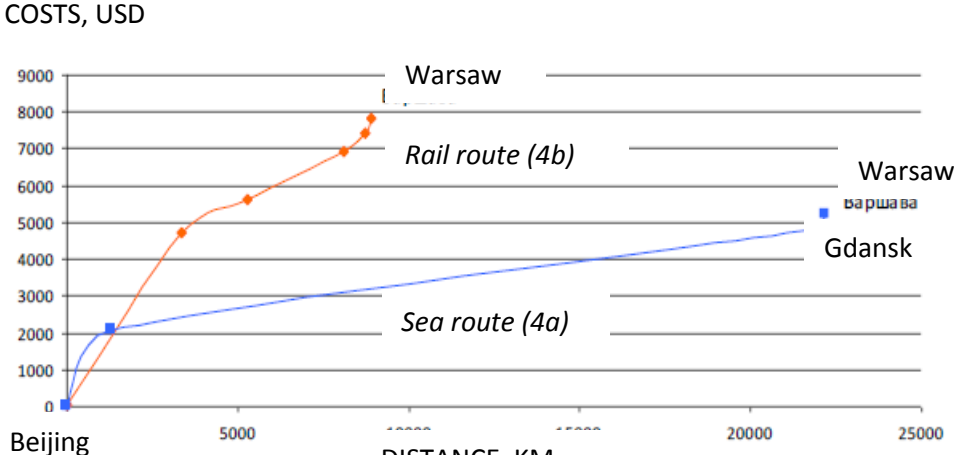


Figure 1.51
Cost – distance diagram for routes 4a and 4b



The difference in the cost of shipping container for these two routes was $ 2 953. The above chart clearly reflects the impact of generally higher costs for rail transportation. The railroad crosses the territory of 5 countries, and the total length of the route was 8 922 km, which is shorter than along the route of the Trans-Siberian railway, but due to crossing the territory of Belarus the price for rail transportation increased significantly. The difference in delivery times compared to maritime transport was 33 days.

It should be noted that all the data relating to the cost of transportation on selected routes was taken from the public open sources: open publication of official statistics of the EATL countries and international organizations; analytical, statistical and empirical publications in specialized media; web sites of state and private companies as well as web resources created for the exchange of trade information.

At the same time, for each particular case, price of transport are subject of negotiation between shippers, carriers and other interested parties. Typically, this leads to the establishment of an acceptable price for all parties, which can differ significantly from the average, indicative figures obtained in this and other studies.

Study 4

The Eurasian Development Bank published in 2016 the research note containing some preliminary estimates in regard to the potential transport capacity and investment needs of various Silk Road Economic Belt (SREB) transport routes that run across the Eurasian Economic Union's countries.

The study argued that the huge potential presented by inland routes from China through Central Asia to Europe was not being utilized. According to the study, out of all inland routes, only two were in actual operation:

- Urumqi (XUAR) – Kazakhstan – Omsk – Moscow – EU (as regards transit, its estimated utilization ratio at 20%); and

- Shanghai – Trans-Siberian Railroad – Brest (Trans-Siberian Railroad utilization ratio reached 100%).

The inland routes were considerably more expensive than the marine routes. The study estimated the cost of marine transportation along the Shanghai – Rotterdam route as 10 cents per ton per mile, while the cost of railroad transportation was as high as 30 cents per ton per mile. Therefore, the study argued that meaningful trading volumes can be generated on inland routes only for cargo flows from China's central and western provinces.

The list of goods that can be profitably carried by land from central and eastern provinces was very limited and contained:

- export goods originating from China's western provinces (mostly the Xinjiang Uyghur Autonomous Region, the Tibet Autonomous Region, and the Qinghai Province). The alternative for those provinces was to take the goods to the shore (about 3,000 km), and then carry them by sea;

- limited selection of goods originating from China's central and eastern provinces. These were high unit added value products (electronic devices, automotive parts, pharmaceuticals, standard and costume jewellery, etc.) and goods with critical delivery times (some food products, premium textiles).

The study pointed out at 6 potential transit corridors that could be used to deliver cargo along the China – Europe route. These corridors were analysed regarding their condition at the time of the study and a potential that can be reached after upgrade.

Route 1: Urumqi (XUAR) – Kazakhstan – Omsk – Moscow – EU. The cost of cargo delivery via this route strongly depended on the mode of transport: it amounted to about US$ 1,300 per 1 TEU for railroad carriage. Design capacity of this route was the highest among all SREB routes at 300,000 TEUs. Its utilization ratio did not exceed 20% of maximum capacity. The most established version of the Urumqi – EU route was the transport route passing through the following cities: Lianyungang, Zhengzhou, Lanzhou, Urumqi, Khorgos, Almaty, Kyzylorda, Aktobe, Orenburg, Kazan, Nizhny Novgorod, Moscow, and Saint-Petersburg with access to Baltic Sea ports. The bulk of transit cargo used this route and the Trans-Siberian Railroad. One of its key advantages was that there is only one customs border between China and Kazakhstan. The route's most critical problem was its limited throughput capacity. To make it competitive, it needed to be overhauled, and its transport and logistical infrastructure needed to be expanded.

The volume of funding required to modernize and improve railroads in the Russian Federation and Kazakhstan, to develop the Urumqi – Omsk – Moscow – EU route, and to build or modernise six major logistical centres (including those already in operation) was estimated at US$ 6 billion. Modernization will make it possible not only to boost cargo turnover, but also to bring railroad transportation tariffs down from 1 300 United States Dollars per 1 TEU to 1 000 United States Dollars per 1 TEU.

Route 2: Shanghai – Trans-Siberian Railroad – Brest; cargoes were delivered from China through Russian Far East Maritime Province (PrimorskyKrai). The cost of cargo delivery from Vladivostok to Moscow using the Trans-Siberian Railroad stood at about 1,100 United States Dollars per 1 TEU, and 1 400 United States Dollars per 2 TEUs at the time of the study. The cost of railroad cargo delivery from Shanghai to Brest (including freight costs) would be about 2 200 United States Dollars per 1 TEU, and 3 000 United States Dollars per 2 TEUs . The overall throughput capacity of the routes was 250 000 TEUs, and it was already being fully utilized. The key problem of the route was that it had to use the busiest section of the Trans-Siberian Railroad: Omsk – Novosibirsk. This route was also longer than the Kazakhstan route. To improve this route, it would require construction of a number of new railroads, in some cases in mountainous areas. Subject to all those factors, the study argued that this route would hardly prove to be attractive to China.

Estimates of required investments into modernization of the Trans-Siberian Railroad varied. The cost of construction of new additional sorting stations with adjacent container logistical terminals was estimated at US$ 2 billion. Efficient utilization and modernization of existing private terminals and Russian Railways terminals and construction of several new logistical centres could reduce that cost to 1.2-1.4 billion United States Dollars. This would make it possible not only to increase the cargo turnover, but also to reduce transport tariffs to less than 1 100 United States Dollars per 1 TEU for the Trans-Siberian Railroad, and to about 1 000 United States Dollars per 1 TEU for the Urumqi – Omsk – Brest route.

Route 3: Urumqi – Aktau – Makhachkala – Novorossiysk – Constanta. The cost of transport (including transshipment to container carriers) stood at about 4 000 United States Dollars per 1 TEU for deliveries to the European Union, and 3 200 United States Dollars per 1 TEU for

deliveries to the south of the Russian Federation. In theory, this route could be used to transport about 100 000TEUs per year (subject to existing port capacity and available fleet).

Route 4: Urumqi – Aktau – Makhachkala – Tbilisi – Constanta. The cost of cargo deliveries from China to Georgia would amount to 3 700 United States Dollars per 1 TEU. The route's theoretical throughput capacity at the time of the study did not exceed 50 000 TEUs per year (subject to existing port capacity and available fleet).

The first issue arising in connection with further development of trans-Caspian routes was that none of the existing Caspian ports was ready to process large cargo flows. All port facilities required serious modernization. To use trans-Caspian routes, it would be necessary not only to modernize the ports, but also to build new container logistical centres. Another problem was the need to use additional marine transport.

Route 5: Urumqi – Aktau – Baku – Poti – Constanta. This route was the most expensive and had the least throughput capacity of all the routes described above; besides, it was used very little, if at all. The cost of railroad cargo delivery was as high as 5 000 United States Dollars.

This route would require the most significant outlays, including completion of construction of container facilities in Baku and port facilities in Poti, reconstruction of motorways, construction of tunnels and container logistical centres. Total required capital expenditures were estimated at not less than 8 billion United States Dollars. That figure combined with the need to transship cargo at several ports made the route not very competitive.

Route 6: Urumqi – transit via Kazakhstan – Teheran (Iran). This route was much cheaper, and its throughput capacity was much higher. The cost of railroad cargo delivery was up to 1 700 United States Dollars per 1 TEU. Potential capacity of this route was one the highest among all routes described above, and stood at 300 000 TEUs.

Minimum target investments required to develop this route were estimated at US$ 2 billion (source: Ministry of Transportation of Iran). Design of the route development program was still to be finalized.

Table 1.51 contains the main characteristics of the routes described above.

Table 1.51
SREB Transport corridors and their potential

Route	Estimated route capacity, thousand TEUs	Railroad Transportation Cost, US$/TEU	Potential Throughput Capacity Post-Modernisation, thousand TEUs	Railroad Transportation Cost Post-Modernisation, US$/TEU
Urumqi (XUAR) – Kazakhstan – Omsk – Moscow – EU	300	1 300	1 000	1 000
Shanghai – Trans-Siberian Railroad – Brest	250	2 200	1 000	1 000
Urumqi (XUAR) – Aktau – Makhachkala – Novorossiysk – Constanta	100	4 000	1 000	1600
Urumqi (XUAR) – Aktau – Makhachkala – Tbilisi	50	3 700	1 000	1 600
Urumqi (XUAR) – Aktau – Baku – Poti - Constanta	50	5 000		1 500
Urumqi (XUAR) – transit to EU via Kazakhstan and Iran	300	1 700	1 000	

The study concluded that transport corridors through Central Asia and the Russian Federation may potentially attract about 4% of total China – European Union maritime cargo flows. Target export groups included a broad range of products manufactured in China's western provinces (mostly the Xinjiang Uyghur Autonomous Region, the Tibet Autonomous Region, and the Qinghai Province), and a limited selection of goods originating from its central and eastern provinces.

Implementation of development programs and satellite investment projects could increase the throughput capacity of SREB transport corridors to 3 million TEUs (which would be about 13% of the Euro-Asian container flow as per 2017 data).

According to the study, the optimal outcome would be one where up to 1 million TEUs would travel through Kazakhstan to the Russian Federation with subsequent partial delivery to the European Union (up to 30%), and another 1 million TEUs would transit through Aktau in the direction of Novorossiysk via Makhachkala to be evenly divided between the Russian and South-European markets.

The study also pointed out that an important restriction exists: attainment of maximum cargo throughput capacity by the SREB routes would be contingent on the Kazakhstan transport system becoming capable of absorbing 3 million TEUs.

Kazakhstan already had the required basic infrastructure (railroads, motorways, ports) in place. However, there was a major shortage of technological superstructures – modern container processing centres, customs terminals, and related logistical services. Qualified staff was also in short supply. Taken together, those factors constituted a critical infrastructural barrier preventing any major increase of cargo flows through Central Asia.

PART II. CURRENT INITIATIVES, PROJECTS AND STUDIES IN EATL REGION

II.1. Overview of international studies, programmes and initiatives on Euro-Asian transport links development

II.1.1. The United Nations Economic Commission for Europe (UNECE)

The United Nations Economic Commission for Europe (UNECE), and more in particular, its Sustainable Transport Division, at the time of writing this report, was managing number of initiatives and activities relevant to the development of EATL. Most importantly, UNECE provided secretariat and thus managed the Phase III of the EATL project. UNECE, as the custodian of several international agreements that provide the necessary international framework in support of a development of coherent road, rail, inland waterways as well as combined road and rail networks, continued to manage these agreements. Similarly, UNECE continued to manage international agreements in support of improving transport connectivity. It managed those key agreements together with and for their Contracting Parties. These legal instruments are:

a) The European Agreement on Main International Traffic Arteries (AGR),

b) The European Agreement on Main International Railway Lines (AGC),

c) The European Agreement on Important International Combined Transport Lines and Related Installations (AGTC),

d) The European Agreement on Main Inland Waterways of International Importance (AGN),

e) 1968 Convention on Road Traffic,

f) 1968 Convention on Road Signs and Signals,

g) Convention on the Contract for the International Carriage of Goods by Road (CMR),

h) Additional Protocol to the CMR Concerning the Electronic Consignment Note (e-CMR),

i) Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention)

j) International Convention on the Harmonization of Frontier Controls of Goods,

k) Customs Convention on Containers,

l) European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), and

m) Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be used for such Carriage (ATP).

The first four international infrastructure agreements define respectively the E transport networks for different modes as well as the minimum technical requirements according to which the relevant infrastructures should be built. AGTC also includes operational parameters for combined transport services.

They are the only agreements in the Pan-European region that provide a basis for the long-term development of coherent international networks for the various modes of inland transport. As such, they were taken as a basis for the determination of the Pan-European transport corridors at the Pan-European Transport Conferences in Crete (1994) and Helsinki (1997).

The E road and E rail networks represent the most useful basis for the identification of priority Euro–Asian transport corridors.

The 1968 Conventions on Road Traffic and on Road Signs and Signals are the international treaties designed to facilitate international road traffic and to increase road safety by establishing standard traffic rules and by standardizing the signage system for road traffic (road signs, traffic lights and road markings) in use internationally among their Contracting Parties.

The Convention on the Contract for the International Carriage of Goods by Road (CMR) relates to various legal issues concerning international transportation of cargo by road, including requirements for a consignment note. Additional Protocol to the CMR Concerning the Electronic Consignment Note provides a framework for establishing an electronic consignment note.

The Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention) establishes a global customs transit system by allowing goods in customs-sealed vehicles and freight containers to transit countries without border checks, through the use of one internationally recognized and harmonized customs control document: the TIR Carnet. TIR significantly reduces border waiting times while enhancing security, decreasing costs and increasing road transport efficiency in many countries of Europe and Asia. It streamlines border crossing procedures by having customs formalities done at the origin and destination, rather than at each frontier, guaranteeing payment of customs duties and taxes and offering free of charge, web-based pre-declaration and other IT risk management tools.

The International Convention on the Harmonization of Frontier Controls of Goods (Harmonization Convention, 1982) establishes commonly agreed requirements for coordinated border management and reduction of border formalities as well as the number and duration of all types of border controls of goods, be it for health reasons (medico-sanitary, veterinary, phytosanitary), for reasons of compliance with technical standards or for quality inspections in general, and applies to all goods being imported, exported or in transit. In 2008, a new Annex to the Convention on road transport came into force and covers, inter alia, facilitation of visa procedures for professional drivers, standardized weighing operations and international vehicle weight certificate, minimum infrastructure requirements for efficient border crossing points and provisions to monitor the border crossing performance. A similar annex for rail border crossing came into force at the end of 2011.

The Customs Convention on Containers allows for shipping containers to be brought from a ratifying state into a ratifying state duty- and tax-free for a period of three months.

The European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) establishes that apart from some excessively dangerous goods, other dangerous goods may be carried internationally in road vehicles subject to compliance with the conditions laid down for the dangerous goods, in particular as regards their packaging and labelling; and the conditions laid down for the construction, equipment and operation of the vehicle carrying the dangerous goods.

The Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be used for such Carriage (ATP) mandates that certain types of equipment be used

to transport perishable food across borders and that such equipment will be regularly inspected ATP applies to transport by road and by rail.

At the time of preparations of this report, UNECE also coordinated work on a Trans-European network for motorways (TEM) and rail (TER) in Central, Eastern and South-Eastern Europe. This work was aimed at ensuring seamless connections throughout this geographical area, including access to markets. More in particular:

TEM Project, accepted in 1977 as a sub-regional cooperation among Central, Eastern and South Eastern European countries, aimed at facilitating road traffic in the region, to improve the quality and efficiency of transport operations, to balance existing gaps and disparities between motorway networks in Western, Eastern, Central and South-Eastern Europe, and to assist the integration process of European transport infrastructure systems. It was the backbone of the Pan-European Road Corridors in Central and Eastern Europe (CEE) and of the Transport Infrastructure Needs Assessment (TINA) exercise.

TER Project, established in 1990 as a sub-regional cooperation among Central, Eastern and South-Eastern European countries, aimed at assisting the integration process of European transport rail infrastructure systems, and at developing a coherent and efficient international railway and combined transport system in accordance with the AGC and AGTC).

TEM and TER Projects were managed based on a Master Plan which set out the priority infrastructure needs, the backbone networks and a realistic investment plan to develop them.

The original Master Plan was published in 2006 presenting a reliable and pragmatic short-, medium- and long-term investment strategy for developing road, rail and combined transport backbone networks in the participating countries. The document was revised between 2008 and 2011 in order to analyse the results of road and rail infrastructure development, to describe the existing status of road and rail networks, and to set out their development programme until 2020.

The revised Master Plan contained 294 road projects with total budget of 115.1 billion Euros and 191 rail projects with total budget of 73.3 billion Euros.

Figure 2.1
TEM Master plan revision backbone network

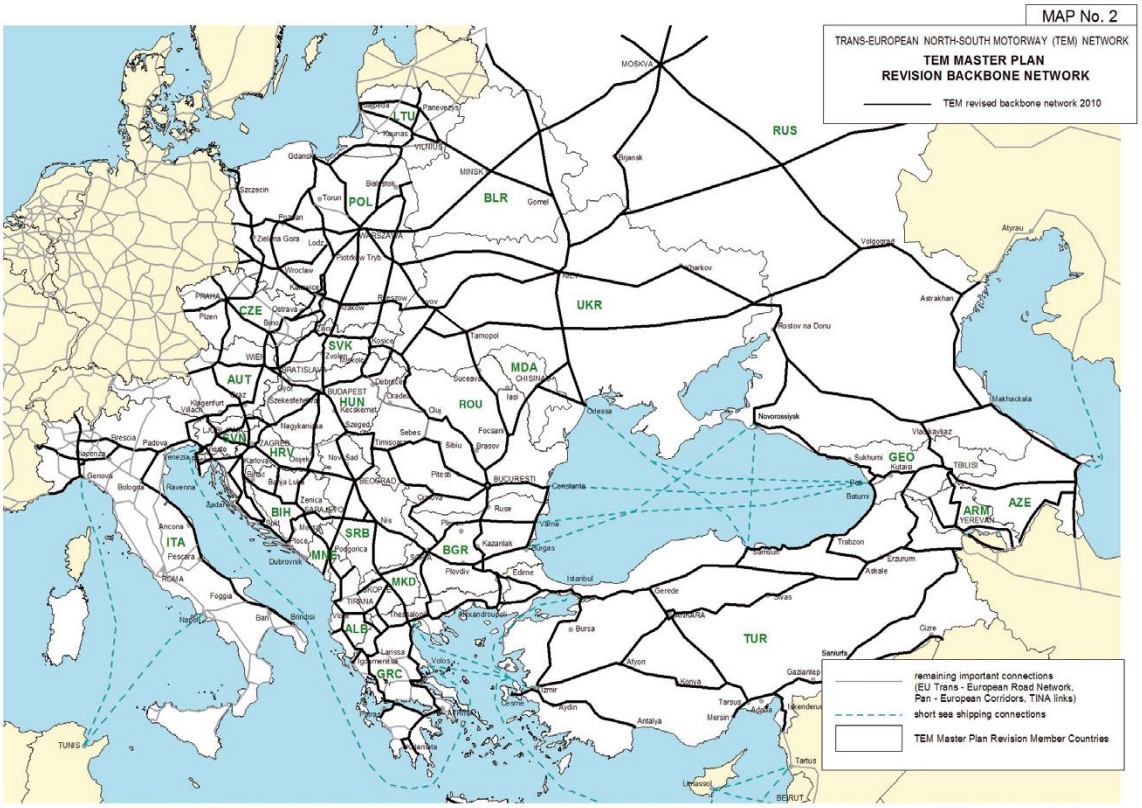
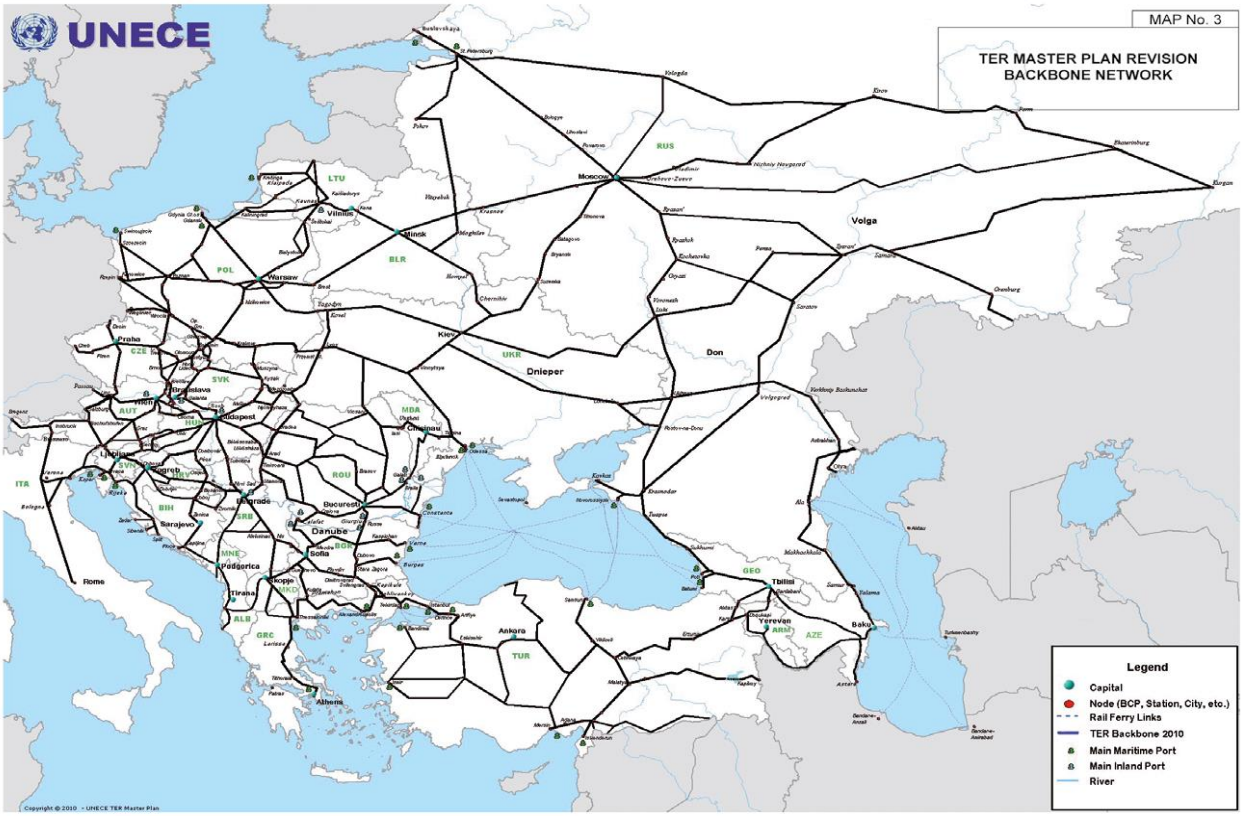


Figure 2.2
TER Master plan revision backbone network



Source: UNECE, 2013

II.1.2. United Nations Economic and Social Commission for Asia and the Pacific

The United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), its Transport Division, worked with its member States to strengthen connectivity, optimize the use of existing infrastructure and increase the level of integration between the different transport modes.

Similarly to UNECE, UNESCAP managed several infrastructure agreements, as their custodian, relevant to the development of EATL, among them:

(a) Intergovernmental Agreement on the Asian Highway Network,

(b) Intergovernmental Agreement on the Trans-Asian Railway Network, and

(c) Intergovernmental Agreement on Dry Ports

In order to finance transport infrastructure and systems in accordance with the agreements, UNESCAP offered advice on financing options and advocated for public-private partnerships including network coordination, and provided diagnostic workshops and online training materials and courses.

UNESCAP managed in 2016 a project on the Development of seamless rail-based intermodal transport services in Northeast and Central Asia for enhancing Euro-Asian transport links. The goals of this project were to:

(i) review transport documentation, conventions and procedures applying to intermodal cargo transport across maritime and land borders in the sub-region;

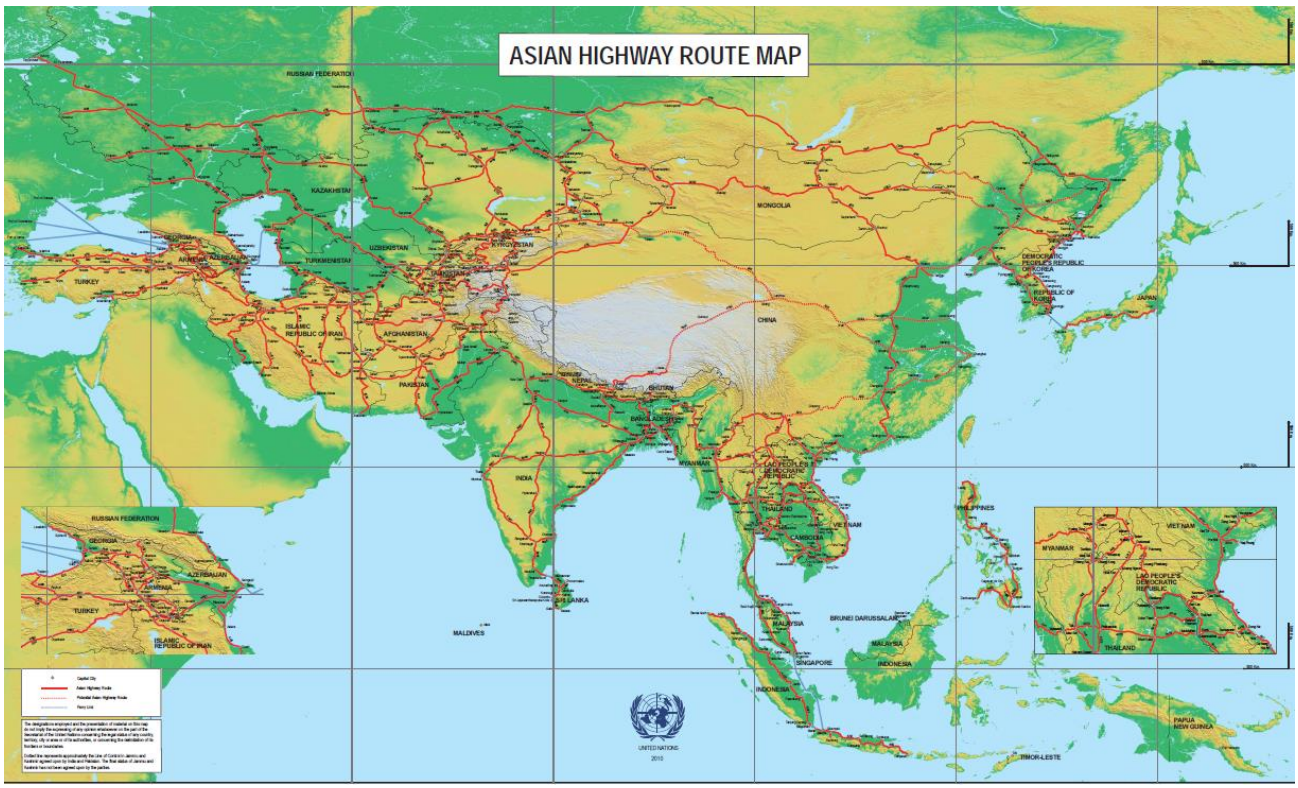
(ii) identify problems related to border crossing efficiency which may be resolved by streamlining and harmonization of existing documentation and procedures; and

(iii) recommend improvements to documentation and procedures with a view to eliminating delays to transport at seaports and land borders and contributing to seamless transport flows across borders.

UNESCAP also organised fact-finding missions to five participating countries in this project: China, Kazakhstan, Mongolia Russian Federation and South Korea.

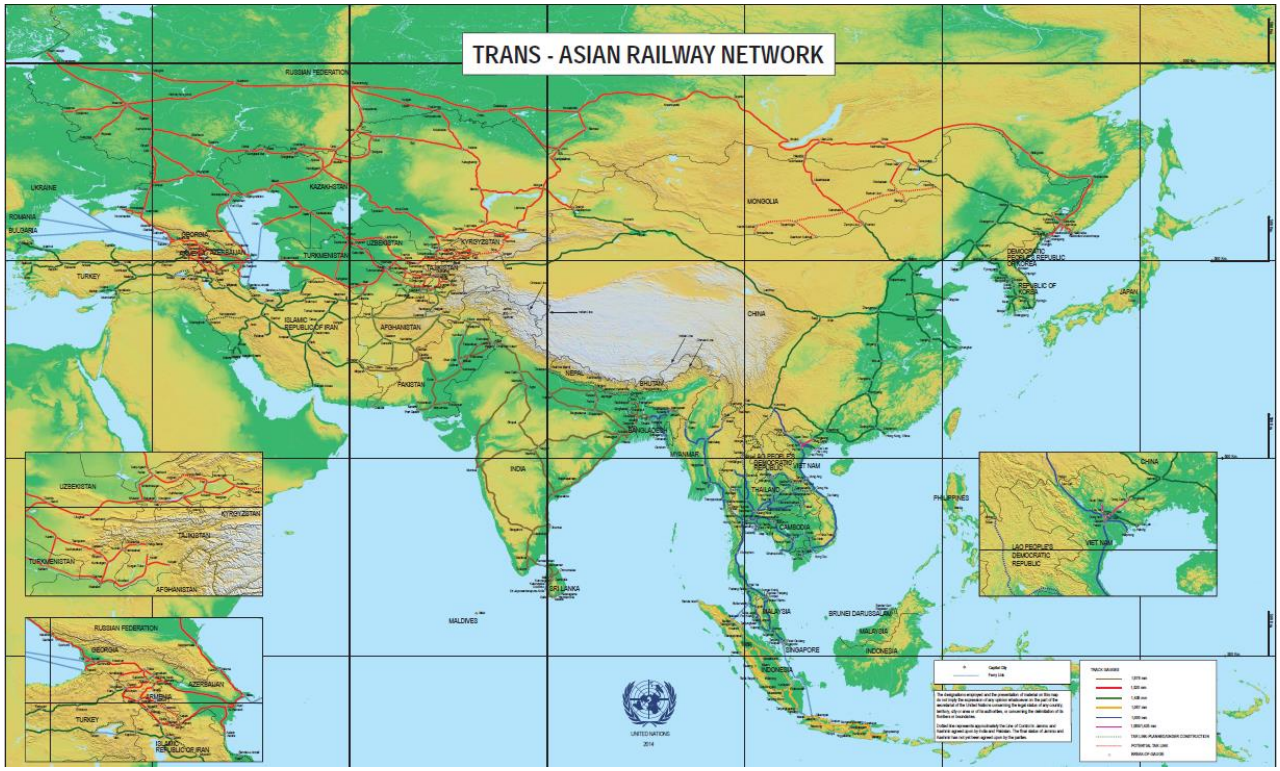
The project was concluded with a study issued by UNESCAP which provided the analysis of the situation and presented recommendations for the harmonization and improvement of documentation and procedures in Northeast and Central Asia. In particular, the study prepared based on desk research and data made available by freight forwarders and governments, recommended the adoption of a new multi-modal transport document for international shipment.

Figure 2.3
Asian Highway network



Source: UNESCAP, 2013http://www.unescap.org /

Figure 2.4
Trans-Asian Railway network



Source: UNESCAP, 2013

II.1.3. United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and the Small Island Developing States

The United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and the Small Island Developing States (UN OHRLLS) continued to support efficient transit cooperation during the duration of EATL phase III Project. Most importantly, UN OHRLLS organized the Second United Nations Conference on Landlocked Developing Countries in 2014 in Vienna, Austria, at which a programme of action was adopted – the "Vienna Programme of Action for Landlocked Developing Countries (LLDCs) for the Decade 2014-2024".

This Vienna Programme, building upon an earlier Almaty Programme of Action and centred upon addressing the challenges faced by LLDCs, aimed at contributing to the eradication of poverty stemming from the countries' landlockedness, through the implementation of specific actions in the priority areas identified by the document:

Priority 1: Fundamental transit policy issues

Priority 2: Infrastructure development and maintenance

(a) Transport infrastructure

(b) Energy and information and communications technology infrastructure

Priority 3: International trade and trade facilitation

(a) International trade

(b) Trade facilitation

Priority 4: Regional integration and cooperation

Priority 5: Structural economic transformation

Priority 6: Means of implementation

The Report on review of the initial implementation of the Vienna Programme of Action developed by UN OHRLLS in 2016 for the Meeting of Ministers of Transport of Landlocked Developing Countries (October 2016, Santa Cruz, Bolivia), and First Global Conference on Sustainable Transport (November 2016, Ashgabat, Turkmenistan) highlighted the progress achieved with regard to transit corridor performance, infrastructure development and maintenance, international trade facilitation, and bi- and multi-lateral cooperation involving LLDCs and their transit neighbors. The report provided several recommendations on policy options and some practical suggestions for possible new collaborative project initiatives, in areas such as:

- the priorities in transport infrastructure for sustainable development of LLDCs

- international, regional and bilateral cooperation for trade and transport facilitation,

- technologies for sustainable transport,

- financing of infrastructure,

- structural economic transformation, and

- road safety.

II.1.4. United Nations Conference on Trade and Development

The United Nations Conference on Trade and Development (UNCTAD) worked during the EATL phase III project with LLDCs and supported them in tackling persisting and emerging challenges by providing advisory services and organizing high-level expert group meetings, among others to address key challenges faced by these countries. In particular, UNCTAD prepared policy-focused studies at the request of LLDCs and supported LLDCs to attract foreign direct investments.

II.1.5. United Nations Special Programme for the Economies of Central Asia

The United Nations Special Programme for the Economies of Central Asia (SPECA), a joint UNECE-UNESCAP initiative, continued to contribute to the EATL development. The SPECA Thematic Working Group on Sustainable Transport, Transit and Connectivity (TWG-STTC), earlier called Project Working Group on Transport and Border Crossing, focused in the period of EATL phase III project on inland transport infrastructure development, facilitation of border-crossing procedures, railway and intermodal transport development and improvement of road safety in the region.

Member-states:	Afghanistan, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.
Priorities that are most important for the EATL development	• Implementation of international transport conventions and agreements; • Coordinated development of inland transport infrastructure; • Establishment and operation of national coordinating mechanisms for transport facilitation; • Identification and elimination of major bottlenecks along international transport routes; • Creation of inland transport database; • Establishment and strengthening of public-private partnership in transport; • Road safety improvement; • Assistance in achieving SDGs related to sustainable transport and connectivity

The TWG-STTC at its meetings regularly recommended SPECA countries to:

• Make additional progress related to accession to and implementation of UN transport legal instruments,

• Harmonize transport infrastructure development plans relying on established frameworks (EATL; Intergovernmental Agreement on the Asian Highway Network, Intergovernmental Agreement on the Trans-Asian Railway Network, the Intergovernmental Agreement on Dry Ports),

• Further facilitate international road and rail transport,

• Take actions to implement the UN Decade of Action for Road Safety, 2011-2020, and

• Take actions to improve robustness and reliability of transport statistics as a tool to support governments or decision makers to make informed transport decisions.

The SPECA Governing Council agreed at its 10th session in November 2015to include additional activities in the TWG-STTC Programme of Work for 2018-19 aimed at:

- supporting the efforts of the participating countries to implement 2030 development agenda by enhancing the sustainability of transport;

- ensuring more focus on those efforts which would result in strengthening regional cooperation aimed at achieving transport related SDGs;

- serving as a forum for inland transport stakeholders to discuss strategic issues, exchange of experiences, lessons learned and good practice, as well as for national and subregional efforts in transport sector related to increasing sustainability of transport and achieving SDGs; and

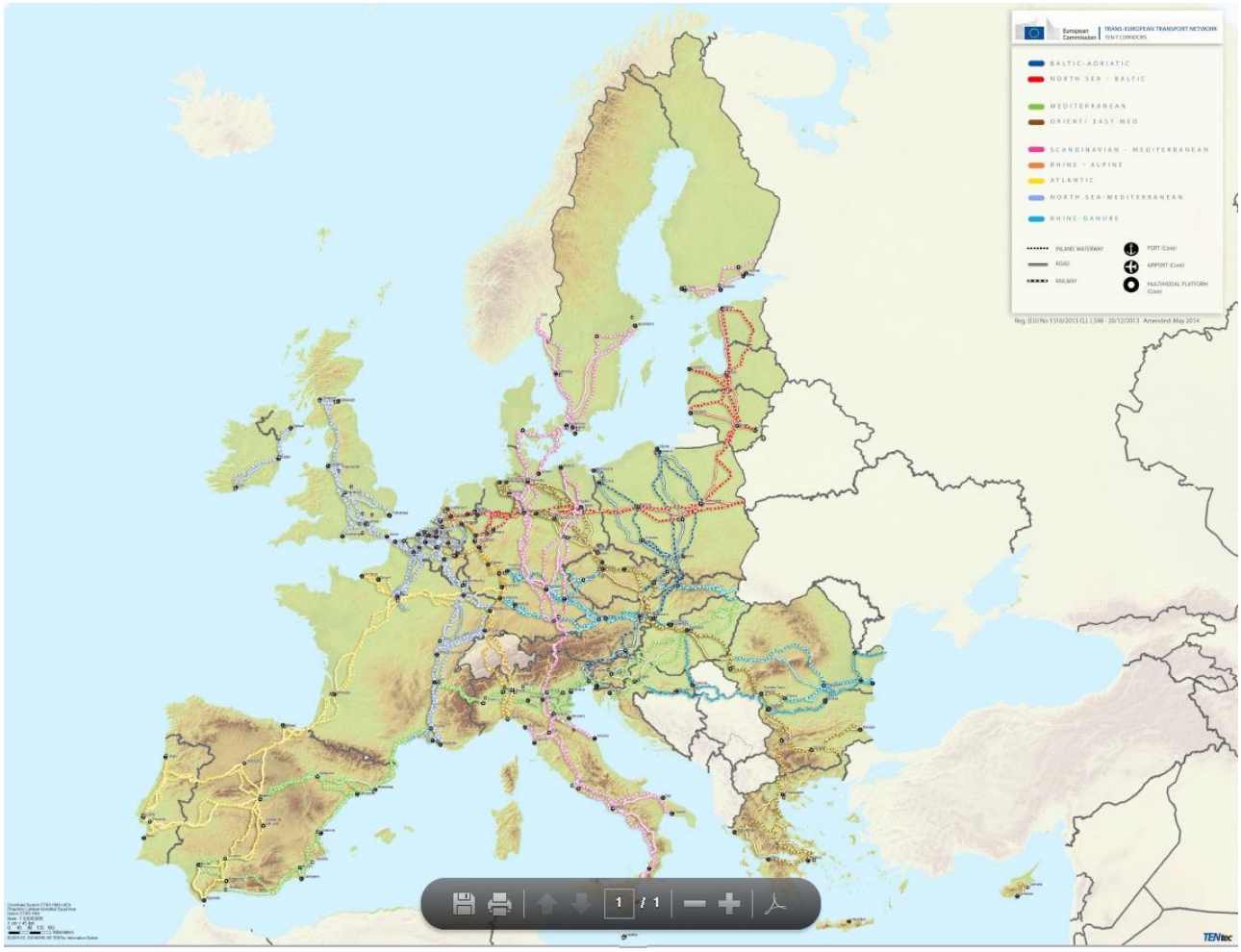
- developing and implement transport projects, when possible, in line with relevant SDGs and targets to contribute to 2030 development agenda;

II.1.6. European Union

The European Union worked on improvement on transport connectivity in the Union itself as well as with the Union's Eastern and Southern neighbours and through them with countries of Central and East Asia. This work implemented in the period of EATL phase III Project contributed to the development of EATL.

As far as the Union internal policy is concerned, the European Union introduced in January 2014 a new transport infrastructure policy, whose objective was to strengthen the connectivity in the Union, by building the core network corridors which would represent the strategic heart of the trans-European transport network (TEN-T).

Figure 2.5
Map of TEN-T corridors

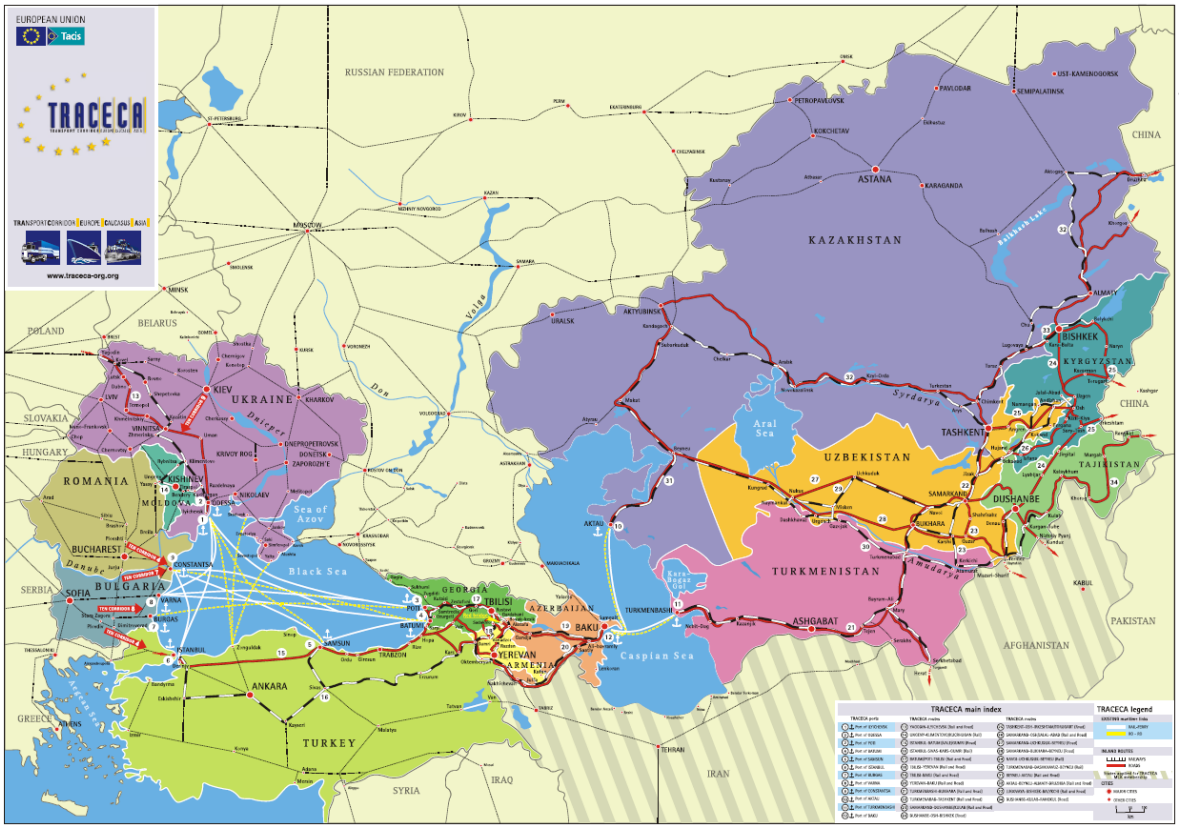


Source: http://europa.eu/pol/trans/index_en.htm

As to the work on connectivity improvement with countries outside of the Union, it was managed under a programme on Transport Corridor Europe-Caucasus-Asia (TRACECA) and for Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine also under the Eastern Partnership (EaP) Transport Panel.

Regarding TRACECA, in the period of EATL phase III report, the TRACECA countries were gradually implementing the IGC TRACECA Strategy for development of the international transport corridor Europe-Caucasus-Asia, which should result in creation of a sustainable infrastructure chain ensuring multi-modal transport with step-by-step integration of the corridor into the Trans-European Transport Networks (TEN-T).

Figure 2.6
Main TRACECA routes



Source – TRACECA.org (2013)

With regard to EaP Transport Panel, its goal was to strengthen transport connections both between the partner countries and the European Union and between partner countries themselves, to which end capacity building actions were organized. It agreed EaP regional transport network, which was approved in 2013. It addressed reforms underpinning regulatory convergence across transport modes, especially for EaP countries that signed Association Agreements with the European Union.

II.1.7. Eurasian Economic Union

The Eurasian Economic Union (EAEU) was established in 2014 by Armenia, Belarus, Kazakhstan, Kyrgyzstan, and the Russian Federation with the objective of achieving greater regional economic integration. Eurasian Economic Commission (EEC) was a permanent executive body of the EAEU.

The EAEU greater economic integration was expected to result in free movement of goods, services, capital and labour on the territory of its member States. Transport sector is one of the key priorities of the Union within the integration process.

The Eurasian Economic Council during its session in December 2016 approved the Guidelines of coordinated transport policy of the EAEU. Their implementation should allow to remove barriers for transport by all modes and create a single transport space and a common market of transport services within the Union until 2025.

According to the Guidelines the main objectives of the coordinated transport policy were integration of transport systems of the member States into the global transport system, efficient

use of transit potential of member States, improvement of transport safety and transport service quality and attraction of foreign investments.

Among other issues, the implementation of the policy should result in the establishment and development of Eurasian Transport Corridors, the increase of the Union's transit potential, the coordination of transport infrastructure development, the establishment of logistics centres and setting up transport organisations for ensuring optimisation of freight transport.

Moreover, EEC started to work jointly with the Silk Road Economic Belt (SREB) Initiative. This partnership was approved by the presidents of the EAEU members States and China. It was aimed to:

- reinforce interaction in logistics, transport infrastructure and intermodal transport, and
- implement transport infrastructure projects to expand and develop regional value chains.

During 2016 more than 40 specific projects of transport infrastructure development were identified in the framework of partnership. The partnership was expected to help create modern systems of international logistics centres and hubs on major international transport corridors crossing Eurasia: Western Europe–Western China, North–South, East–West and Northern Sea Route. Also meridian transport links passing through Mongolia and Kazakhstan and connecting Siberia with central and western regions of China and countries of Central and South Asia were expected to be developed through the partnership.

For EAEU member States the partnership was expected to provide an inflow of investment in transport infrastructure modernisation, and as side effect strengthen mutual trade between the countries of the Union and increase their investment attractiveness. In the long term it was expected to drive growth in other economic sectors.

Box 2. EAEU's priorities in the EATL context

Status	IGO
Activity's geographical coverage	5 countries from Europe and Asia
Focus	• creation of single transport space and a common market of transport services; • establishment and development of Eurasian Transport Corridors; • capacity building of the Union's transit potential; • establishment of logistics centres and transport organisations ensuring optimisation of transport of goods, etc.
Main projects, programs and initiatives aimed to EATL development	J**oint Partnership between Eurasian Economic Union and «Silk Road Economic Belt» Project** - aimed to reinforcing interaction in logistics, transport infrastructure and intermodal transport; implementing transport infrastructure projects to expand and develop regional production tides.
Web	www.eurasiancommission.org/en/

II.1.8. Silk Road Economic BELT Initiative

The Silk Road Economic Belt and 21st Century Maritime Silk Road (Belt and Road Initiative) -- as a significant development strategy -- was launched in March 2016 by the Chinese government with the intention of promoting economic cooperation among countries along the proposed Belt and Road routes. The Initiative was designed to enhance efficient allocation of resources, achieve greater market integration and create a regional economic cooperation framework for a benefit of all.

The Belt and Road Initiative was designed to be pursued on the basis of existing bilateral and multilateral cooperation mechanisms. Steps were also envisaged to advance in signing memoranda of understanding or co-operation plans for the establishment of bilateral demonstration projects and to prepare implementation plan and action roadmap for advancing the Belt and Road strategy.

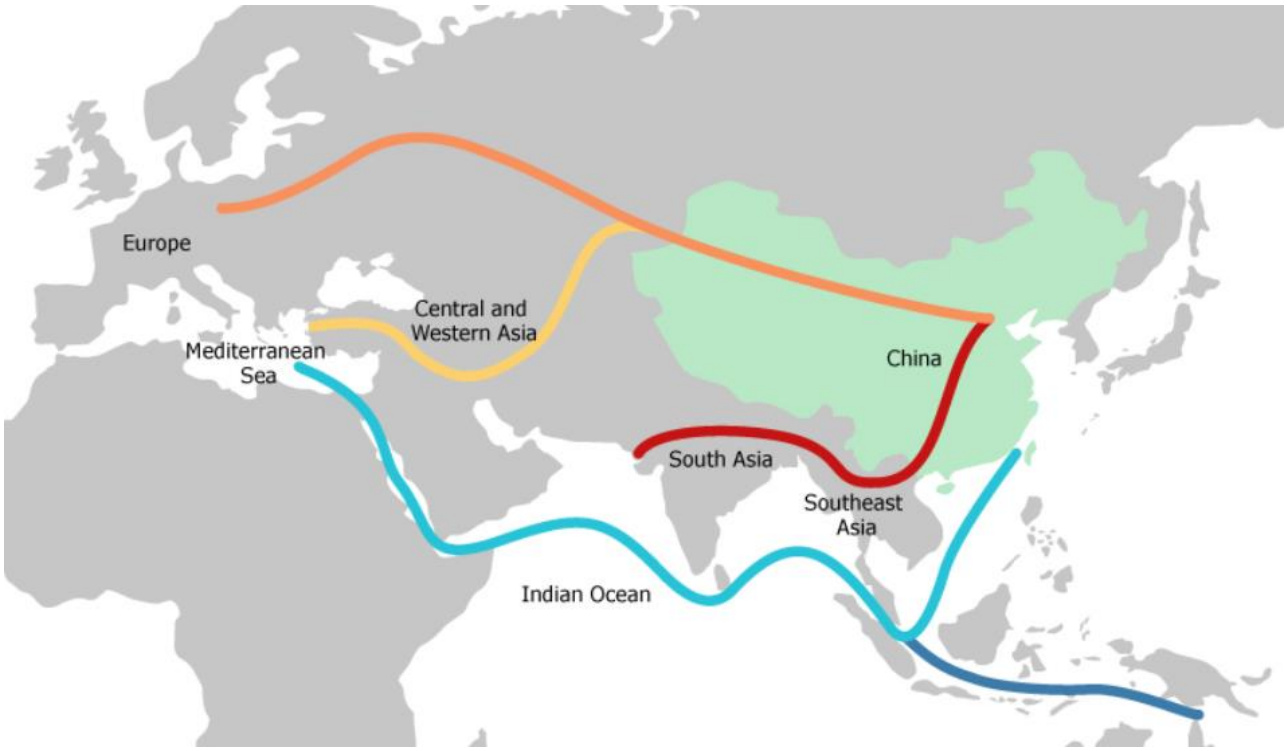
A 40 billion US Dollars Silk Road Fund was established to finance the Belt and Road Initiative, and in particular infrastructure projects as well as industrial and financial cooperation. The Fund was set up as a limited liability company in December 2014 with its founding shareholders including China's State Administration of Foreign Exchange, the China Investment Corp, the Export-Import Bank of China and the China Development Bank.

The new multilateral development bank -- Asian Infrastructure Investment Bank (AIIB) -- was also set up with a view to complementing and cooperating with the existing multilateral development banks in order to address infrastructure needs in Asia. AIIB was expected to focus on the development of transport infrastructure and logistics but also telecommunications and urban development.

As for transport links, the Belt and Road Initiative was designed to connect Asia, Europe and Africa along five routes:

- The Silk Road Economic Belt with roads
    - from China to Europe through Central Asia and the Russian Federation;
    - from China to Middle East through Central Asia; and
    - from China through Southeast Asia, South Asia to the Indian Ocean.
- The 21st Century Maritime Silk Road connecting
    - Chinese coastal ports through the South China Sea and Indian Ocean to Europe; and
    - China coastal ports with countries in the South Pacific Ocean through the South China Sea.
-

Figure 2.7
Silk Road Economic Belt and the 21st Century Maritime Silk Road corridors as described in the *Vision and Actions on Jointly building the Silk Road Economic Belt and 21-st Century Maritime Silk Road* document



http://beltandroad.hktdc.com/en/about-the-belt-and-road-initiative/about-the-belt-and-road-initiative.aspx

Focusing on the above mentioned five routes, the Belt and Road was expected to take advantage of then existing international transport routes as well as core cities and key ports to further strengthen collaboration and build six international economic cooperation corridors. These were: the New Eurasia Land Bridge, China-Mongolia-Russia, China-Central Asia-West Asia, China-Indochina Peninsula, China-Pakistan, and Bangladesh-China-India-Myanmar.

II.1.9. Organization for Security and Co-operation in Europe

Transport related issues were high on the agenda of the Organization for Security and Co-operation in Europe (OSCE) during the period of the EATL phase III project, in particular the transport economic and environmental dimension. The Office of the Coordinator of OSCE Economic and Environmental Activities (OCEEA), together with the OSCE field operations, continued in this period to implement the relevant Ministerial Council decisions adopted between 2006-2016, namely MC Decision No. 11/06 on Future Transport Dialogue in the OSCE (Brussels, 2006), MC Decision No. 9/08 on Follow-up to the Sixteenth Economic and Environmental Forum on Maritime and Inland Waterways Co-operation (Helsinki, 2008) and the most recent MC Decision No. 11/11 on Strengthening Transport Dialogue in the OSCE (Vilnius, 2011).

Based on these documents, the OCEEA with partner organizations such as UNECE and the World Customs Organization (WCO) cooperated on.

(a) The security of inland transport – noted as the weakest in the global supply chain, the partners responded to the challenge by promoting a comprehensive, integrated approach towards inland transport security taking into account the views and concerns of various stakeholders.

(b) Good governance and anti-corruption – OCEEA and partners assisted participating States with training activities aimed at combating corruption in customs and other border services. In carrying out these activities, the objective was to raise awareness of the existing tools to fight corruption in border services and to work with participating States to identify concrete national follow-up activities in this field.

(c) International legal instruments – OCEEA and partners assisted participating States in organizing regional training activities and national seminars to discuss the implementation of the following international legal instruments in Eastern and South-Eastern Europe, the Caucasus and Central Asia: United Nations International Convention on the Harmonization of Frontier Control of Goods ('Harmonization Convention'); WCO revised Kyoto Convention on the Simplification and Harmonization of Customs Procedures; and WCO SAFE Framework of Standards to Secure and Facilitate Global Trade.

(d) Assistance to Landlocked Developing Countries – OSCE supported its nine member States with the status of LLDCs in addressing their challenges associated with dependence on the transit services of non-landlocked neighbours. Helping to establish efficient transport systems through genuine public and private partnerships between LLDCs, transit countries and their development partners, OSCE focused on tackling non-physical obstacles to trade and transport.

(e) OSCE-UNECE Handbook of Best Practices at Border Crossings – OCEEA and UNECE jointly released in February 2012 the OSCE-UNECE Handbook of Best Practices at Border Crossings: A Trade and Transport Facilitation Perspective. The handbook aimed to assist OSCE participating States and UNECE member States, particularly those which are LLDCs with limited access to world markets, in developing more efficient border, transport and customs policies. The publication provided an overview of a range of reference materials and over 120 best practice examples. It covered areas such as available legal instruments, inter-agency and international co-operation, balancing security and facilitation measures, freight processing, risk management, border crossing point design, ICT technology use, human resource management and benchmarking.

II.1.10. Organization for Cooperation of Railways

The Organization for Cooperation of Railways (OSJD) continued to work with its member States to improve the coordination of international rail transport during the period of the phase III of the EATL project. Concerning especially the transports between Europe and Asia, it helped develop cooperation between railways and with other international organizations.

Box 3. OSJD priorities related to the EATL development

Member-states:	Azerbaijan, Albania, Afghanistan, Belarus, Bulgaria, Hungary, Vietnam, Georgia, Iran, Kazakhstan, China, Democratic People's Republic of Korea, Cuba, Kyrgyzstan, Latvia, Lithuania, Moldova, Mongolia, Poland, Russia, Romania, Slovakia, Tajikistan, Turkmenistan, Uzbekistan, Ukraine, Czech Republic, Estonia. Apart from them, OSJD incorporates 7 railways with observer status from: France (SNCF), Germany (DB AG), Finland (VR), Serbia (ZS), Greece (OSE), Austrian-Hungarian company "GySEV", Federal Passenger Company (FPC JSC, Russian Federation).
OSJD priorities most important for the	• Development and improvement of international railway transportation with the traffic between Europe and Asia, including combined transportation;

EATL development	• Development of consentaneous transport policy in the field of international railway traffic; • Improvement of international transport law, administration of the Convention concerning International Goods Traffic by Rail (SMGS) and other legal documents connected with the international railway traffic; • Co-operation on the solution of the problems connected with the economic, information, scientific, technological and ecological aspects of railway transport; • Development of measures aimed at the increase of railway transport competitiveness; • Co-operation in the field of railway operation and technical matters connected with further development of international railway traffic; • collaboration with other international organizations, engaged in railway transportation matters, including those of combined transport.

OSJD continued with its annual analysis of technical and operational indicators and technical equipment on 13 OSJD corridors between Europe and Asia as they had been established in 1996. The goal of the analysis on infrastructure and border crossings data was to look for ways to improve the rail freight transport and to offer comprehensive measures for improvement in management of international rail transport operations along the transport corridors between Europe and Asia.

The XLIII session of the OSJD Ministerial Conference (Ulan-Bator, Mongolia, June 2-5, 2015) approved Comprehensive plans of carriage improvement and the development of OSJD Railway Transport Corridors 4, 6 and 11 for a period up to 2020 and reported on the progress of the related comprehensive plans for transport corridors Nos. 9, 12 and 13.

The map of the OSJD corridors is presented on Fig.*

The interested countries signed memoranda of understanding for the development of these corridors, which served as a basis for coordinated actions by these countries to reorganize and modernize pertinent railway lines.

Figure 2.8
OSJD railway transport corridors

Source: OSJD (2013)

One of the projects initiated by OSJD and aimed to improve the conditions of Euro-Asian railway transport was the introduction of the CIM/SMGS consignment note. It combines the required CIM and SMGS contracts of carriage into one single transport document.

The customs authorities from EU/EFTA customs area officially recognized it for use as transit declaration T as well as in SMGS regime as a national customs (transit) document. The CIM/SMGS consignment note can not only be used for wagonload services, but also for Combined Transport.

Furthermore, OSJD continued development of an action plan for implementation of the Memorandum on cooperation in the technical, operational and commercial development of corridors 1-13. Under OSJD auspices experts had studied the possibilities of connecting new lines to the OSJD railway transport corridors, what resulted in:

- extending OSJD railway transport corridor 12 through the territory of the Republic of Moldova from Ocniţa station to Vălcineț station and then through the territory of Ukraine to Zhmerinka station with the condition to preserve the existing crossing capacity in the territory of Ukraine (these changes were approved at the annual meeting of the OSJD Commission on Transport Policy and Development Strategy (October 6-9, 2015, the OSJD Committee)), and

- connecting the following railway lines to corridors 2, 5, 8:

  - Iletsk – Kabdyagash – Nikeltau – Tobol as a branch line of OSJD railway transport corridor 2;

  - Zhetygen – Altynkol as a branch line of OSJD Railway Transport Corridor 5;

  - Beyneu – Uzen – Bolashak OSJD Transport Corridor 8; and

  - Dostyk – Mointy – Zhezkazgan – Saksaulskaya – Beyneu – Aktau-Port OSJD railway transport corridor 10.

In this connection, a resolution was passed to update the Comprehensive plans on improvement of the railway operations and development of OSJD Railway Transport Corridors 2, 5, 8, 10 and 12 up to 2020 and to review their engineering and operational documentation, as well as to amend the Memorandum on cooperation in the engineering, operational and commercial development of the OSJD railway transport corridors.

The extension of OSJD Railway Transport Corridor 9 to connect port Odessa, port Ilyichyevsk (Ukraine), through the territory of Belarus, with the port Klaipeda (Lithuania) was under discussion at the time this report was prepared.

In addition, the OSJD Commission on Freight Traffic continued its work to:

- update the existing international agreements and contracts in the field of combined transportation between Europe and Asia;

- implement harmonized tariffs for freight transit;

- update the existing rules on common use of freight wagons in the international traffic in order to harmonise these rules internationally;

- harmonise the system of cargo classification and coding;

- plan and organise container block trains between Europe and Asia, also in combined transport;

- implement uniform CIM/SMGS consignments note in the rail transport between Europe and Asia; and

- increase the efficiency and competitiveness of the international railway transport and modal shift from other modes of transport.

II.1.11. Organization of the Black Sea Economic Cooperation

During the period of the phase III of the EATL Project the Organization of the Black Sea Economic Cooperation (BSEC) continued its activities to:

- Facilitate international road transport of goods in the BSEC region (in the framework of the Memorandum of Understanding on Facilitation of Road Transport of Goods in the BSEC Region), including implementation of "BSEC Permit system" project in 2013-2017 and BSEC Pilot Project on introducing the International Vehicle Weight Certificate in the BSEC Region,

- Create integrated road and sea transport infrastructure network in the BSEC region (in the framework of the Memorandum of Understanding for the Coordinated Development of the Black Sea Ring Highway and the Memorandum of Understanding on the Development of the Motorways of the Sea in the BSEC Region)

- Develop intermodal transportation incl. ferry and passenger lines in the Black Sea Region

- Implement priorities for 2016-2018 indicated in the BSEC Economic Agenda: Towards an Enhanced BSEC Partnership adopted in 2012 and referring to:

    1) Promotion of sustainable transport systems, which meet the economic, social and environmental needs of the people of the Black Sea Region, in order to reduce regional disparities and to link the BSEC Region's transport infrastructure to European and Asian Networks

    2) Acceleration of the efforts at the national level and within the BSEC framework in order to further proceed with the implementation of the BSEC projects in the field of transport, especially the Black Sea Ring Highway and the Development of the Motorways of the Sea in the BSEC Region

    3) Elaboration of joint transport projects of regional impact within the framework of BSEC mechanisms, public-private partnerships, and with the participation of other regional and international organizations, including the EU and International Financial Institutions

    4) Consideration of the possibility of elaborating a regional integrated maritime policy in the field of Maritime Transport, Ports, Shipbuilding and Ship Repairing in the BSEC Region as an important factor for sustainable economic growth.

    5) Development of modern competitive Ro-Ro ferry and cruise lines in the Black Sea Region benefitting from international experiences, best practices, and the newest equipment and technologies on shipping safety. and

6) Improvement the road safety in the BSEC Region in the framework of the United Nations Decade of Action for Road Safety (2011-2020).

II.1.12.Trans-Caspian International Transport Initiative

As a part of the "New Silk Road" intermodal East-West transport infrastructure initiative, Azerbaijan, Kazakhstan, Georgia and Turkey agreed on creation of the Trans-Caspian International Transport Route (TITR).

In the framework of the TITR project, a cargo train from China was expected to reach Europe in less than 14 days, which would have been the most competitive route in terms of transport time. It was taking about 15-19 days for a cargo train departing from China and passing through the Russian Federation to reach Europe, and more than a month for a cargo from the Eastern China to arrive in Europe using the existing maritime route.

The agreement on the establishment of the Coordination Committee to develop TITR was signed by the representatives of the national railway companies from Azerbaijan, Kazakhstan and Georgia, and the representatives of the ports of Aktau and Baku during the 2nd International Transport and Logistics Business Forum "New Silk Road" in November 2013. During the 5th meeting of the Coordination Committee in October2014 participants of the TITR project agreed to accept the Turkish State Railways to the Coordinating Committee.

Under the auspices of the Coordination Committee route tests were carried out. The first container train over the Trans-Caspian International Transport Route was launched on 28 July 2015. The test cargo train departed from the Xinjiang province in China, travelled along the Shihezi-Dostyk-Aktau-Alyat-Keshla route through the territories of Kazakhstan and Azerbaijan, and arrived at the Baku International Trade Port complex, located in the town of Alyat (around 30 miles south west of Baku).

The train carried caustic soda and consisted of 41 platforms and 82 containers, weighing 20 tons each. It travelled 4,000 kilometres in 6 days, passing through the Kazakh port of Aktau. It was the first successful attempt to launch a cargo train from China to the Caspian region through the Caspian Sea.

This test showed a capability of the states involved in providing a competitive route from Asia to Europe.

The second test involving a container train on the Trans-Caspian International Transport Route arrived in Georgia on 3 October 3 2015. The train, consisting of 44 containers, departed from the Chinese Xinjiang province, travelled on the Alashankou-Dostyk-Aktau-Alyat-Tbilisi route and arrived in Georgia in eight days. The second test train showed that the organization of the container service on the China-Kazakhstan-Azerbaijan-Georgia-Turkey route could meet the expectations of the TITR members.

It was expected that approximately 300-400 thousand containers would be transported via the TITR by 2020 ensuring at an average speed of up to 1,100 km a day. Participants of TITR predicted that the route would initially be able to transport up to 5.5 million tons of cargo annually, increasing to 13.5 million tons per year by 2020.

During the meeting in Baku in January 2015, the Coordination Committee reached an agreement on the adoption of measures for utilizing the new Zhezkazgan - Beineurailway lines and on the capacity of Kazakhstan's Aktau and Azerbaijan's Baku seaports in order to create favourable tariff conditions.

In January 2016, Azerbaijan, Kazakhstan, Georgia and Ukraine decided to apply the competitive feed-in tariffs for cargo transportation via the TITR. New competitive tariffs were introduced for the TITR since 1 June 2016 with the view to reduce the costs of international cargo transportation.

In October 2016, Azerbaijan, Kazakhstan and Georgia (railways and port administrations) signed an agreement on the establishment of the "Trans-Caspian International Transport Route" Association with its office in Astana. Its role was to attract transit and foreign trade cargo, as well as develop integrated logistics products via the TITR. The agreement contained regulations on the membership in the Union of Legal Entities of the Association, composition of a working group on development of the transport route, action plan for 2017, the Association's charter and its logo.

To make TITR a competitive route and to reach the necessary capacity, a few projects needed still to be successfully finished:

- elimination of a missing link of the 826-kilometer Baku-Tbilisi-Kars (BTK) railway section, expected to be open by the end of 2017 and have an annual carrying capacity up to 5 million tons in the first years of operation,

- full integration of TITR with the "Marmaray" rail project under the Istanbul Straits (Bosporus) ,

- expansion works in the Aktau port to put in operation a new grain terminal with a capacity of 1.5 million tons and two additional dry-cargo terminals with a total capacity of 1.5 million tons expected to be finished in 2017 and increase the port capacity from 16.8 million tons to 21 million tons per year,

- purchase of two universal ferries, and

- expansion works in the Alyat port complex to increase its annual capacity up to 25 million tons.

II.1.13. Economic Cooperation Organization

The Economic Cooperation Organization, with its Directorate of Transport and Communications continued to facilitate ECO Agreements and Declarations in the transport and communications field to foster economic cooperation, integration and cohesiveness in the ECO region during the EATL phase III Project. These agreements are: the Quetta Plan of Action; the Istanbul Declaration (ECO Long Term Perspectives); the Almaty Outline Plan for the Development of Transport Sector in the ECO region; the Ashgabat Declaration of 1997; the Programme of Action for ECO Decade of Transport and Communications; and the Transit Transport Framework Agreement (TTFA).

ECO played an important role in ensuring considerable progress in interconnecting road and railway networks between Central Asian countries and Iran, Pakistan and Turkey, as well as in

improving international road transport among all ECO countries especially through assistance in construction of missing links in the ECO region.

The following projects were implemented in the framework of ECO Transport Agenda during the EATL phase III Project:

- TIR System test along the road transport corridor Islamabad - Tehran – Istanbul;
- Establishment of Kyrgyz Republic – Tajikistan – Afghanistan – Iran (KTAI) Rail and Road Corridors
- Development of Iran – Turkmenistan – Kazakhstan Railway Project with total length 900 km (ECO Rail Corridor IV) coordinated by the established ECO Trilateral Coordination Committee
- Implementation of Qazvin - Rasht - Astara (ECO Rail Corridor III) Railway Project
- Container block trains development along ECO Corridors
- Creation of Motor Vehicle Third Party Liability Insurance in the ECO Region.

II.1.14. Organization for Democracy and Economic Development

The Organization for Democracy and Economic Development (GUAM) continued during EATL Phase III Project to implement its 2013 Concept of GUAM Transport Corridor development in the following areas:

- Transit operationalisation via South Caucasus Black and Caspian Seas,
- Efficiency improvement of GUAM's transport corridor as an economically advantageous link between Europe and Asia;
- Integration of the GUAM transport corridor with the network of combined transport systems connecting the Black and Baltic Seas;
- Extension of the Poti-Baku-Aktau-Almaty block train route to the route of the Viking combined train and the Zubr block train;
- Transport safety and environmental protection.

In the framework of GUAM Project on Trade and Transport Facilitation (TTF) in 2013-2017 the activities on pre-declaration development and digitalization of transport and transit procedures along GUAM corridor were carried out. The results of these activities were considered during the meeting of GUAM Trade and Transport Facilitation Steering Committee (May 31 – June 2, 2017, Nakhichivan, Azerbaijan).

II.1.15. World Bank

The transport sector constituted a significant part of the World Bank's portfolio during the EATL phase III Project. World Bank transport projects spanned all transport modes and operational environments in Europe and Asia, including rail, road and intermodal transport.

The World Bank's strategy in the transport sector, and companion business plan for 2016-18 aimed to facilitate the movement of goods in developing countries by focusing on mobility solutions that provide greater access, efficiency and safety, all in a climate-friendly way.

The following projects related to Euro-Asian transport links were implementing by World Bank or with World Bank active participation:

- Three Gorges Modern Logistics Center Infrastructure Project (China, 2017-2023, 200 million US Dollars committed by World Bank),

- Corridor X Highway (between Nis and Dimitrovgrad and Grabonica and Donji Neradovac) (Serbia, from 2016, 38.9 million US Dollars additional financing committed by World Bank),

- Center West Regional Development Corridor (Kazakhstan, 2016-2021, 977.9 million US Dollars committed by World Bank),

- CN-Hubei Xiaogan Logistics Infrastructure (China, 2016-2021, 100 million US Dollars committed by World Bank),

- Azerbaijan Highway 3 (M4 road from Baku to Shamakhi) (Azerbaijan, from 2016, 140 million US Dollars additional financing committed by World Bank),

- Wuhan Integrated Transport Development, including integrated corridor and road safety improvements in Anlu and intelligent transport systems in Wuhan (China, 2016-2021, 120 million US Dollars committed by World Bank),

- East-West Highway Corridor Improvement (Georgia, 2015-2020, 140 million US Dollars committed by World Bank),

- Road Sector Development Project, with the aim to improve transport connectivity, maintenance operations, and road safety for road users (Ukraine, 2015-2021, 560 million US Dollars committed by World Bank),

- Trans-Hindukush Road Connectivity Project (Afghanistan, 2015-2022, 250 million US Dollars committed by World Bank),

- Pap-Angren Railway (Uzbekistan, 2015-2019, 195 million US Dollars committed by World Bank),

- Transit Corridor (M6 Minsk – Grodno) Improvement Project (Belarus, 2014-2020, 250 million US Dollars committed by World Bank),

- National and Regional Roads Rehabilitation (FYR Macedonia, 2014-2019, 71 million US Dollars committed by World Bank),

- Central Asia Road Links with the aim to increase transport connectivity between the Kyrgyz Republic and the Republic of Tajikistan (Kyrgyz Republic, 2014-2019, 45 million US Dollars committed by World Bank),

- Third East West Highway Improvement Additional Financing (Georgia, from 2012, 43 million US Dollars committed by World Bank),

- East-West Roads Project (Almaty-Korgos Section): Western Europe - Western China International Transit Corridor (Kazakhstan, 2011-2016, 1 068 million US Dollars committed by World Bank), and

- National Road Rehabilitation (Osh-Batken-Isfana) Project (Kyrgyz Republic, 2011-2016, 16 million US Dollars additional financing committed by World Bank).

II.1.16 Central Asia Regional Economic Cooperation Program

The Central Asia Regional Economic Cooperation (CAREC) continued its work on implementing a Strategic Framework for the Central Asia Regional Economic Cooperation Program 2011-2020 (CAREC 2020) in the period of EATL phase III Project.

Since the start of the CAREC program, transport and trade facilitation had formed its backbone. The CAREC Transport and Trade Facilitation Strategy (TTFS) was initially formulated for the period 2008–2017. It was subsequently refined and extended to cover the period until 2020, referred to as TTFS 2020. The operational priorities of TTFS 2020 include:

(i) Multimodal corridor network development, consisting of support to corridor extensions; railway network and multimodal logistics hub development; and border crossing point improvements along CAREC's six corridors;

Corridor 1: Europe-East Asia;

Corridor 2: Mediterranean-East Asia;

Corridor 3: Russian Federation-Middle East and South Asia;

Corridor 4: Russian Federation-East Asia;

Corridor 5: East Asia-Middle East and South Asia;

Corridor 6: Europe-Middle East and South Asia.

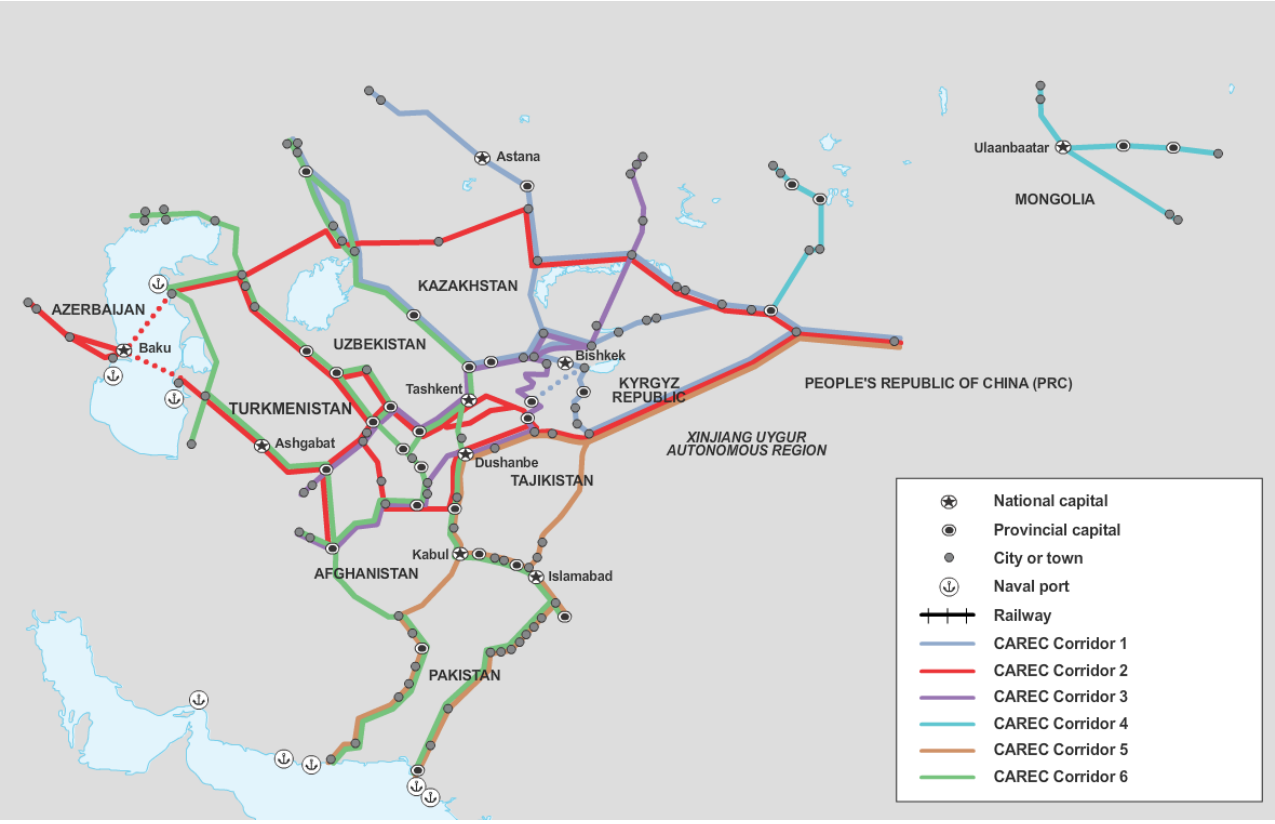
(ii) Trade and border crossing service improvements, consisting of customs reform and modernization; coordinated border management; national single window development; and sanitary and phytosanitary (SPS) reform and modernization; and

(iii) Operational and institutional improvements, in particular in planning, financing and management of road and railway assets, road safety management, and in participation of private sector.

By the end of 2016, the investment program under TTFS 2020 included 108 investment projects with an estimated budget of 43.7 billion US Dollars, and 49 technical assistance projects with an estimated budget of 76.2 million US Dollars[28].

The six CAREC corridors link the region's key economic hubs, and connect the landlocked CAREC countries to other Eurasian and global markets. Each corridor improves access of CAREC countries to at least two large Eurasian markets; and the warm-water ports of Karachi and Gwadar in Pakistan opened up truly global trade opportunities.

Figure 2.10
CAREC corridors



Source : http://www.carecprogram.org/index.php?page=carec-program

The CAREC countries made a significant progress toward the development of the multimodal corridors. In TTFS 2020, the original six corridors were extended, the routes within the corridors were more precisely defined, and the result framework was modified. The CAREC road corridor network was expected to reach 29,350 km by 2020 rather than 24,000 km by 2017, the initial target of the TTFS.

The TTFS result framework identified three physical infrastructure targets to be achieved by 2020, the completion of (i) 7,800 km of road construction or rehabilitation; (ii) 1,800 km of newly constructed railway track; and (iii) 2,000 km of renovated, electrified, or signalized railway track. In addition, CAREC targets are five multimodal logistics centers being operational and at least five border crossing points (BCPs) being improved by 2020.

The TTFS 2020 and action plan were implemented with outputs on or ahead of target. The 809 km of expressways or national highways built, upgraded or improved by the end of 2015 brought the cumulative road infrastructure to 93% of the total 7,800 km corridor length targeted for

[28] ADB (2016) CAREC 2020 Midterm Review

construction or improvement by 2020. No new railways were completed during 2015, while achievements in the railway projects surpassed already in 2017 the 2020 targets. Thirteen projects in other transport subsectors (including two ports, two logistics centers, three BCPs) were completed (e.g. BCP in Tajikistan) or in course of implementation during 2017. BCP in Tajikistan and the Kyrgyz Republic and three in Pakistan).

In 2015, CAREC decided to further prioritize four key areas of immediate importance: (i) road safety, (ii) road asset management (RAM), (iii) railways and (iv) transport facilitation (CAREC, 2015a). In these new areas, the following actions were taken:

• A Railway Working Group was created to prepare CAREC Railway Strategy.

• A high-level Commitment to Road Safety was endorsed by the CAREC member Countries in 2015

A CAREC Road Safety Strategy was under preparation.

• For RAM, member Countries were using CAREC as a platform to share practical knowledge. Two knowledge products, reference notes on performance-based road maintenance contracts and a compendium of best practices in road asset management were under preparation.

• For transport facilitation, member countries used CAREC to reinvigorate discussions and actions on freedom of movement. In one practical example, Pakistan, the Kyrgyz Republic, Kazakhstan and China were working under CAREC to revive the dormant Quadrilateral Traffic in Transit Agreement (QTTA).

II.1.17. Islamic Development Bank

The Islamic Development Bank continued to provide financing to the development of regional transport corridors. In particular, IDB supported numerous projects in Central Asia, assisting the countries in construction and reconstruction during the period of 2013-2017of almost 1,300 km of motorways and more than 300 km of railways that were part of the CAREC road corridors.

IDB participated especially in the following projects:

- road development of regional importance in Azerbaijan and Kyrgyzstan with support of 471 million US Dollars;

- development of alternative road on corridor North-South in Kyrgyzstan;

- road reconstruction in Uzbekistan from Guzar to Beyneu, which was the part of Uzbek national highway project; and

- the construction of the road from Kulyab to Khalaikum in Tajikistan, to offer a new road to China.

In 2016 transport sector-related projects accounted for 30 per cent of the IDB's cumulative operations portfolio. IDB approved 9 operations in the transport sector in 11 member countries for 1.53 billion US Dollars, of which, 51 per cent went to the rail sector and 38 per cent to the roads sector. The share of Central Asian states in this transport infrastructure financing was 43 per cent.

IDB also paid a great attention to trade facilitation and removal of trade barriers. It continued via its programs and workshops to encourage its member countries to adopt good practices for international trade.

II.1.18. European Bank for Reconstruction and Development

The European Bank for Reconstruction and Development (EBRD) pursued its activities to develop safe, secure and sustainable transport systems, which balance economic, environmental and social needs in its member countries.

The EBRD priorities within the transport sector included:

- promoting market based transport - EBRD worked to improve the efficiency, market-orientation and financial sustainability of the transport sector. This included supporting the development of the private market for transport services and increasing private sector participation in the provision of transport infrastructure through concessions;

- developing sustainable transport - EBRD was committed to supporting the development of sustainable transport networks including issues such as climate change mitigation and adaptation, integrated network development, pollution prevention, air quality and biodiversity protection, economic inclusion and gender equality and road safety;

- broadening activity within the sector - the Bank was committed to expanding the boundaries of its activities in the transport sector to finance the needs of emerging sub-sectors. The need for freight services was growing, including road freight, therefore the Bank promoted optimization of networks for achieving sustainable development and reduction of CO2 from transport operations. .

During the period of EATL phase III Project EBRD:

- supported the initial restructuring of the national railways company KTZ. The Bank made several investments to help the company finance increasingly advanced efficiency measures. The Bank also participated in a bond issuance, which helped the company finance much-needed logistics infrastructure to increase cargo transit along the trade route from China to Europe;

- participated in the AIG Silk Road Fund in Azerbaijan. AIG Silk Road Fund was a private equity investment fund targeting Kazakhstan, Uzbekistan, Azerbaijan, Kyrgyzstan, Tajikistan and Turkmenistan. The Fund was expected to provide equity finance to small and medium-sized private sector enterprises and joint ventures operating in the countries of Central Asia;

- participated in the implementation of East-West road corridor project in Kazakhstan;

- participated in a landmark transaction in Turkey in a major infrastructure project – the Eurasia Tunnel – built under the Istanbul Straits (Bosporus). EBRD's 150 million US Dollars loan was to complement the US$ 1.4 billion financing The Eurasia Tunnel was designed to improve traffic management in this highly congested city. It connects Istanbul's European and Anatolian sides – and, wider, Turkey's European and Asian road networks.

II.1.19. International Road Transport Union

In the period of EATL phase III Project the International Road Transport Union (IRU) finished implementing its New Eurasian Land Transport Initiative (NELTI) with the objectives to:

- contribute to the development of international road transport between Europe, Asia and Middle East and facilitation of border crossing procedures especially in Central Asian LLDCs;

- increase the contribution of road transport to international trade and socio economic development; and

- offer alternative delivery routes to maritime shipments to assist businesses in LLDCs.

NELTI was designed to support independent transport companies from Eurasian countries in improving delivery of industrial and consumer goods across the Eurasian landmass, along five different routes (see figure 2.11).

Figure 2.11
NELTI routes

Source: IRU (2012)

NELTI monitoring unveiled a high competitive potential for the development of the NELTI northern, central and southern routes. However, the data also highlighted that 40 per cent of road transport time along the routes of the Silk Road was lost at borders due to inappropriate border crossing procedures which impede trade growth along the entire Eurasian landmass. In addition, approximately 30 per cent of the transport costs were due to unofficial payments, borne by the hauliers en route and at border crossing points.

In 2016-2017 IRU worked closely with Chinese authorities to help them implement the provisions of the TIR Convention and lead to China ratifying this legal instrument.

Implementation the TIR Convention in China was marking an important step in improving land and multimodal transport between Asia and Europe. The TIR system was expected to underpin China's One Belt, One Road Initiative and boost trade and development with neighbouring

countries, in particular Kazakhstan, Kyrgyzstan, Mongolia, the Russian Federation and Tajikistan.

During the period of EATL phase III Project, the first trials of TIR's fully paperless digital transit service, or e-TIR, were successfully conducted between Iran and Turkey. The tests were run by IRU, UNECE, the Turkish and Iranian customs authorities, pioneering volunteer transport operators, as well as IRU members and TIR guaranteeing associations from the two countries, ICCIMA and TOBB respectively. The pilot tests demonstrated not only that the system worked in a live transit situation, but also how risk of fraud and the customs' administrative burden could be reduced. The services were highly rated by the transport operators, customs officials and TIR associations. Following the success of the pilots, other countries expressed interest in organising eTIR pilots, including Kazakhstan, Moldova and Ukraine, the latter for an intermodal pilot across the Black Sea[29].

II.1.20. International Union of Railways

The International Union of Railways (UIC) pursued its work to promote intercontinental and transcontinental rail traffic. With its Global Team of Experts (GTE) involving rail and non-rail key stakeholders (railway undertakings, freight forwarders, rail associations, potential customers, shipping lines and others), UIC worked on initiating and steering projects creating the right framework conditions for developing long-distance rail traffic. In particular GTE activities focused on:

- analysing and generalizing information on technical compatibility and interoperability within international transport corridors (ITCs);

- summarizing the results of activities among international organizations and certain railway operators aimed at improving transport along ITCs;

- forecasting of freight and passenger transport volumes, establishing a data base of freight points of origin and destination as well as volumes structure; and

- developing a marketing approach to improve the appeal of ITCs for freight owners and forwarders, presenting the opportunities and prospects of ITCs development.

II.1.21. Coordinating Council on Trans-Siberian Transportation

The Coordinating Council on Trans-Siberian Transportation (CCTT) continued to cooperate with governments and international organizations to create new technologies for facilitating border crossing by block-trains, to help harmonise transport and transit law and to reduce barriers on rail routes between Europe and Asia.

CCTT led or contributed to several projects in the period of EATL phase III, among them:

- "Digital train" project which was aimed at increasing of Trans-Siberian rail route competitiveness through implementation of end-to-end IT technologies in the area of

[29] IRU (2017) Going Global. Annual Report 2016

international rail transport and border crossing. Pilot block train operations under this project started from Wuhan, China to Pardubice, Czech Republic in November 2012 and from Chengdu, China to Łódź, Poland in December 2012.

- "Guaranteed transport and logistics product" which promoted operation of block trains between China and Europe: rail transport by block train "Baltic Transit" and implementation of "Transsib in 7 days" Initiative. A Memorandum of Understanding on ensuring the safety of block trains on the route China-Europe-China was signed in the framework of the Project.

- "The Trans-Siberian route: a multimodal Eurasian transport network" which promoted rail transport of goods between Europe and Asia by publishing annual Trans-Siberian Route review.

- "Security train" which promoted armed protection of containers and block trains in transit.

- "Express delivery" which was aimed at developing post items delivery from China to Europe in block trains.

II.1.22. Global Partnership for Sustainable Transport

The Global Partnership for Sustainable Transport (GPST) was created in November 2015 to contribute to the implementation of United Nations transport-related Declarations, Resolutions and other recommendations at the national, regional and international levels through advocacy, awareness raising, partnership building and through technical and analytical work. As a global, business and industry led, multi-modal, strategic, action-oriented, multi-stakeholder platform, the GPST recognised that public-private partnerships would play a vital role in helping United Nations member States to implement their decisions, in order to achieve maximum positive economic, environmental and social impact.

GPST members and partners also acknowledged that given the resources, expertise and competence they possess, they could be effective in translating United Nations member State commitments into actionable, result-oriented recommendations that can be implemented by governments and businesses.

Since its launch, the GPST continued to exercise a leading role in supporting governments to take actions to strengthen the international legal framework for sustainable transport in order to achieve progress in promoting more conducive environments for trade, transport and transit facilitation. The GPST worked closely with businesses in the transport industry to identify best practices that promote global development objectives and win-win outcomes for both governments and businesses, and disseminated these best practices widely.

Recognizing big potential of EATL and their contribution to social and economic development of large number of countries in Europe and Asia, including LLDCs, the GPST developed a new project, entitled the "Global Silk Routes Initiative" (GSR), which is an international comprehensive framework for multilateral dialogue on policy options and possible measures to enhance sustainable transport systems, inclusive of all modes of transport, in particular in developing countries, but with added perspective of the developed countries gained during preceded expansion of global trade.

II.2. Joint Initiatives and projects implemented by International organisations

Unified legal regime

The EATL area was characterised at the time this report was written by different legal regimes for rail transport. The majority of the EATL countries are members of the OSJD and party to their legal agreements, such as the SMGS. Others are members of the OTIF and their legal regimes, such as the COTIF/CIM 92, and some are members of both (Poland, the Baltic States and several others).

When a railway route lying across countries using different regimes two different consignment notes for rail freight, each based on the respective legal regime, are to be completed. Railway operators or freight forwarders therefore have to re-write a consignment note when crossing into the territory where the different legal regime applies.

The legal regimes also differed in other important aspects such as liabilities, and therefore increased uncertainty for crossborder rail freight transport in EATL area.

A common CIM/SMGS consignment note was developed by OSJD and CIT to avoid reissuing of transport documents and by doing so to simplify customs clearance.

The benefits of the joint CIM/SMGS could be significant for reducing delays in cross-border rail transport. Tests showed the use of CIM/SMGS consignment note can reduce the standing time of rolling stock at borders from three days to 1.5 hours. This considerably would increase the competitiveness of rail freight transportation.

The CIM/ SMGS consignment note can also be issued as an electronic document so that it can be exchanged electronically in advance with authorities and other transport parties.

The benefits called or some action. Consequently, in 2013 a joint declaration expressing willingness to create a common legal regime for rail traffic across Asia and Europe was signed by 37 countries at a ministerial meeting in Genève. The signatories are: Armenia, Azerbaijan, Belarus, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Finland, France, Germany, Greece, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, The former Yugoslav Republic of Macedonia, Malta, Moldova, Mongolia, Netherlands, Pakistan, Poland, Portugal, Romania, Russia, Serbia, Spain, Sweden, Switzerland, Tajikistan, Turkey, Ukraine, and Uzbekistan.

During the seventy-eighth session of the UNECE Inland Transport Committee a resolution on Unified Railway Law was considered and adopted[30]. By adopting this resolution the UNECE Inland Transport Committee welcomed the work undertaken and report prepared by the Group of Experts towards Unified Railway Law, having managed, in three years, to prepare legal provisions towards the Unified Railway Law.

These provisions included the contract of carriage and took into consideration good practices already implemented by the Uniform rules concerning the Contract of Carriage of Goods by Rail (CIM-COTIF Convention) and SMGS Agreement as well as other International Transport Conventions.

In 2016, a road map for performing the pilot tests of legal provisions was discussed and adopted by the Railway Undertakings and the inauguration of those pilot tests was agreed.

[30] Draft ITC Resolution No. 263 on Unified Railway Law. Doc. ECE/TRANS/2016/17

On May 15-17, 2017 a meeting of experts from Railway Undertakings - German DB AG (Germany), PCP Cargo (Poland) and JSC Russian Railways (Russia) - on "virtual verification" of legal provisions was held in Berlin in accordance with the "road map" agreed upon by experts. Virtual test (without physically carrying out of cargo) was aimed to elaborate of possible scenarios that may develop in the context of transportation - shortage, loss of cargo, damage.

At the same time, the issue of how the legal provisions could be applied to physical transport operations before their formal entry into force remained unresolved (that is in the absence of an international intergovernmental treaty between states that would implement of legal provisions in their territories.

At the same time, the form of unified railway waybill was not created yet. The approaches to resolve this issue were different: in the SMGS area, the waybill was approved by the state and in the CIM area by the carriers or their associations.

II.3. Most important national level programmes and projects

Azerbaijan

Azerbaijan has undertaken during EATL phase III Project various projects aimed at renovation of railways infrastructure. Totally, repairs completed during the phase 3 of EATL project resulted in rehabilitation of 383 km of railway sections, including the catenary system renewal or reconstruction. Construction works were completed in sub-stations for transforming electrical supply system from DC to AC in Baku-Boyuk Kesik section (East-West Corridor). Purchase of new locomotives and different types of wagons was also planned

Capital repairs and technical supply of 600 km railroad within the second stage have started in October 2015 and 271 km were rehabilitated by April 2017.

The renovation of the infrastructure, once completed, should result in increasing average speeds of freight trains up to 60 km/h and for passenger trains up to 100 km/h.

Also a 8.3 km single-track extension of railway network to the border with Iran was completed in 2016, which led to elimination of a missing link. It was expected that with it a direct railway transit between Iran and the Russian Federation be established.

Azerbaijan also started feasibility studies in course of phase III of the EATL project for modernisation of Yalama-Astara route (North-South Corridor).

Republic of Belarus

During the time of EATL phase III project, Belarus improved train handling procedures at Brest border crossing resulting in reducing the train stopping from 36 to 10 hours with transhipment and down to 6 hours without transhipment.

Belarus also adopted the use of CIM/SMGS consignment note. Only in 2015 more than 29 thousands TEUs run under this consignment note.

In 2015, as part of development of the railway infrastructure, several projects were successfully completed:

- Extension of the receiving-departure lines of Orsha-Centralnaya railway station and Sitnitsa railway station, and

- Development of the second stage of the Project on electrification of the 86 km of Gomel – Zhlobin section.

Belarussian Railways also purchased 279 new freight wagons in 2015.

Bulgaria

In 2015, the Bulgarian Railways continued reconstruction and modernisation of OSJD Railway Corridor No. 6, and modernised Septemvri – Plovdiv and Plovdiv – Burgas sections. Plovdiv intermodal terminal was under construction at the time of writing of this report.

Also in 2015, the National Railway Infrastructure Company (NRIC) put in operation on a permanent basis the Train Information System (TIS) of the International Organisation of Rail Infrastructure Managers. TIS enables both Bulgarian and foreign operators to monitor the movement of their trains in real-time. Besides, the train information system makes it possible to monitor train delays at the border crossing points and causes thereof.

China

China put in operation 912 km of new railway lines during 2013-2015.

The Chinese Railways introduced the principle of independent administrative and economic functions. In order to promote the innovative structural systems and to accelerate the railway construction, measures were developed to:

- facilitate administrative procedures;

- consolidate railway transport control and management;

- promote railway tariff reform;

- coordinate railway transport development.

Islamic Republic of Iran

The Islamic Republic of Iran implemented several projects during EATL phase III Project. In particular the following infrastructure projects were completed:

- Missing link of Khaf – Sangan – Harat railway;

- Railway North-South corridor between Islamic Republic of Iran, Turkmenistan, Kazakhstan with completion of 940 km of new railways; and

- Iran – Azerbaijan railway connection through completion of the railway link and bridge Astara (IR) – Astara (AZ).

The Islamic Republic of Iran also signed the Ashgabat Agreement between Islamic Republic of Iran, Oman, Turkmenistan and Uzbekistan with the aim to create an international transport and transit corridor between the signatory countries. The country further negotiated a transit agreement for Persian Gulf - Black Sea corridor between Islamic Republic of Iran, Azerbaijan, Armenia, Georgia, Bulgaria. This agreement was expected to be signed by the end of 2017. The Islamic Republic of Iran also ratified UNESCAP Intergovernmental Agreement on Dry Ports.

Last but not least, "Road safety action plan" for 2015-2020 was in the process of implementation.

Kyrgyzstan

The Kyrgyz Railway modernized during 2011-2015 some 150 km railway lines of the northern and southern sections by placing new reinforced concrete and timber sleepers. It put in service six new generation diesel locomotives. Also two car-repair plants were established for modernisation and repairs of freight wagons and passenger coaches that should allow extending the life of wagons.

Fibre-optic communication lines were installed at Lugovaya – Bishkek – Rybachye section.

The North – South trunk railways were under construction as part of the Russia –Kazakhstan – Kyrgyzstan – Tajikistan project and China – Kyrgyzstan project.

Latvia

During EATL phase III Project Latvia put in operation a new Bolderāja-2 – Krievu railway line. The country also modernized 47.2 km of railway lines and reconstructed 93.8 km. It opened the second 56 km track at Skrīveri – Krustpils section.

Lithuania

Lithuania implemented several infrastructure projects by 2017. As part of Rail Baltic project, 1,435 mm gauge railway line of 115.2 km was constructed and put in service from the border with Poland to Kaunas railway station. Modernisation of the railway infrastructure of OSJD corridor 9 (Kena – Vilnius – Siauliai – Klaipeda) and construction of the second track on Kyviskes – Valciunai section, as well as on Pavenciai – Raudėnui, Telšiai – Dusaikai and Kūlupėnai – Kretinga sections were successfully completed. It included construction of 4 bridges and of 53.7 km of new of 1500mm gauge lines and reconstruction of 44.1 km of the existing tracks.

Border authorities received a computer-based system for commercial inspection of trains and wagons at Kena and Kibartai border stations. With the application of the system, the duration of train commercial inspection was significantly reduced and yet more precise.

Republic of Moldova

In 2015, the Moldova Railway spent more than 1.5 million US Dollars for infrastructure rehabilitation project and entered into a loan agreement of 100 million Euros with the EBRD for purchase of 10 new main-line locomotives, modernisation of locomotive depots, and recovery of the railway infrastructure.

The Moldova Railways also signed an agreement with the State Enterprise and the State Administration for Railway Transport of Ukraine on electronic exchange of data in the international freight transport. A significant progress was achieved at all railway border stations

of Moldavian railways in the area of all types of control (border control, customs check, sanitary inspection, veterinary inspection, etc.). The principle of "the single window" was implemented.

Republic of Moldova also adopted the use of CIM/SMGS consignment note resulting in approximately 25 thousands consignments carried over the territory of the Republic of Moldova under this regime in 2015 only.

Mongolia

Mongolia joined to new container services along the routes Chengdu (China) – UBZD – RZD – Łódź (Poland) and Zhengzhou (China) – UBZD – RZD – Duisburg (Germany) during the period of EATL phase III Project.

Also a new 24.5 km railway line for iron ore transportation was put in operation. Mongolia also installed and put into operation three new remote control crossing loops.

The country implemented Annex 9 to the International Convention on Harmonisation of Frontier Controls of Goods, thanks to which the time of border control of freight trains between Mongolia and the Russian Federation was reduced by 45 minutes.

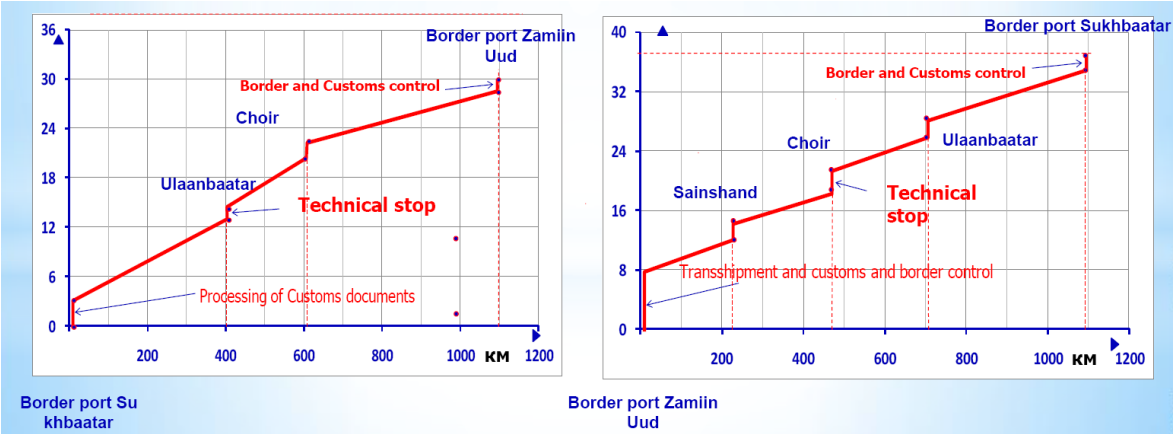
Figure 2.12
Transit rail corridors in Mongolia

Time of railway transit via territory of Mongolia (figure 2.13) in 2015:

- Corridor Sukhbaatar – Zamiin-Uud 30 hours;

- Corridor Zamiin-Uud - Sukhbaatar 36 hours.

Figure 2.13
Time of railway transit via territory of Mongolia in 2015, hours



Source: UNESCAP (2015) Railway transport facilitation in Mongolia. Presentation of joint UNESCAP – UIC Seminar "Facilitation and Costing of Railway Services along the Trans-Asian Railway" Bangkok, 09-11 December 2015

Poland

Poland modernised over 800 km of railway lines by 2015 due to which the train time en routes Trójmiasto – Wroclaw, Poznan – Krakow, Warsaw – Bielsko-Biala, Olsztyn – Bydgoszcz was significantly reduced.

The PKP Cargo JSC further developed the container terminals at Poznan-Franowo station in Poland (owned by PKP Cargo), as well as in Czech Ostrava- Paskov (a terminal owned by Advanced World Transport, an affiliate of PKP Cargo Group).

The PKP Cargo JSC actively participated in the stimulation of the railway traffic from China to West and South Europe as part of the New Silk Road (to more than 10 trips weekly).

The PKP Cargo JSC purchased 15 multisystem freight locomotives for service on the transborder lines.

Poland also made improvements to security and train monitoring putting is service unmanned aerial vehicles. This action led to reducing losses due to theft almost by 60%.

Russian Federation

Russian Railways continued to develop the East-West and North–South Euro-Asian transport routes by:

- implementing infrastructure projects, such as: (i) the modernisation of the Trans-Siberian Railway and the development of the railway system in Russia's Far East, (ii) the removal of bottlenecks along the EATL Route 1 (BAM and Transsib railways), (iii) the construction of dedicated high-speed railways, and (iv) the development of border crossing infrastructure and hinterland connections to ports etc.;

- undertaking the systemic development of logistics technologies, information and communications systems for transit traffic;

- cooperating with neigbouring countries to improving tariff policy;

- simplifying the procedures for processing freight transit;

- developing technological schemes for interaction between various modes of transport.

The Russian Railways successful completed reconstruction projects of Babaevo station of the Oktyabrskaya Railway and construction of new Chernyshevskoye border station of the Kaliningradskaya Railway. Several other infrastructure projects continued in 2017, among them technical upgrade of Petushki – Nizhni Novgorod section of the Gorkovskaya Railway and reconstruction of Tonnelnaya station of the Northern Caucasian Railway, of Cherepovets-II station of the Northern Railway, of Volkhovstroy-I station of the Oktyabrskaya Railway, of Kinel stations of the Kuybyshevskaya Railway, and of Ekaterinburg-Sortirovochnaya station of the Sverdlovskaya Railway.

In 2016 Russian Railways also purchased 500 new locomotives and 240 rolling stock units.

The opening to competition in the freight wagon operations encouraged third party investments of over 10 bullion US Dollars in construction and modernisation of the carriage rolling stock. This resulted in improving the wagon freight fleet that reached 1.1 million units by the April 2017.

Tajikistan

Tajikistan put in service a new 40.7 km Vahdat – Yavan railway and continued to modernize Rahaty – Vahdat – Elok and Kurgantube – Yavan railway sections.

Romania

CFR-Marfa – Romanian Freight Operator - carried almost 20 thousand operations with the unified CIM/SMGS consignment note.

Romania modernized railway lines Câmpina – Predeal, Bucharest – Braşov, Curtici – Simeria, Braşov – Simeria which resulted in increasing speeds at those lines to 160 km/h.

The country further modernised 16 railway stations, among them: Giurgiu, Slatina, Bistriţa Nord, Botoşani and Vaslui.

Uzbekistan

Uzbekistan successfully completed a first stage of an infrastructure project electrifying of 140.8 km Marakand – Karshi railway section. The Uzbekistan Railways modernized 55 locomotives and 1,258 freight wagons and purchased 11 new freight electric locomotives and 650 freight wagons.

Ukraine

The Ukrainian Railway established in cooperation with partner railways new container train lines: European countries – Ukraine (Chop), Batevo/Izov – Ilyichyevsk-Paromnaya – Georgia (Poti/ Batumi – Gardabani) – Azerbaijan – (Bejuk- Kjasik – Alyat) – Kazakhstan (Aktau-Port – Dostyk) – China through ferry crossing Ilyichyevsk – Poti/Batumi and Alyat – Aktau – Aktau-Port.

Ukraine introduced the principle of the “single window” at border stations and checkpoints. The country also adopted the use of unified CIM/SMGS consignment and saw an increasing application of the document in carriage operation.

National Ukrainian railways company "Ukrzaliznytsia" has adopted[31] in 2017 its five-year development strategy for 2017-2021. It included investment of 130 to 150 billion Hryvna, and the formation of five business sectors: freight transport and logistics, passenger transport, infrastructure, traction services, manufacturing and services.

In the freight sector, "Ukrzaliznytsia" planned to invest in the creation of intermodal terminals and logistics services with a target of growing its share of the container market from 29 to 45 per cent in 2021. The planned traction services company would be tasked with purchasing 250 new locomotives and modernising the fleet.

The 2017-2021 rolling stock investment plan was calculated at 108 billion Hryvna, 36 billion for 262 locomotives, 31 billion for some 35 thousand wagons , 9 billion for 440 coaches and 11 billion for 46 diesel and electric multiple-units. The remaining 22bn would be used for the modernisation of 403 freight, 212 passenger and 283 shunting locomotives as well as some 57 thousand wagons, 696 coaches and 430 multiple units. This would mean at least half of the "Ukrzaliznytsia" fleet would be new or modernised with the implementation of the investment plan. .

[31] http://www.railwaygazette.com/news/policy/single-view/view/ukrainian-railways-plans-five-year-investment-programme.html

PART III. MAIN OBSTACLES HAMPERING THE EURO-ASIAN TRANSPORT LINKS DEVELOPMENT

III.1. General overview

Globalization together with introduction of logistics principles into production, trade and distribution had dramatically changed the way cargo was moved in the world at the time this report was prepared. According to Martin Christopher – one of the authorities in logistics and supply chain management – supply chains and not enterprises compete. If so, developments in managing a supply chain and in making it more competitive to others were what predetermined the requirements for transport routes and services used within supply chains.

The EATL inland routes had to meet the requirements of modern supply chains in order to be considered by supply chain managers and be used as tradelanes. It was necessary therefore that proper business environment and logistics services as well as stable, predictable and business-friendly administrative procedures were offered along these routes. There must have also been flexibility offered among the intermediate points of the routes for changing the flow of the cargo, if demanded. With other words, the routes had to provide proper connectivity, capacity and flexibility translating into necessary economic efficiency of the routes for them to be used within supply chains.

If the connectivity or capacity of a route or a network of routes made them uncompetitive within a supply chain, it was necessary to identify causes for such a situation. In particular under capacity, there can be technical or technological shortcomings along the route such as poor infrastructure at route sections or missing links, lack of logistics hubs or nodes or lack of logistics services that can undermine the capacity of the route. Such shortcomings created what was called physical barriers to the development of routes. There can be however shortcomings of the type of lack of proper policies, poor or business-unfriendly administrative regulations, frequently changing or instable procedures in countries along the route or lack of administrative interoperability between neighbouring countries along the routes, which can undermine the connectivity or directly the economic efficiency of the route. These shortcomings were the non-physical barriers to the development of routes.

This chapter looks at discussing and identifying both the physical and non-physical barriers of EATL inland routes. In particular, it discusses border crossings, road transport, rail transport, intermodal transport and public and private interests and cross-country cooperation along EATL inland routes to articulate the barriers that existed at the time this report was prepared.

III.2 Border crossings on EATL inland routes

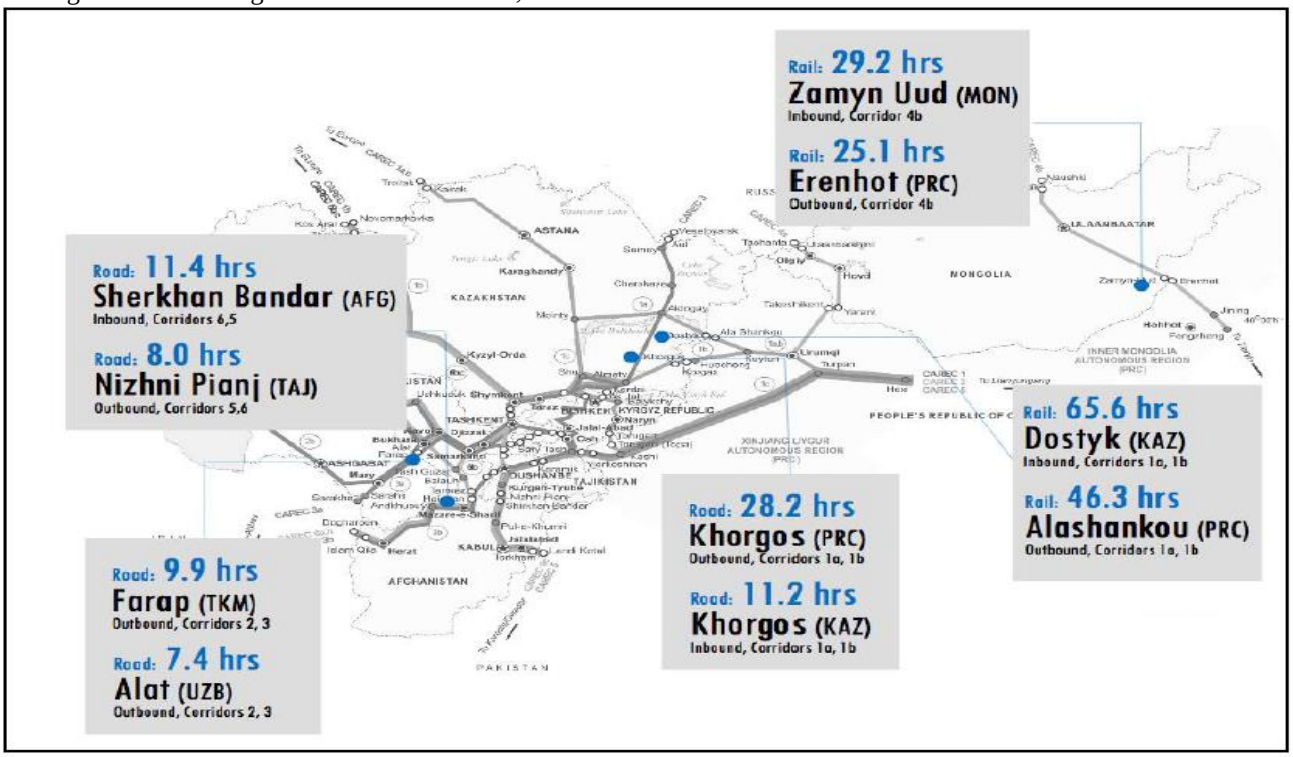
Various studies issued between 2013 and 2016 showed that the time lost at border crossings on EATL routes was significant. In particular studies made for Central Asia showed that the stopping time exceeded the UNECE recommended 60 minutes for international shuttle trains and 30 minutes for combined transport[32].

According to Corridor Performance Measurement and Monitoring (CPMM) data by the Asian Development Bank the time spent on specific rail border crossing could take as much as 6 hours (Alat Farap between Turkmenistan and Uzbekistan) to over 65 hours (Dostyk between China and Kazakhstan). Figure 3.1 and 3.2 show CPMM data for various border crossing points in Central Asia.

[32] UNECE (2000) Report of the Informal Meeting on Rail Transport. Doc. TRANS/SC.2/2000/18

Figure 3.1
Average border crossing times, Uzbekistan road BSP, 2013

Figure 3.2
Average border crossing times for selected BCP, 2013



The border crossing delays added significantly to the overall time needed to transport of goods on EATL inland routes. A route analysis undertaken by UNESCAP from Almaty (Kazakhstan) to Berlin (Germany) through the Russian Federation, Belarus and Poland, had showed that 50 per cent of the transit time had been spent at border crossing points between Kazakhstan and the Russian Federation (3-4 days) and between the Russian Federation and Belarus (4-7days).

Therefore a trip that should have taken 6 days assuming a border crossing time of 5 hours[33] doubled in time to as many as 10-13 days due to the time lost at border crossings.

As studies showed it, the delays at border crossings were mainly caused by inadequate infrastructure at border crossing points, hence a physical barrier, and process inefficiencies, hence a non-physical barrier.

III.2.1 Border crossing infrastructure

Underdeveloped or inadequate infrastructure was recorded at many border crossing points along EATL routes. Many of these points had been designed and built at some points in the past for lesser cargo volumes and often the infrastructure was not developed further to meet the growing volumes. For road transport that would mean not enough lanes or no proper waiting area to manage peak transport flows. For rail infrastructure it would mean not enough tracks for cargo transfer, in particular at border crossing points between countries using different standard of rail gauge. Such points were often underequipped with facilities for trans-loading.

The border crossing points often lacked equipment for non-intrusive controls, such as devices for scanning or weighing of trucks, wagons and containers.

In a number of countries along the EATL inland routes border crossing points were equipped with electronic systems and computers that failed to provide data on cargo in a timely manner. Often integrated information systems or information exchange systems were not used.

III.2.2 Border crossing processes and procedures

Uncoordinated and repetitive interventions of numerous inspection and border crossing administrations working in isolation on the same cargo were recorded at many border crossing points along the EATL inland routes. Each administration would require its own set of documents to be cleared separately from others, which was considered a duplication. The problem often remained with the organisation of custom procedures with each clearance procedure established separately by a responsible administration in isolation from others. Any optimisation of those procedures from the perspective of a faster border crossing clearance, in particular through joint interventions and sharing of data and information, remained to be undertaken. The procedures were thus quite unfriendly from the perspective of transport operators.

Physical inspection were also done as customs authorities would often not trust documents cleared by custom authorities of neighbouring country and would therefore physically inspected cargo to match the document information with the actual cargo count.

III.3 Road transport

Reviews showed that the transit countries along the EATL inland routes had established more than 300 bilateral agreements on international road transport with countries in Europe and Asia, of which some 286 agreements were established to govern transport between two transit states[34].

[33] UNECE (2015) Identification of cargo flows on the Euro-Asian transport links. Informal doc. WP.5/GE.2 (2015) No. 1

[34] IRU (2016) An analysis of international road transport permit systems in Eurasia: current practices and prospects

Although these bilateral agreements should normally aim at "facilitating trade" and at "balancing bilateral road transport markets", due to the bilateral nature and the number of these agreements, they complicated instead of facilitating a transport undertaking, if cargo was transported across several countries or when the vehicle and driver came from different countries.

These complications could be associated with the following aspects:

- Varying legal conditions laid down in agreements for undertaking cargo shipments between pairs of individual countries regarding taxes, levies and permits,

- Limited choice of transport routes for operators from foreign countries if specific routes and border crossings were defined in the bilateral agreements (in particular, for all bilateral agreements involving China), and

- Restricted number of bilateral quotas agreed and the necessity of usage of highly-priced occasional permits.

Assessments also showed that systems for distribution of permits to hauliers were not transparent in some countries. There had been also cases of discrimination of hauliers noted, e.g. Chinese truckers arriving at the Khorgos border crossing point needed to go to Almaty to obtain the permit required.

Furthermore, international road transport was hampered by high transit fees, e.g. transit fees in some EATL countries were not a charge for infrastructure use but rather a charge on access to the market. The system of transit fees was not transparent and so was used to discriminate between operators from different countries, between permit and non-permit holders, and between domestic and foreign operators. In addition, the fees were often changed without notice.

International road transport was also affected by visa procedures for truckers along EATL inland routes. Reviews showed some difficulties faced by truckers as follows:

- Non-existence of long-term multi-entry visas in some EATL countries requiring a trucker to apply for new visa for each trip,

- Non-issuance of visas at border crossing points by some EATL countries requiring a trucker to apply for visa at embassies in his or her country of residence and so be on hold from driving for the time of processing of visa application,

- Long-processing times and high consular charges, e.g. a processing time could take up to two weeks for a transit visa valid for a maximum of 10 days, and

- Lack of synchronisation of visa procedures in EATL transit countries whether with regard to documents required as part of the visa application, charges or processing times.

In addition, hauliers or truckers complained about the lack of transparency in the system for visa issuance. They reported about discrimination faced in some EATL countries where truckers of some nationalities were able to receive visa with fewer formalities and shorter processing time.

Extortion and other illegal actions by officials were another barrier for road transport operations along EATL routes. Road transport operations between Europe and Asia met with numerous examples of extortion when crossing state borders, as well as en route. The principal source of this extortion was the prejudice or the open corruption of customs or other regulatory bodies

when passing through vehicle border crossing points[35]. Conspiracies between representatives of state bodies responsible for customs, frontier, sanitary, veterinary and plant control were report to not be uncommon. At a number of customs posts the levels of bribes required to pass through the border quickly and without undue hassle were even unofficially published.

The levels of corruption varied significantly from country to country and in general rose when moving from West to East (corruption was unknown on the borders of Georgia, Poland and Belarus, whereas on the borders of Central Asian states the unofficial levies imposed and the levels of extortion were reported by hauliers sometimes to exceed official tariffs twenty-fold)[36].

Last but not least, hauliers were also complaining about several other issues impeding road haulage, among them:

- Geographical restrictions of TIR system of customs transit in some EATL countries (in particular strictly limited number of border crossing points for TIR operations),
- Absence of fully digital transit, transport and customs documents in most EATL countries (like e-CMR consignment note and e-TIR carnet),
- Local collection of charges and fees often introduced without prior notice,
- Requirements for simplified border procedures that could not be met by hauliers due to unpredictable arrival times at borders (declaration was required within hours of arrival), or
- Intransparent requirements for convoy or escort allowing the authorities to assign convoy or escort at their discretion (also to safe and sealed cargo in regular size containers).

III.3 Rail transport

Assessment showed that international rail transport on EATL rail routes was hindered by differences in railway systems adopted in various EATL countries translating into difference in requirements for:

- Use of foreign locomotives, wagons and crews,
- Liability,
- Security (placement of armed officers on trains, e.g. in China),
- Different consignment notes and bills.

Such differences resulted in checks or action at border crossing points that were time consuming and caused delays, e.g.:

- Technical inspection of rolling stock,
- Document checks to verify and match content of consignment notes, wagon lists and other cargo documents,
- Preparation of rail transfer documents,

[35] UN Global Compact (2014) GLOBAL ANTI-CORRUPTION INITIATIVE. Cases of Bribery and Extortion along Major Transport Corridors and their Impact on Sustainable Transport Development

[36] NEA (2009) NELTI Final Report. Analysis of monitoring data collected on NELTI Project Routes in 2008-2009

- Exchange of locomotives and crews,

- Replacement of wagons and additional delays caused by unavailability of replacement wagons, and

- Splitting of trains.

At the same time, supply chain managers informed that railways operators in a number of EATL countries often failed to offer good quality service that would meet the requirements of modern logistic market and supply chains. The quality of service was often assessed as poor and transport would rarely be made on time (delays from 40 to as many as 90 days were reported on certain transit routes, thus considerably exceeding the scheduled transit time). The tariffs did not respond to market conditions and there was little flexibility of rail operators to adjusting their services. The tariffs were also changing unexpectedly.

In addition, in the number of countries block trains transporting containers had to give priority to trains transporting raw commodities.

III.4 Intermodal transport

The intermodal transport, as the reviews showed it, was not much developed across EATL countries. Operation such as sea crossing used to be difficult on EATL routes. There were not enough logistics centres including intermodal terminals that could serve well and promote the intermodal transport. There were also services missing in local markets to help develop intermodal transport.

With regard to difficulties on sea crossing – in particular Caspian Sea – truckers used to face complications to use ferry services due to reasons such as:

- Ferry schedules were not available, and

- Small quotas for trucks were offered on ferries.

Combining the poor ferry service, one that would not respond to market situation, with visa formalities, where a trucker due to a delay on sea crossing could see his or her visa expiring for a next transit country before reaching it – Turkmenistan was offering only short validity transit visas – was not encouraging for undertaking any transport activities on such a sea crossing route.

The intermodal centres had still to be developed at the time when this report was prepared. The progress in their development was expected to be seen with the conclusion in 2013 of the Intergovernmental Agreement on Dry Ports under the auspices of the United Nations Economic and Social Commission for Asia and the Pacific (it entered into force on 23 April 2016). This Agreement identifies a number of existing and potential dry port locations that were expected to be the basis of a coordinated effort to create nodes along an international integrated intermodal transport and logistics system. Some EATL countries, once becoming a Contracting Party to the Agreement, actively started to develop dry ports network in accordance with it. Among these countries were Azerbaijan, China, Kazakhstan or Mongolia.

At the same time, a number of EATL countries failed to establish polices that would create conditions for private sector to develop logistics services locally forming an integral part of interregional intermodal services.

III.5 Public and private interests, cross-country cooperation

While public and private interests should both be aimed at ensuring competitive transport services facilitating trade, this objective was often missed by public authorities in some EATL countries. The non-physical barriers articulated in other sections of this chapter, that were present in EATL countries, show that the principle objective of trade facilitation was not adequately supported by the public authorities when executing their primary functions related to safety, security or revenue collection from international transport.

Certain difficulties faced by private sector when delivering transport services could have been avoided or addressed long time ago if EATL countries would have worked closer together and followed a more integrated approach to international transport and trade facilitation. Instead often a disintegrated approach was followed with numerous initiatives overlapping involving different groups of EATL countries. This resulted in the fragmentation of tradelanes.

III.6. Conclusions

There were many barriers, especially the non-physical ones, existing in EATL countries that made rail, road and intermodal transport rather difficult or underdeveloped. Removal of these barriers would often be achieved by improving policies and their implementation at a country level and by ensuring certain mid-term stability and unchanging conditions for transport operation. Other barriers, especially those on lack of administrative interoperability between countries along the transit routes require joint effort and coordination. Without the latter the fragmentation of tradelanes could be difficult to overcome.

PART IV. EATL: LOOKING INTO THE FUTURE

As noted in the Joint Statement on Future Development of Euro-Asian Transport Links (EATL) signed in Geneva, on 26 February 2013, by ministers of transport from EATL countries, there was a great potential to diversify freight transport routes between Europe and Asia and increase the use of existing and projected inland transport capacities.

The development of efficient, economically justified, safe and more secure EATL inland routes could provide alternative or complementary transport connections to the maritime transport, facilitate existing and future trade and cargo flows between Europe and Asia, and facilitate integration of national economies in the global economy[37].

Development of EATL could play a significant role in achieving the Sustainable Development Goals (SDG). EATL inland routes can facilitate access to markets, economic opportunities and social services to a number of countries spanning these routes, including landlocked and transit developing countries, in a manner that could significantly contribute to economic development, reduction of poverty and increase in the stability of economic prospects in these states.

The initial SWOT-analysis that had been developed during Phase II of the EATL project gave the overall picture of the status of EATL. It helped to understand maximum benefits from strengths, to outline the ways to compensate weaknesses, to minimize threats and take the greatest possible advantage of opportunities.

The current section of the report contains the upgraded version of the SWOT analysis of the EATL project reflecting the changes and trends identified in the course of the Phase III of the project.

The following were identified as strengths of EATL inland routes:

(a) Faster delivery on EATL inland routes than on maritime routes for the transport of goods between Europe and the Asia-Pacific;

(b) Important transport option for landlocked developing countries (LLDCs) lying on EATL inland routes;

(c) Unutilized existing capacities along some parts of the EATL road and railway routes running East-West and North-South;

(d) Preferred transport option for countries along the EATL inland routes to reach their major trade partners (countries of Central Asia, Afghanistan and Mongolia);

(e) Integral part and physical extensions of Pan-European Corridors, AGR, AGC, AGTC, the Trans-European Transport Networks (TEN-T), Asian Highway (AH) network, Trans-Asian Railway (TAR), Trans-European Motorway (TEM), Trans-European Railway (TER), TRACECA, International Transport Corridor North-South and International OSJD Rail Corridors, International Transport Corridor Via-Carpatia, International Road Corridor Europe –

[37]UNECE. Joint Statement on Future Development of Euro-Asian Transport Links, 26 February 2013. Available: www.unece.org/fileadmin/DAM/trans/doc/2013/itc/Joint_Declaration_on_EATL.pdf

Western China and other related corridors and networks of high significance to transport between Europe and Asia;

(f) Political commitment to the development of EATL inland routes expressed by concerned governments and various international and subregional governmental and non-governmental organizations promoting related initiatives and projects in the area of transport;

(g) Availability of Public-Private Partnerships (PPPs) for the implementation of projects and initiatives aimed at EATL inland routes development (in addition to traditional PPPs, new institutional forms of global partnerships, in particular the Global Partnership for Sustainable Transport (GPST), involvement of international financial institutions, was expected to contribute to improvement of cooperation between different transport businesses and the United Nations, its specialized and regional agencies in the area of transport facilitation, harmonization of transport law and other issues essential to EATL); and

(h) Availability of best available technological and environmental standards and best practices for planning and construction of missing links.

10. The following were considered to be general weaknesses observed on EATL inland routes (not necessarily present in all EATL countries):

(a) Comparably too high costs of goods transport on EATL inland routes vis-à-vis the maritime routes across the Indian Ocean and the Suez Canal due to:

(i) Limited competition on EATL inland routes versus high competition between liner shipping companies leading to low freight rates;

(ii) (sometimes) Unreasonably high transit tariffs, fees and charges pursuing, primarily, the fiscal objectives; and

(iii) Challenges in harmonizing tariff rates between rail operators for cargo delivery between Europe and Asia;

(b) Slowly developing transport and logistic services along the EATL inland routes;

(c) Insufficient development of intermodal transport across the EATL region, mainly in the Central-Asian region (few intermodal services provided on the continental Euro-Asian market; insufficient number of logistic centers along the routes);

(d) Existing physical and non-physical barriers along the EATL inland routes hampering transport operations, in particular:

(i) Missing links on road and railway networks;

(ii) Time-consuming control procedures leading to delays at border crossing points;

(iii) Absence of ‘single window’ procedures at border crossing points;

(iv) Multiple cargo checks *en route;*

(v) Mandatory transit convoys; and

(vi) Frequently changing restrictions and sanitary and phito-sanitary procedures;

(e) Slowly developing conditions for competitive business operation in some EATL countries, especially:

(i) Prevailing restrictions to permits for road transport operators for transit, bilateral transport and transport to/from third countries; and

(ii) Slowly developing markets of freight forwarders, cargo integrators, 3 PL providers and other market players facilitating trade and transport (and lack of legal base for their operation);

(f) Different approach to international co-ordination and harmonization, in particular:

(i) Different customs transit regime along EATL inland routes;

(ii) Time-consuming and costly procedures for granting of visas to professional drivers;

(iii) Difficult monitoring of EATL inland routes due to the heterogeneity of existing transport and transit rules; and

(iv) Different approach to and absence of synchronization of EATL infrastructure development across borders;

(g) Cases of corruption along some EATL road routes (detected during some international project implementation – New Euro-Asian Land Transport Initiative (NELTI), the Global Anti-Corruption Initiative, etc., as well as by international organizations OSCE, ECO, IRU and others – forcing international operators to make illegal payments and making officially declared procedures unreliable;

(h) Safety and security concerns along sections of the EATL inland routes;

(i) Absence of fully electronic document and procedure management at border crossing points, including pre-declaration of vehicles and cargo, e-CMR, e-TIR along most of EATL inland routes;

(j) Limited institutional and human resource capacities in many EATL member countries, especially in LLDCs;

(k) Insufficient level of investments in development of transport infrastructure in some countries; and

(l) Relatively high risks of natural disaster and technological failures along some sections of EATL inland routes while poorly developed risk management activities in the field of transport and development of alternative transport and transit routes;

11. The following were considered to be EATL inland routes opportunities:

(a) Increasing long-term transport flow of goods between Europe and Asia due to continuous globalization;

(b) Rapid growth of China and India and some other Asian countries generating greater transport demand and thus new opportunities for EATL inland routes;

(c) Adoption during 2014-2015 by UN General Assembly and the ongoing implementation of United Nations Resolutions 70/1 "Transforming our world: the 2030 Agenda for Sustainable Development", 69/213 "The Role of Transport and Transit Corridors in Ensuring International Cooperation for Sustainable Development", 70/197 "Towards comprehensive cooperation among all modes of transport for promoting sustainable multimodal transit corridors";

(d) Launch of "The Ashgabat Process" on Sustainable Transport Development based on the results of the First Global United Nations Conference on Sustainable Transport (November 26-27, 2016, Ashgabat, Turkmenistan);

(e) The adoption of Ministerial Declaration on Sustainable Transport Connectivity in Asia and the Pacific and the Regional Action Programme for Sustainable Transport Connectivity in Asia and the Pacific, phase III (2017-2021) during the Third Session of the UNESCAP Ministerial Conference on Transport (5-9 December 2016, Moscow, Russian Federation);

(f) Ongoing implementation of the Vienna Programme of Action for Landlocked Developing Countries for the Decade 2014-2024;

(g) Establishment of the Eurasian Economic Union (EAEU) in 2014 and implementation of coordinated (agreed) transport policies among its member states with gradual creation of a single transport space and common market of transport services;

(h) The start of "One Belt - One Road" (OBOR) Initiative by China;

(i) Creation of the Global Partnership for Sustainable Transport (GPST) and launch of its work on key transport issues related to the development of EATL, for example its proposal to develop a Global Transit Document (GTrD) to facilitate inter-modal transit of goods across multiple jurisdictions taking into account related legal and insurance issues during the transit of goods;

(j) Accession of EATL countries to the WTO (Russian Federation (2012), Tajikistan (2013) and Kazakhstan (2015));

(k) Entry into force of the WTO Trade Facilitation Agreement (TFA) in 2017;

(l) Economic reforms in certain EATL countries improving the business climate and transparency of procedures as evidenced by the growth indices of competitiveness and LPI in those countries;

(m) Developing trade among EATL countries, in particular between LLDCs in Central Asia and their transit developing neighbours;

(n) Implementation of certain infrastructure projects improving the transport logistic network within the EATL area, including the Via-Carpatia project, construction of Europe-Western China International Route and North-South Corridor by all involved countries, reconstruction of the railway lines of BAM and TRANSSIB in the Russian Federation, construction and launch of operation in the sea trade port complex in Alyat (Republic of Azerbaijan), Eurasia Tunnel crossing the Istanbul Straits Bosporus) undersea, construction of Resht - Astara railway section in the Islamic Republic of Iran, etc.;

(o) Increase in volumes of "time-sensitive" goods transit on EATL inland routes due to "slow steaming" on the maritime routes;

(p) Increasing coverage of the CIM/SMGS consignment note along EATL railway routes (for example in China and in the Islamic Republic of Iran);

(q) Expansion of CMR consignment note and TIR carnet along EATL road routes;

(r) Railway reforms in certain EATL countries improving the environment for long-haul block-trains operations;

(s) Availability of legal framework (Convention on the Harmonization of Frontier Controls of Goods) and good practices in facilitating border-crossing procedures; and

(t) Increasing efforts to advance regional cooperation and integration among EATL countries offering new opportunities to address existing challenges in a coordinated way.

12. The following were considered to be EATL inland routes threats:

(a) The risks of "slowdown" of fast-growing Asian economies and thereby low growth or reduction of the physical volume of trade between Europe and Asia;

(b) Replacement of productive capacities by trans-national businesses from China to other Asian and Pacific countries, making the switching freight traffic from maritime to inland routes less favourable;

(c) Increasing global trend of economic protectionism;

(d) The persisting low transport costs of maritime routes making them the most attractive and simple transport option for the majority of supply chains in Euro-Asian trade;

(e) The continuing growth in the efficiency of international air transport and air cargo logistics taking away the most attractive "luxury" goods from the sea and EATL inland routes to air transport;

(f) Growth in transport flows along the North Maritime Route to container traffic making maritime transport more competitive; and

(g) Persisting conflicts and political instability in some countries and regions of Eurasia increasing the risk for inefficient operation of some EATL inland routes.

EATL Roadmap to 2030 ("Strengths - Weaknesses - Opportunities - Threats" matrix)

The main goal of Project Phase III was to identify the measures that would make the EATL routes operational.

In fact, these links had already been functioning accumulating the everyday experience of trade and transport. In this context, the task was rather to generalize this experience and formulate the coordinated measures that could facilitate the further growth in transport flows on EATL routes.

Table 1 lists strengths, weaknesses, opportunities and threats for several issues recognized as important to the development and further operationalization of EATL inland routes such as: (i) SDG implementation, (ii) LLDCs improved access to markets, (iii) Inland transport and international trade between Europe and Asia, (iv) EATL infrastructure, (v) Harmonization and facilitation of procedures along EATL inland routes, (vi) Container block trains, (vii) Road transport and Euro-Asian connectivity, (viii) Universal legal regimes, and (ix) Railway reforms in certain EATL countries. By grouping strengths, weaknesses, opportunities and threats in that way, the table shows in clear way which are the strengths to build on, weaknesses to address, opportunities to seize and threats to minimize for each of the nine issues of importance. Hence, the table can serve as an effective tool for different actors in formulating adequate action under each of the nine issues of importance.

Table 4.1 - *Strengths - Weaknesses - Opportunities- Threats (SWOT)* matrix for further EATL development

Issue	**SWOT**			
	Strengths	**Weaknesses**	**Opportunities**	**Threats**
	EATL development and further operationalization can increase due to:	**EATL development and further operationalization can be weaken by:**	**EATL development and further operationalization should benefit from:**	**EATL development and further operationalization can be at risk from:**
EATL and SDG implementation	- Inclusion of EATL issues in the SDGs 2, 8, 9, 11, 12; - Political commitments of governments, IGOs and NGOs on SDGs implementations; and - Increased role of new global partnerships on sustainable development (such as GPST).	- Low involvement of some EATL countries in the EATL inland routes coordinated development.	- Opportunities generated under global trends on sustainable transport development; and - Multiplicative effects created by EATL inland routes development for socio-economic growth, employment, trade and transport costs for exporters and consumers.	- Persisting conflicts and political instability in some EATL countries taking the attention away from the SDGs implementation.
EATL and LLDCs improved access to the markets	- EATL being the important transport option for LLDCs and their access to sea ports and world markets; and - Mainstreaming of the Vienna Programme of Action in national and sectoral development strategies.	- Low regional and interregional connectivity in LLDCs; - Insufficient level of investments in development of transport infrastructure in LLDCs; - Non-harmonized transport, transit, and border crossing procedures among neighbouring LLDCs; and	- Future improvement of regional connectivity between LLDCs increasing their access to regional and global markets; - More inclusive and sustainable economic growth in LLDCs; - Possible import cost reduction; and - Increasing	- Decreasing LLDCs investment potential.

Issue	SWOT			
	Strengths	**Weaknesses**	**Opportunities**	**Threats**
		- Limited institutional and human resource capacities in many LLDCs.	flexibility for small and medium-sized enterprises in LLDCs to integrate in global supply chains.	
Inland transport and international trade between Europe and Asia	- Faster delivery of goods between Europe and Asia on inland routes compared to maritime routes; and - Trade partners located along the inland routes.	- Higher costs of goods transport on inland routes compared to maritime routes; and - Slowly developing markets of freight forwarders, cargo integrators, 3 PL providers and other market players facilitating trade and transport (and lack of legal base for their operation).	- Growth in inland container transport of "time-sensitive" cargo; and - Growth in inland transport of cargo originated from landlocked regions of China (e.g. Western and Central China).	- Further/possible move of productive capacities from China to South-East-Asia favouring maritime shipping; - Possible growth "slowdown" in r fast-growing Asian economies; - Increasing global trend of economic protectionism; - The continuing growth in the efficiency of international air transport and air cargo logistics; and - Growth in transport flows along the North Maritime Route to container traffic making maritime transport more competitive.
EATL infrastructure	- Free capacities along some routes East-West and North-South; - EATL routes	- Insufficient level of investments in development of transport infrastructure in some	- Planned infrastructure projects; - Start of the One Belt - One Road (OBOR)	- Preference for raw commodity goods transport vis-à-vis containerized transport.

Issue	SWOT			
	Strengths	**Weaknesses**	**Opportunities**	**Threats**
	forming an integral part and being physical extensions of the Trans-European and Asian Transport Networks, OSJD Rail Corridors, TRACECA, International Transport Corridor North-South, International Transport Corridor Via-Carpatia, International Road Route Europe – Western China and other related corridors and networks with high significance for transport between Europe and Asia; and - Ongoing activities in the framework of international projects and initiatives implemented by IGOs and NGOs with the aim to develop infrastructure and to increase the EATL inland routes efficiency.	countries; - Insufficient development of intermodal and combined transport(few intermodal services provided on the continental Euro-Asian market); - Insufficient number of logistic centres along the routes; and - Slowly improving infrastructure of border crossing points.	Initiative by China; - PPPs, innovative options and other mechanisms for EATL infrastructure development financing; - Potential increase in coordinated development of some EATL routes (such as OSJD corridors in framework of Complex Plans developed by OSJD Committee); - Elimination of bottlenecks and missing links; - Improved coordination of infrastructure programs and projects by governments of the EATL countries; and - Advanced development of railway and logistic infrastructure and dry ports for more efficient container transport.	

Issue	SWOT			
	Strengths	**Weaknesses**	**Opportunities**	**Threats**
Harmonization and facilitation of procedures along EATL routes	- Participation of most of EATL countries in key international agreements and United Nations conventions, such as CMR, TIR, Harmonisation Convention as well as in WTO TFA.	- Lack of accession by some EATL countries to international conventions and United Nations agreements; - Insufficient level of international co-ordination and harmonization of border crossing procedures; - Cases of corruption along some EATL road routes; - Absence of fully electronic transport and customs documents/ procedures, including electronic pre-declaration systems; and - Limited institutional and human resource capacities.	- Entry into force of the WTO Trade Facilitation Agreement (TFA) in 2017; - Start of TIR carnets in Pakistan; - China accession to the TIR Convention; - Entry into force and implementation of new regional transport agreements (SCO Agreement, Intergovernmental Agreement on road transport along Asian Highway Network, etc.); - Establishment of the Eurasian Economic Union (EAEU) in 2014 and implementation of coordinated (agreed) transport policies among its member states with gradual creation of a single transport space and common market of transport services; - Dissemination of	- Continuing low level of implementation in some EATL countries of international programs and initiatives related to facilitation and harmonization of transport, transit and border crossing procedures.

Issue	SWOT			
	Strengths	**Weaknesses**	**Opportunities**	**Threats**
			best decisions and models in the area of international trade, transport and border crossing (UN ECE – OSCE Handbook of best practices at border crossings, WCO standards, Safe-TIR, TIR-EPD etc.); - Further development of bilateral and multilateral forms of cooperation in the field of transport between EATL countries; and - Enhanced development of the freight-forwarding and high level logistic providers segment (3PL and higher).	
Container block trains	- Container block train in regular services.	- High competition between liner shipping companies and the associated low freight rates; - Challenges in tariff harmonization for container transport between Europe and Asia	- Increasing capacity for operating container block trains between Europe and Asia due to efforts of IGOs, NGOs (in particular OSJD, Coordinating Council on Trans-Siberian Transportation International Association,	- Persisting preference for raw commodity transport vis-à-vis containerized transport; - Continuing growth in the efficiency of international air transport and air cargo logistics; - Conservation of

Issue	SWOT			
	Strengths	**Weaknesses**	**Opportunities**	**Threats**
		for rail transport operators; - Slowly improving quality of transport and logistics services across the EATL corridors compared to that of maritime routes; - Insufficient number of intermodal logistic centres on EATL routes; and - Empty containers back haul.	etc.), transport businesses; - Growth in "time-sensitive" containerized inland transit; - Improving transport-logistic network within the EATL region due to implementation of specific infrastructure projects; - Promotion of block train projects and marketing of block train services between Europe and Asia; and - Increasing the share of scheduled block train services.	high container freight rates on inland routes making them less competitive to maritime routes; and - Growth in transport flows along the North Maritime Route to container traffic making maritime transport more competitive.
Road transport and Euro-Asian connectivity	- Existing network of roads; - Strong role of road transport in trade between neighbouring countries along EATL inland routes; and - Strong role of road transport for small and medium-sized enterprises in Euro-Asian trade.	- Existing physical and non-physical barriers along the inland EATL routes hampering transport operations, including: time-consuming control procedures leading to delays at border crossing points, absence of 'single window' procedures at border crossing points,	- Progressing modernization and upgrade of road transport infrastructure and creation of new road corridors (such as "Europe - West China", China - Mongolia - Russia corridors, SCO routes, BSEC Ring Highway, International Transport Corridor Via-	- Persisting market access limitation and restrictions for road transport carriers under bilateral and regional road transport agreements; - Persisting restrictions in the area of road transport operations between China and other countries; and

Issue	SWOT			
	Strengths	**Weaknesses**	**Opportunities**	**Threats**
		multiple cargo checks en route, mandatory transit convoys, frequently changing restrictions and sanitary and phytosanitary procedures; - Absence of fully electronic transport and customs documents/ procedures; - Transit permits, limitation of transit permits quotas; - Visa formalities for drivers; - Insufficient infrastructure of border crossing points, dry ports and logistic centres for serving road transport; and - Insufficient ancillary roadside infrastructure and services along EATL road routes (road safety issues).	Carpatia, etc.); - Geographical expansion of TIR system (Pakistan and China accession); - New possibilities from implementation of electronic instruments (e-CMR, e-TIR); - Entry into force and implementation of new regional agreements aimed at facilitation of international road transport (SCO agreement, Intergovernmental Agreement on road transport along Asian Highway Network, etc.); - Increasing involvement of road transport in long haul operations between Europe and Asia, in particular between Central Asia, Iran, Turkey and European Union and between China and its neighbouring countries; and	- Increasing traffic and traffic jams in vicinity of major cities along the Euro-Asian road routes.

Issue	SWOT			
	Strengths	**Weaknesses**	**Opportunities**	**Threats**
			- Increasing involvement of small and medium-sized enterprises in Euro-Asian trade.	
Universal legal regimes	- Availability of international good practice for creation of national legal regimes and administrative procedures for facilitation of transport operation; and - Availability of trade and transit facilitation measures for facilitation of multimodal transport of goods between Europe and Asia.	- Absence of harmonised administrative and customs procedures among some of the EATL countries in international trade.	- Increasing implementation of unified consignment documents/ invoices for inland transport on regional or global level, and of the proposed Global Transit Document (GTrD) for multimodal delivery of goods; - Expansion of universal CIM/SMGS legal regime along EATL railway routes, and road transport under CMR consignment notes and TIR carnets along EATL road routes; and - Creation of GTrD expert group in the framework of GPST in 2016.	- Potential complication (e.g. political instability), leading to delays in harmonization of legal regimes.
Railway reforms in certain EATL countries	- Availability of good practice for railway reforms.	- Lack of legal basis for private operators to arrange competitive	- Creation of competitive market of rail transport operations	- Potential complication leading to delays in implementation

Issue	SWOT			
	Strengths	**Weaknesses**	**Opportunities**	**Threats**
		railway services.	between Europe and Asia.	of railways reforms.

PART V. CONCLUSIONS AND RECOMMENDATIONS

In the context of above mentioned SWOT Matrix, it was relevant to identify the best options and mechanisms for further EATL development by governments, international intergovernmental and non-governmental organizations and the business community. These recommendations have been prepared in recognition of the fact that conditions in which transport systems develop differ among countries and regions along the EATL inland routes.

These recommendations seek to propose options on how to most effectively develop EATL inland routes at national, international and business levels by "translating" the policy language into potentially actionable initiatives that governments, IGOs, NGOs and businesses could undertake in order to reap the benefits of these important policy instruments.

A. Transport policy

Establishing of transport policies based on good practice available internationally and developing bilateral and international forms of cooperation should be a priority to help further operationalize the EATL inland routes.

Recommendations:
For governments and IGOs

1. Continue the activities within the EATL project in co-ordination with other similarly focused initiatives (UNECE, UNESCAP, SPECA, OSJD, ECO, CCTT, UIC, IRU, GPST etc.) with the aim to increase the EATL efficiency:
   - Implement at the national level the provisions of United Nations Resolutions 69/213 "The Role of Transport and Transit Corridors in Ensuring International Cooperation for Sustainable Development" and 70/197 "Towards comprehensive cooperation among all modes of transport for promoting sustainable multimodal transit corridors";
   - Implement the provisions of Ministerial Declaration on Sustainable Transport Connectivity in Asia and the Pacific and the Regional Action Programme for Sustainable Transport Connectivity in Asia and the Pacific, phase III (2017-2021) by Asian EATL countries;
   - Participate in the regional and international projects and initiatives implemented by IGOs and NGOs in the area of EATL, trade, transport and transit facilitation (UNECE, UNESCAP, SPECA, OSCE, OSJD, ECO, CAREC, CCTT, UIC, IRU, GPST etc.);
   - Develop solutions for improving national transport policies including transit and border crossing provisions with the participation of all relevant stakeholders; and
   - Integrate EATL achievements in national transport plans and programs.
2. Analyse and disseminate best practices and models in the sphere of international trade and transport (UNECE – OSCE Handbook of best practices at border crossings, WCO standards, etc.):
   - Carry out studies on transport-logistical competitiveness based on internationally recognized methodologies;
   - Promote policies helping national businesses, especially small and medium-sized enterprises, to participate wider in international trade and transport; and
   - Simplify and synchronize visa issuing procedures and introduce long-term multi-entry visas where possible.
3. Develop bilateral and multilateral forms of cooperation in the field of transport between EATL countries:
   - Improve the monitoring of infrastructure developments, the execution of transport facilitation plans, and the functioning of transport corridors;
   - Improve collection and dissemination of transport and trade statistics and other relevant

Recommendations:
For governments and IGOs

data, develop the harmonized approach in trade and transport activities monitoring and forecasting to produce reliable commonly used forecasts;

- Collaborate on prompt exchange of trade and transport data between the neighbouring countries along the EATL routes;
- Promote harmonization of regional policies, in particular within regional initiatives and programs so as to strengthen regional synergy, competitiveness and regional value chains;
- Support implementation of national transport and trade facilitation action plans and back committees with participation of all the groups of stakeholders;
- Join and implement initiatives aimed at EATL development, such as the project on "Merging of Eurasian Integration and the Economic Belt of the Silk Road"; and
- Improve the monitoring and high-level coordination of regional initiatives, programs and projects.

4. Develop cooperation at the administrative and business levels internationally:
   - Continue and enhance international coordination and cooperation of national agencies and bodies responsible for all kinds of border and customs controls and procedures;
   - Establish or strengthen national committees on trade and transport facilitation, with the involvement of all relevant stakeholders; and
   - Introduce international early-warning system to inform involved countries along transport corridors about the changes in the administrative regimes, charges, infrastructure restrictions, etc.
5. Encourage development of the freight-forwarding and logistic providers segment (3PL and higher) by providing legal conditions for market competition development in the transport and logistics sector.
6. Put railway reforms as one of policy priorities:
   - Create competitive market of rail transport operations between Europe and Asia;
   - Create favourable conditions for all rail transport operators to undertake international railway and transit operations between Europe and Asia;
   - Provide mechanisms for changing railway tariffs according to the market situation;
   - Provide necessary market conditions in neighbouring segments (e.g. in wagon manufacturing) to avoid lack of equipment and services used by railways for transport operations between Europe and Asia; and
7. Develop transport policies aimed at increasing complementarity between road and rail transport rather than increasing competition between these two modes on EATL inland routes and ports hinterlands.

Recommendations:
For transport businesses and NGOs:

1. Contribute to the development of cooperation between businesses, governments and international organizations:
   - Involve in public-private partnerships, training and knowledge-exchange projects;
   - Participate in national committees on trade and transport facilitation;
   - Cooperate with policymakers, legislators and opinion makers, in order to promote harmonisation of national transport regulations with international standards and best practices along the EATL inland routes; and
   - Initiate the public consultations process on the possibilities and benefits of accession to the United Nations transport agreements and conventions.
2. Support development of the freight-forwarding and logistic providers segment (3PL and

Recommendations:
For transport businesses and NGOs:

higher):

- Undertake efforts to build human capacity in the logistics sector (training, educational programs, international knowledge and experience exchange, etc.); and
- Contribute to establishing of associations and other non-governmental structures expressing the interests of cargo owners, transport and logistics operators, freight-forwarding providers involved in international trade and transport between Europe and Asia.

B. Facilitation, procedures and institutions

Institutional reforms and trade facilitation should be a priority for operationalization of EATL routes.

Recommendations:
For governments and IGOs

1. Implement universal trade and transit facilitation measures, paperless technologies for transport and border crossing:
   - Standardize and unify trade and transport documents;
   - Encourage shift to electronic documents with the aim of full paperless technologies for transport and transit;
   - Implement or scale up trade facilitation initiatives such as single-stop inspections, single window for documentation, electronic payment, etc.;
   - Prevent fixing specific routes or border crossing points for international trade and traffic, instead enable flexibility across tradelanes;
   - Prevent discrimination in visa regimes for drivers and offer long-term and multi-entry visas;
   - Prevent arbitrary derogations or limitations of international agreements concerning trade and transport;
   - Use standardized practical tools to identify the obstacles to trade and transport flows, e.g. the World Bank "Trade and Transport Facilitation Assessment: A Practical Toolkit for Country Implementation";
   - Promote the development of international road transport among EATL countries under TIR carnets; and
   - Promote the development of international rail transport operations under CIM/SMGS consignment note.
2. Accede to and implement international agreements and United Nations conventions in the field of transport and transit:
   - Accede, if not done so yet, to the United Nations conventions and agreements on transport and transit facilitation, including the International Convention on the Harmonization of Frontier Controls of Goods, the Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention), and the Convention on the Contract for the International Carriage of Goods by Road (CMR);
   - Accede to the e-CMR Protocol and implement e-CMR consignment note for international road transport between Europe and Asia;
   - Promote implementation of the electronic TIR carnet project (e-TIR); and
   - Implement the Shanghai Cooperation Organisation's Intergovernmental Agreement on Creation of Favourable Conditions for International Road Transport and the Intergovernmental Agreement on International Road Transport along the Asian

Highway Network signed in 2016 by China, Mongolia and the Russian Federation.

3. Implement best practices and standards adopted internationally:
   - Implement best practices at border crossings recommended by UNECE and OSCE in their Joint Handbook; and
   - Implement the WCO standards and best practices in accordance with the Handbook on Transit adopted in 2017.

4. Harmonize legal provisions on transport, trade and transit facilitation in the framework of regional and bilateral agreements:
   - Introduce solutions based on best international practices in bilateral and regional cooperation as well as introduce them into trade and transport national legislation;
   - Harmonize procedures in the international road transport and introduce permits-free system of transit road transport;
   - Introduce the rule of obligatory "early warning" about changes in rules, tariffs, and procedures related to international trade and transport;
   - Provide special simplified control procedures for cargo owners and transport operators with good reputation;
   - Limit compulsory convoy or escort to high risk commodities only;
   - Implement legislation allowing the operation of long-and-heavy road vehicles across the main trade corridors and in the hinterland of logistic centres; and
   - Promote multilateral and regional permit systems for road transport aimed at eliminating quantitative limits and focus on provision of quality and safety for road transport services.

5. Develop institutions and procedures facilitating the long-haul container block train operation and related services and activities by promoting a better business environment so as to assist all the interested parties to organize and operate long-haul container trains.

6. Implement procedures for facilitating transit, border crossing and enabling paperless technologies accelerating trade and transport operations:
   - Identify non-physical barriers and evaluate their influence according to agreed common benchmarking procedures;
   - Simplify visa requirements and formalities for personnel involved in international transport;
   - Remove internal checkpoints, as possible;
   - Record and analyse the reasons for border-crossing point congestion, queuing and time delays;
   - Develop and implement the system of border-crossing point performance indicators to evaluate the results of investment projects and changes in procedures;
   - Decrease the number of documents necessary for export, import and transit procedures;
   - Introduce optimization of border crossing procedures on the basis of joint operations and data sharing; and
   - Evaluate the possibility to introduce the unified format of data exchange (e.g. EDIFACT).

7. Introduce best international practice when amending railway legislation:
   - Follow the provisions of the Joint Declaration expressing willingness to create a common legal regime for rail traffic across Asia and Europe of 2013;
   - Cooperate in the development of general conditions for Euro-Asian rail transport;
   - Introduce competition within the railway sector using the most effective international models; and
   - Envisage elaboration of legal conditions for the access of foreign rail operators to the national network, at least, in container train operations.

Recommendations:
For transport businesses and NGOs:

1. Support governments in implementation of international agreements and United Nations conventions in the field of transport and transit:
   - Formulate recommendations for governments or regional cooperation authorities on how to create favourable conditions for regional transport and transit operations (including accession to international agreements and United Nations conventions, conclusion of new regional agreements to promote trade, transport and transit facilitation; and
   - Participate in the implementation of activities under the Vienna Programme of Action.
2. Contribute to developing the container block train operations and related services and activities:
   - Establish container pools;
   - Organizing training programs and inter-railway staff exchange programs in the area of organization and promotion of container block trains;
   - Issue research work analysing the successful cases and the failures in inland container train operations;
   - Analyse the possibility of developing "Terminal services standard minimum" for use by the terminal staff across the EATL inland corridors - in a form of recommendations or "Best practices manual"; and
   - Improve the quality of transport and logistics services, punctuality and cargo safety conditions.
3. Assist in implementing procedures and paperless technologies accelerating trade and transport operations:
   - Help identifying non-physical barriers and evaluating their influence according to agreed common benchmarking procedures;
   - Provide data and analysis on the reasons for border-crossing point congestion, queuing and time delays; and
   - Assist in developing single transit document for multimodal transport.

C. Infrastructure

The EATL transport network was nearly formed by the time this report was written and proved its efficiency for certain tradelanes and commodities. Numerous initiatives, programmes and projects were undertaken to improve the infrastructure in the EATL region. Therefore, it seemed reasonable that efforts should focus on coordination, standardization of infrastructure parameters and implementation of the most effective "point-focused" projects.

Recommendations:
For governments and IGOs

1. Eliminate bottlenecks and missing links on the potentially most effective inland transit routes and tradelanes in the EATL area:
   - Focus at identifying and removing obvious physical bottlenecks;
   - Develop logistics centres and hubs as well as dry ports at the nodes of the EATL routes; and
   - Modernize the infrastructure of border crossing points.
2. Encourage introduction of public-private cooperation and other market-oriented and innovative forms for infrastructure project financing:
   - Develop the necessary policies and regulatory frameworks to promote private sector involvement in infrastructure development;

Recommendations:
For governments and IGOs

- Promote enabling environment to attract foreign direct infrastructure investments; and
- Encourage the PPPs for development of EATL inland routes infrastructure.

3. Coordinate infrastructure programs and projects using the "system approach" to infrastructure programs on development of the transport and logistics infrastructure in the framework of regional cooperation and unions of economic integration:
   - Encourage creating transport-logistics and industrial clusters in order to foster knowledge networks and links among enterprises;
   - Promote economies of scale for transport systems through intermodal transport development, creation of dry ports, logistic centres, etc.;
   - Provide development of sea ports coordinated with the development of port hinterland connections and the infrastructural objects located in the hinterland and directly linked to sea ports;
   - Motivate the developers and operators to cooperate in creation of high-scale multipurpose logistic sites serving domestic, international trade, transport and transit;
   - Create logistic centres and dry ports as market-oriented nodes of supply chains improving the competitiveness of the entire EATL system;
   - Work towards harmonization of the total vehicle weight, dimensions and axle weight limits along the main EATL road routes to provide effective road transport; and
   - Further improve GIS and GNSS applications and develop tools to support "smart" decisions in transport and supply chains.
4. Advance development of railway and logistic infrastructure providing effective container transport, in particular, by promoting the cross-border cooperation of railway infrastructure administrations to provide the harmonized technologies for block train border crossing.
5. Prioritize infrastructure projects providing time-effective transport:
   - Ensure technical and operational interoperability of railway and road systems of neighbouring countries;
   - Encourage harmonization of railway technological standards and road axle load limits to facilitate regional connectivity, where feasible;
   - Implement IT-systems to ensure transparency in border crossing procedures, customs and transit transport rules, regulations, fees and charges;
   - Upgrade border crossing points equipping them with modern surveillance methods for security (vehicle scanning equipment, etc.), as well as the necessary IT infrastructure and supportive systems; and
   - Develop a Border-Crossing Point Design Guide for border crossing points of different types and scales based on BCP best-practice examples.
6. Introduce effective mechanisms of railway infrastructure development in reform programs:
   - Implementing the best practices in the area of infrastructure management and development;
   - Introduce adequate infrastructure fees within the railway industry paying special attention to intermodal transport; and
   - Encourage private participation in development and operation of certain infrastructure objects (terminals, railway logistic centres, railway sections built and operated by private companies).

Recommendations:
For transport businesses and NGOs:

1. Involve in public-private cooperation and other market-oriented and innovative forms of infrastructure projects financing by intensifying participation in national and international programmes that propose financial and technical assistance in the area of transport infrastructure development.
2. Contribute to the development of railway and logistics infrastructure providing effective transport for containers:
    - Involve in development of multi-purpose logistics centres with intermodal terminals;
    - Develop effective reloading capacities for containers and other intermodal units in the gauge-changing points;
    - Engage in replacing where possible the boogie change procedures for block trains by effective container transhipment on railway gauge changing stations; and
    - Expand marketing and promotion of EATL inland routes and block train services.
3. Get involved in infrastructure projects providing time-effective transport:
    - Invest in projects aimed at improvement of sea-rail interoperability to ensure the synergy between these two modes;
    - Help design border-crossing points of different types and scales based on BCP best-practice examples; and
    - Adopt modern and innovative transport systems, including Intelligent Transport Systems (ITS).

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ANNEXES