UNECE

Euro-Asian Transport Linkages

Operationalisation of inland transport between Europe and Asia

UNITED NATIONS

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

Euro-Asian Transport Linkages

Operationalisation of inland transport between Europe and Asia

UNITED NATIONS

New York and Geneva, 2019

Note

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries. The maps in this publication are only for information purposes. The boundaries and names shown, and the designations used on the maps do not imply official endorsement or acceptance by the United Nations. The data provided in this report have been compiled by the secretariat from available sources.

This volume is issued in English and Russian only.

ECE/TRANS/265
UNITED NATIONS PUBLICATION
Sales No. E.19.II.E.9
ISBN 978-92-1-117187-7
eISBN 978-92-1-047592-1

Acknowledgments

The EATL Phase III draft report was prepared by the UNECE Group of Experts on Euro-Asian Transport Links under the auspices of the Working Party on Transport Trends and Economics (WP.5) with substantive inputs provided by the State Scientific Research Institute of Motor Transport (NIIAT) in Moscow. The work benefited from significant contributions by Mr. Alexander Zaboev and Mr. Vadim Donchenko. At the UNECE Sustainable Transport Division the EATL Phase III project was coordinated by Mr. Miroslav Jovanovic, Mr. Lukasz Wyrowski and Mr. Roel Janssens under the supervision of Mr. Konstantinos Alexopoulos. The UNECE Secretariat expresses its gratitude to the Government of the Russian Federation for having funded various activities of the Phase III of the project.

United Nations Economic Commission for Europe (UNECE)

The United Nations Economic Commission for Europe (UNECE) is one of the five United Nations regional commissions, administered by the Economic and Social Council (ECOSOC). It was established in 1947 with the mandate to help rebuild post-war Europe, develop economic activity and strengthen economic relations among European countries, and between Europe and the rest of the world. During the Cold War, UNECE served as a unique forum for economic dialogue and cooperation between East and West. Despite the complexity of this period, significant achievements were made, with consensus reached on numerous harmonization and standardization agreements. In the post-Cold War era, UNECE acquired not only many new member States, but also new functions. Since the early 1990s the organization has focused on analyses of the transition process, using its harmonization experience to facilitate the integration of central and eastern European countries into global markets. UNECE is the forum where the countries of western, central and eastern Europe, Central Asia and North America – 56 countries in all – come together to forge the tools of their cooperation. That cooperation concerns economic cooperation and integration, statistics, environment, transport, trade, sustainable energy, forestry and timber, housing and land management and population. The Commission offers a regional framework for the elaboration and harmonization of conventions, norms and standards. The Commission's experts provide technical assistance to the countries of South-East Europe and the Commonwealth of Independent States. This assistance takes the form of advisory services, training seminars and workshops where countries can share their experiences and best practices.

Transport in UNECE

The UNECE Sustainable Transport Division is the secretariat of the Inland Transport Committee (ITC) and the ECOSOC Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals. The ITC and its 17 working parties, as well as the ECOSOC Committee and its sub-committees are intergovernmental decision-making bodies that work to improve the daily lives of people and businesses around the world, in measurable ways and with concrete actions, to enhance traffic safety, environmental performance, energy efficiency and the competitiveness of the transport sector. The ECOSOC Committee was set up in 1953 by the Secretary-General of the United Nations at the request of the Economic and Social Council to elaborate recommendations on the transport of dangerous goods. Its mandate was extended to the global (multi-sectoral) harmonization of systems of classification and labelling of chemicals in 1999. It is composed of experts from countries which possess the relevant expertise and experience in the international trade and transport of dangerous goods and chemicals. Its membership is restricted to reflect a proper geographical balance between all regions of the world and to ensure adequate participation of developing countries. Although the Committee is a subsidiary body of ECOSOC, the Secretary-General decided in 1963 that the secretariat services would be provided by the UNECE Transport Division. ITC is a unique intergovernmental forum that was set up in 1947 to support the reconstruction of transport connections in post-war Europe. Over the years, it has specialized in facilitating the harmonized and sustainable development of inland modes of transport. The main results of this persevering and ongoing work are reflected, among other things, (i) in 58 United Nations conventions and many more technical regulations, which are updated on a regular basis and provide an international legal framework for the sustainable development of national and international road, rail, inland water and intermodal transport, including the transport of dangerous goods, as well as the construction and inspection of road motor vehicles; (ii) in the Trans-European North-south Motorway, Trans-European Railway and the Euro-Asia Transport Links projects, that facilitate multi-country coordination of transport infrastructure investment programmes; (iii) in the TIR system, which is a global customs transit facilitation solution; (iv) in the tool called For Future Inland Transport Systems (ForFITS), which can assist national and local governments to monitor carbon dioxide (CO2) emissions coming from inland transport modes and to select and design climate change mitigation policies, based on their impact and adapted to local conditions; (v) in transport statistics – methods and data – that are internationally agreed on; (vi) in studies and reports that help transport policy development by addressing timely issues, based on cutting-edge research and analysis. ITC also devotes special attention to Intelligent Transport Services (ITS), sustainable urban mobility and city logistics, as well as to increasing the resilience of transport networks and services in response to climate change adaptation and security challenges. In addition, the UNECE Sustainable Transport and Environment Divisions, together with the World Health Organization (WHO) – Europe, co-service the Transport Health and Environment Pan- European Programme (THE PEP). Finally, as of 2015, the UNECE Sustainable Transport Division is providing the secretariat services for the Secretary General's Special Envoy for Road Safety, Mr. Jean Todt.

Contents

List of Tables

List of Figures

Acronyms and abbreviations

ADB . . . . Asian Development Bank
AH . . . . Asian Highway network
AIIB . . . . Asian Infrastructure Investment Bank
APL . . . . American President Lines
BCP . . . . Border crossing point
BERLITERANS . . . . National Contracting Company of Belarus
BOT . . . . Build Operate Transfer
BSEC . . . . Organization of the Black Sea Economic Cooperation
BTK . . . . Baku-Tbilisi-Kars Railway Line (Azerbaijan, Georgia, Turkey)
CAREC. . . . . Central Asian Regional Economic Cooperation Program
CCTT . . . . Coordinating Council on Trans-Siberian Transportation (International Association)
CEFIR. . . . . Centre for Economic and Financial Research
CIM . . . . Uniform Rules concerning the Contract of International Carriage of Goods by Rail
CIM/SMGS. . . . . . . Common Consignment Note for International Rail Transport
CIS. . . . . Commonwealth of Independent States
CMA-CGM . . . . Maritime Freighting Company – General Maritime Company
COSCO . . . . China Ocean Shipping (Group) Company
COTIF . . . . Convention concerning International Carriage by Rail
EAEU . . . . Eurasian Economic Union
EaP . . . . Eastern Partnership (of the European Union)
EATL . . . . Euro-Asian Transport Links
EBRD . . . . European Bank for Reconstruction and Development
ECE . . . . (UN) Economic Commission for Europe
EC . . . . European Commission
ECO . . . . Economic Cooperation Organization
ECO ITI . . . . ECO Islamabad-Tehran-Istanbul Road Transport Corridor
EDB . . . . Eurasian Development Bank
EEC . . . . Eurasian Economic Commission
EFTA . . . . European Free Trade Association
ESCAP . . . . (UN) Economic and Social Commission for Asia and the Pacific
EAEU . . . . Eurasian Economic Union
EU . . . . European Union
FAS . . . . FESCO Amur Shuttle
FASw . . . . FESCO Amur Shuttle westbound
FBS . . . . FESCO Baltic Shuttle service
FELB . . . . Far East Land Bridge
FESCO . . . . Far Eastern Shipping Company
FEU . . . . Forty-foot equivalent unit

FMS . . . . FESCO Moscow Shuttle
FMSe . . . . FESCO Moscow Shuttle eastbound
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
GM . . . . General Motors
GPST . . . . Global Partnership for Sustainable Transport
GSR . . . . Global Silk Routes Initiative
GUAM . . . . Organization for Democracy and Economic Development
HMM . . . . Hyundai Merchant Marine
ICT . . . . Information and Communication Technology
ICCIMA . . . . Iran Chamber of Commerce, Industries, Mines and Agriculture
IDA . . . . International Development Association
IDB . . . . Islamic Development Bank
IGA . . . . Intergovernmental Agreeement
IGC TRACECA . . . . Intergovernmental Commission TRACECA
IMF . . . . International Monetary Fund
IRU . . . . International Road Transport Union
ITC . . . . International Transport Corridor
KTZ . . . . Kazakhstan National Railway
LG . . . . Railways of Lithuania
LHV . . . . Long and Heavy Vehicles
LISKI . . . . Nationalized Transportation Company of Ukraine
LLDC . . . . Landlocked Developing Countries
MOL . . . . Mitsui O.S.K. Lines
MSC . . . . Mediterranean Shipping Company
NCTS . . . . New Computerised Transit System (Turkey)
N.E.C. . . . . Not Elsewhere Classified
NYK Line . . . . Nippon Yusen Kabushiki Kaisha
OBOR . . . . “One Belt, One Road” Initiative
OCEEA . . . . Office of the Co-ordinator of OSCE Economic and Environmental Activities
OOCL . . . . Orient Overseas Container Line
OPEC . . . . Organization of Petroleum Exporting Countries
OSCE . . . . Organization for Security and Co-operation in Europe
OSJD . . . . Organisation for Co-operation between Railways
OTIF . . . . Intergovernmental Organisation for International Carriage by Rail
PETCs . . . . Pan-European Transport Corridors
PLN . . . . Polish Zloty
PPP . . . . Public Private Partnership
QTTA . . . . Quadrilateral Traffic in Transit Agreement
Reefer Container . Refrigerated shipping container
RETRACK . . . . Reorganisation of Transport Networks by advanced Rail Freight Concepts
ro-ro/ RORO . . . . . Roll-on-Roll-off ships (designed to carry wheeled cargo)
RZD . . . . Russian Railways
RZDL . . . . Russian Railways (RZD) Logistics

SDG . . . . Sustainable Development Goals
SMGS. . . . . Agreement on International Railway Freight Communications
SEEC . . . . Supreme Eurasian Economic Council (of the Eurasian Economic Commission)
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 Motorway
TEN-T. . . . . Trans-European Transport Network
TER . . . . Trans-European Railway
TEU . . . . Twenty-foot equivalent unit
TFA . . . . WTO Trade Facilitation Agreement
TINA. . . . . Transport Infrastructure Needs Assessment
TITR . . . . Trans-Caspian International Transport Route
TNO . . . . the Netherlands Organisation for applied scientific research
TOBB . . . . Union of Chambers and Commidity Exchanges of Turkey
TRACECA. . . . . Transport Corridor Europe-Caucasus-Asia
TTFS . . . . Transport and Trade Facilitation Strategy (CAREC)
TSR . . . . Trans-Siberian Railway
TurkStat. . . . . Turkish Statistical Institute
TWG. . . . . Thematic Working Group
UASC . . . . United Arab Shipping Company
UIC. . . . . International Union of Railways
UNCTAD . . . . United Nations Conference on Trade and Development
UNDP. . . . . United Nations Development Programme
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 Small Island Developing States
UNESCAP . . . . United Nations Economic and Social Commission for Asia and the Pacific
UNWTO . . . . United Nations World Tourism Organization
UTLC . . . . United Transport and Logistics Company
WCO . . . . World Customs Organization
WTO. . . . . World Trade Organization
XUAR . . . . Xinjiang Uyghur Autonomous Region (China)

Some of the Internet addresses provided as references in this report were available at the time of writing but may no longer be accessible.

Introduction

Introduction

Project phases

The Euro-Asian Transport Links (EATL) was a long-term project between countries of Europe and Asia and was supported by international organizations and the transport business community, to improve the conditions for trade and socioeconomic development on the Eurasian continent.

EATL started in 2002 with ECE and ESCAP.

Phase I, "Capacity-building for Developing Interregional Land and Land-cum-sea Transport Linkages" was implemented from 2002 to 2007. The main Euro-Asian road, rail and inland water transport routes, the sea and river ports were identified, and the development projects for the routes were prioritized. It first analysed the physical and non-physical barriers to transport and cargo flows on the routes. A Group of Experts was established to coordinate the development of coherent Euro-Asian inland transport links.

Phase II, from 2008 to 2013, was pursued by ECE and participating countries to agree on nine rail and nine road routes that were considered to be the principle transport links between Europe and Asia from the 311 routes proposed. The links were evaluated for relevance, importance for international traffic, and for their value to connect Asia and Europe. Transport investment needs on the routes at the multi-country level were also assessed. Euro-Asian rail transport was compared to maritime transport, as were time and cost of cargo flows on nine door-to-door routes. ECE also developed a free Geographical Information System (GIS) interactive application with access to the database on EATL routes. The Group of Experts continued to act as a platform for cooperation between EATL countries.

Phase III

The second EATL ministerial meeting (26 February 2013, Geneva) endorsed the phase II report and supported in a joint declaration, a continuation of the project from phase II. Phase III was considered as the most critical phase, aimed at improving operational capacity and connectivity of inland transport between Europe and Asia.

Phase III was agreed on 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.

The Group of Experts analysed trade trends between Europe and Asia, evaluated cargo flows and identified main obstacles, compared delivery times and expenses on different routes, analysed the possibility for integrated time schedules and coordinated tariffs, and reviewed different initiatives and projections of EATL routes.

The EATL Phase III provided valuable inputs towards the operationalization and advancement of regional and global development agendas, including the following UN resolutions and documents:

(a) The United Nations General Assembly adopted resolution 69/213 "Role of transport and transit corridors in ensuring international cooperation for sustainable development" (December 2014).

(b) The United Nations General Assembly adopted 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).

(c) The Second United Nations Conference on Landlocked Developing Countries adopted the Vienna Programme of Action for Landlocked Developing Countries for the Decade 2014–2024 (November 2014).

(d) The first United Nations Global Conference on Sustainable Transport initiated the Ashgabat process on sustainable transport (November 2016).

(e) The “One Belt, One Road strategy” (OBOR) of China (May 2017).

At the Inland Transport Committee session (February 2017), ministers of transport, high-level representatives from 58 countries and the European Union Commissioner for Transport signed the resolution “Embracing the new era for sustainable inland transport and mobility” and agreed to work towards improved regional and intercontinental connectivity with special attention to the EATL project through policy coordination and facilitation of seamless transport.

Benefits of the project: Operationalizing EATL routes improves the capacity, connectivity and the economic efficiency of the routes, which should affect several areas of the EATL countries, especially the EATL developing countries. The actions should:

(a) Achieve the Sustainable Development Goals: operationalization of EATL routes is fundamental to progress for the 2030 Agenda for Sustainable Development and to achieving Goals 2, 3, 7, 8, 9, 11, 12 and 13. Reliable and efficient Euro-Asian inland transport routes are not only transport and transit corridors, but economic corridors that support 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.

(b) Develop international logistics chains: operationalization of EATL routes provides conditions for increasing cargo volumes — time-sensitive, high-value commodities — on primarily rail routes.

(c) Respond to the challenges of the Landlocked Developing Countries (LLDCs): operationalization of EATL routes removes fragmented supply chains and should decrease transport costs by 50 per cent between a landlocked country and the nearest foreign seaport. It should also help LLDCs to fully benefit from access to the global market. In addition, it should help LLDCs to achieve priorities of the Vienna Programme of Action, including:

    (i) Reduction of travel time on corridors and at borders and improve intermodal connectivity (objectives under Priority 1 of the Vienna Programme of Action “Fundamental transit policy issues”).

    (ii) Significant increase of the quality of roads, including increase of the share of paved roads in accordance with international standards; expansion and upgrade of the railway infrastructure and removal of missing links in the regional road and railway transit networks (Priority 2 “Infrastructure development and maintenance”).

    (iii) Significant increase of 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”).

(iv) romotion of regional integration by strengthening regional trade and transport (Priority 4 "Regional integration and cooperation").

(d) Facilitate regional trade, primarily in Central Asia: especially in the context of the implementation of the WTO Trade Facilitation Agreement that came into force on 22 January 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

Chapter I analyses the economic situation and trends in trade, describes the EATL routes and provides a 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 which the EATL inland routes could compete with maritime and air routes between Europe and Asia. The key conclusions of this chapter are:

- Economic growth and growth in international trade are not the drivers of freight flows as in the past.
- Even if the inland routes can never compete in volume of freight with maritime routes, they can be increasingly used for high value and time-sensitive freight.
- Markets create new opportunities, e.g. e-commerce, that can increase freight flows on inland routes.
- Inland routes to compete for high-value and time sensitive (e.g. e-commerce) cargo need to respond to the requirements of modern supply chains.
- Railway transport is developing but more development is needed - removal of existing infrastructural gaps and more importantly further adjustments to the requirements of modern supply chains are necessary.
- Regular operation of container block trains is most competitive, logistics-market-oriented model for enhanced operationalization of EATL inland routes.
- Road transport does not operate yet on long distance (East and South-East Asia to Europe), the role of road transport needs to be carefully considered.

Chapter II reviews initiatives, national and international projects and programmes aimed at developing EATL inland routes.

Chapter III identifies and describes the obstacles and bottlenecks to the flow of cargo on EATL inland routes. Physical and, in particular, the non-physical barriers, identified as the main obstacles in developing the EATL inland routes, are explained in detail. Among the main obstacles are delays at border crossings mainly due to process inefficiencies, availability and processing of various permits, visa procedures, full paper documentation, differences in legal regimes, poor service, inflexibility for re-routing, and uncompetitive and changing tariffs.

Chapter IV updates the SWOT analysis from phase II. The strengths, weaknesses, opportunities and threats are presented by different issues, e.g. (i) access to markets for LLDCs, (ii) international trade between Europe and Asia, (iii) EATL infrastructure, and (iv) harmonization of procedures between EATL countries.

Chapter V makes recommendations for the development of EATL at the national and international levels. These recommendations to be considered by governments, international organizations, non-governmental organizations, business and other stakeholders are provided in a format of actionable initiatives.

The Way forward

The knowledge gathered, the opportunities to seize and weaknesses to address for the EATL inland routes in Phase III, and the concrete recommendations provided as actionable initiatives that governments, international organizations, non-governmental organizations and businesses could undertake, provide a sound basis for the development of new and innovative EATL operationalization efforts.

***

Part I.

Euro-Asian Trade Routes and Freight Flows

PART I. Euro-Asian Trade Routes and Freight Flows

I.1. Economics and trade in the Euro-Asian Transport Links region

I.1.1. General Overview

Economic growth and effective transport connectivity are closely interrelated to on the Euro-Asian landmass.

By operationalizing Euro-Asian inland transport routes, countries and people of both continents would be able to participate more effectively in global production networks, global distribution and value chains.

On the other hand, economic growth in countries on Euro-Asian inland routes is accompanied by an increase in exports and imports, and in demand for transport services. Boosting the trade potential of the region requires diversification of transport links, optimization of transport costs, and time needed for the delivery of goods.

Thus, the economy and trade potential of EATL countries is a leading indicator of change in cargo flows on inland routes connecting Europe and Asia.

Achieving the general goals of the EATL project is more complicated in a context of economic downturn and thus any prioritisation effort should be discerning.

Global economic activity and international trade remained subdued in the period 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.

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

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 forecasted 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.

Diverging individual country performances unfolded against the background of lower oil and commodity price levels, weak global demand and a slowdown in China. The transition of China 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). The economy of China slowed over the period 2014–2016 too, although it still grew 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.

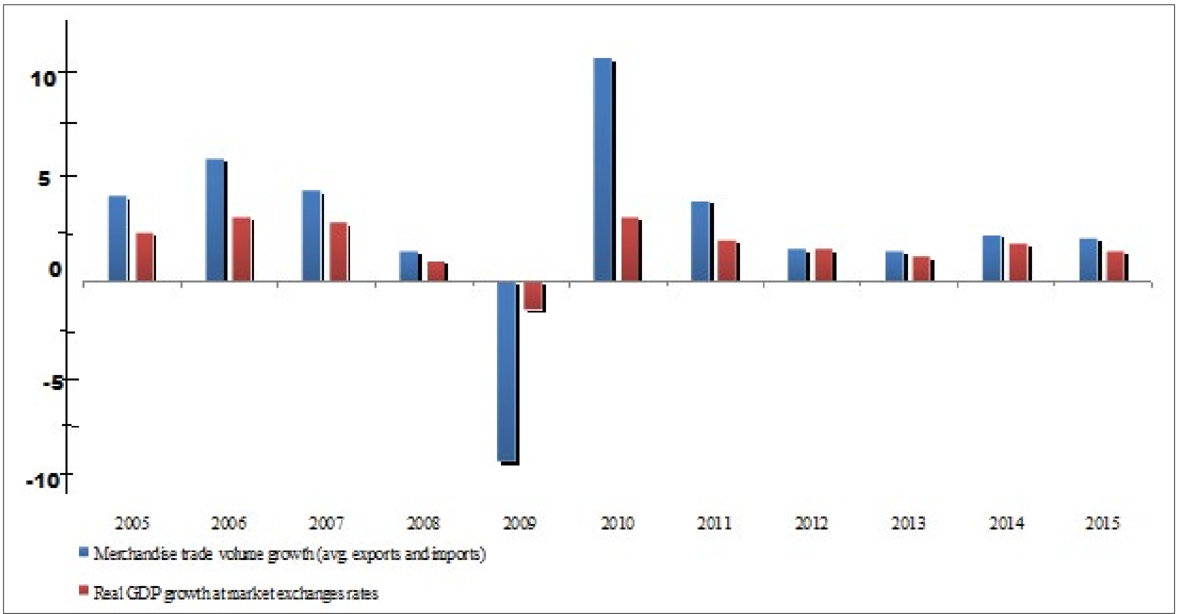
In the same period, world merchandise trade expanded at a relatively slow pace, either matching or going below world GDP growth levels, while in earlier years, on average, international trade was growing significantly faster than the world GDP. The trade to GDP growth ratio was estimated at 0.62 in 2015,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

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).

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 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.

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

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

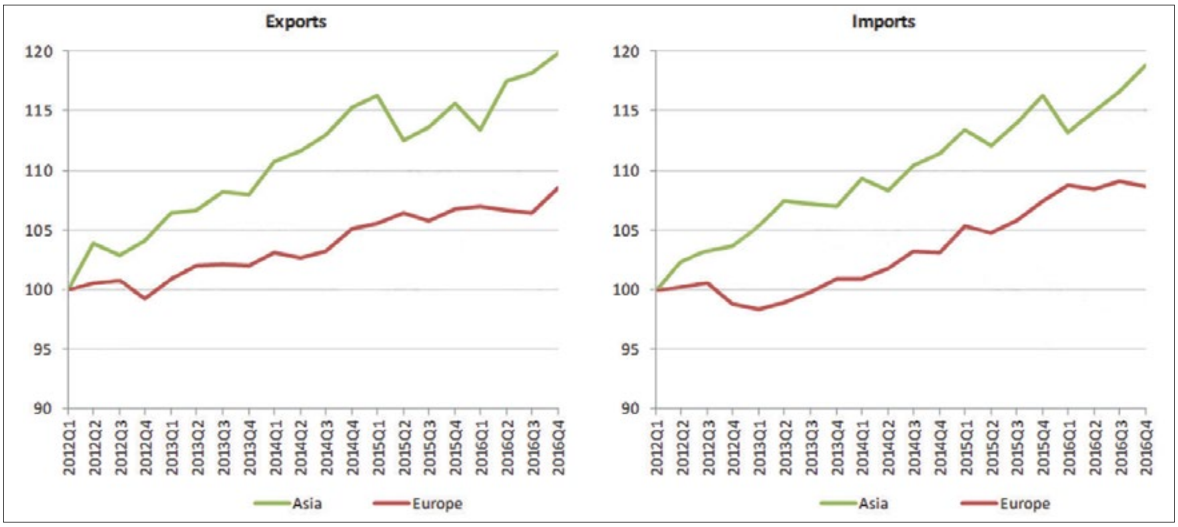
Source: WTO (2017) Trade recovery expected in 2017 and 2018, amid policy uncertainty. Trade statistics and outlook, PRESS/793, 12 April 2017

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. Regarding 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 a growth of 2.0 per cent for the year.

The contraction of 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).

Figure 1.2 Volume of merchandise exports and imports by Europe and Asia in 2012–2016, seasonally adjusted indices



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

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]

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).

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).

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

Table 1.3 Rates of growth of real GDP in China, Mongolia and the 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: United Nations (2017) World Economic Situation and Prospects 2017
Note: Forecast, based in part on Project LINK.

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 (United States Dollars)	28.3	18.4	4.7	4.8	3.3	-5.3	-0.7	5.7	6.6
Value of import (United States 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: United Nations (2017) World Economic Situation and Prospects 2017
Note: Forecast, based in part on Project LINK.

that 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 “One Belt – One Road” (OBOR) project of China and its “Silk Road Economic Belt” component were launched to strengthen intraregional trade and economic cooperation, and which should provide additional impetus to developing transport on Euro-Asian inland routes.

A severe contraction in world trade in 2015 and the reduced output in several extra regional developing countries produced the opportunity for relatively more intraregional trade.

I.1.3. South-Eastern Europe

Economic growth in South-Eastern Europe (i.e. Balkan States and Turkey) accelerated from 0.5 per cent in 2015 to 1.2 per cent in 2016, due mainly to an ease in 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 Serbia and Turkey, which are two of the region’s largest economies. The improved performance was driven largely by domestic factors. However, differences were marked across the region and some countries, in particular the former Yugoslav Republic of Macedonia, lost momentum. The region’s GDP growth was projected to strengthen from 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 in table 1.5). However, average growth was expected to remain weaker than 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 vulnerability.

Table 1.5 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 and 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: United Nations (2017) World Economic Situation and Prospects 2017
Note: Forecast, based in part on Project LINK.

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 (United States Dollars)	14.3	21.2	-6.4	16.3	4.6	-10.7	6.9	8.7	8.1
Value of import (United States 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: United Nations (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 continues 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).

TurkStat data and the World Economic Outlook Report of the World Bank[5] state that Turkey had pursued an export-led growth policy from 1980. Through economic reforms, restrictions on imports were lifted, safeguard practices were reduced, and foreign exchange transactions were liberalized. Due to the economic reforms carried out during the last decade, both the volume and composition of the Turkish trade radically changed. For the 100th anniversary of the Republic (2023), the main export target of Turkey was expected to reach $500 billion.

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

I.1.4. Commonwealth of Independent States

Since the collapse of the Soviet Union, the successor States that form the Commonwealth of Independent States (CIS) and Georgia have suffered 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 muchreduced 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 forecasted at 2.0 per cent in 2018.

The economies of these countries differ in size and industrial composition. Most of the CIS countries had transitioned from centrally-planned to market economies at different levels of transformation. Turkmenistan and Uzbekistan were still characterised by relatively closed markets.

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

The Russian Federation is the biggest economy of the CIS in GDP and in merchandise trade. Russian exports were $384 billion United States Dollars of goods in 2016 and Armenian were $3.2 billion United States Dollars.

Table 1.7 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
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: United Nations (2017) World Economic Situation and Prospects 2017
Note: Forecast, based in part on Project LINK.

Table 1.8 EATL countries: Bilateral and multilateral trade agreements

Countries	WTO TFA	EAEU	CISFTA	European Union Association	Bilateral trade Agreements with EATL countries
Armenia (AM)	2003	yes	yes		KZ, MD, RU, TM, 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 (Islamic Republic of) (IR)	observer				
Kazakhstan (KZ)	2015	yes	yes		AM, GE, UK, RU, KZ,
Kyrgyzstan (KY)	1998	yes	yes		AM, KZ, MD, RU, UZ, UK
Republic of Moldova (MD)	2001		yes	yes	KY, AM, UK, RU
Russian Federation (RU)	2012	yes	yes		AM, GE, BY, AZ, KZ, MD, TJ, TM, UK, UZ
Tajikistan (TJ)	2013		yes		RU, UK
Turkey (TR)	1995				GE
Turkmenistan (TM)	no				AM, GE, UK, RU
Ukraine (UK)	2008			yes	AM, GE, KY, AZ, BY, KZ, MD, RU, TJ, KZ, TM, TR, UZ
Uzbekistan (UZ)	observer		yes		KY, RU, UK

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

Table 1.9 Export and import of goods in CIS countries, 2013–2016 and forecast for 2017–2018 (Percentage change)

	2010	2011	2012	2013	2014	2015	2016	Forecast	
								2017	2018
Value of export (United States Dollars)	28.5	31.4	3.2	-1.0	-5.8	-29.2	-7.4	14.5	12.4
Value of import (United States 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: United Nations (2017) World Economic Situation and Prospects 2017
Note: Forecast, based in part on Project LINK.

External balances deteriorated in most CIS countries. The region's aggregate current account surplus shrank sharply following 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 reduced pace. 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 2014–2016 in the Ukraine as a consequence of currency depreciation. In Kyrgyzstan and Tajikistan, current account deficits remained very large.

The physical volume of exports grew by 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).

The economic outlook faced 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 at a slow pace in 2016–2017, with momentum created by a growth rate reduction in China and other Asian developing economies. Developments in the Chinese economy and related spill over effects on other large developing countries impacted Euro-Asian trade for developed and developing countries, including Central Asian LLDCs. Lower commodity and oil price levels eroded in 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 influenced the global economy and trade sharply, and probably will for a long enough period, remain the dominating external factor. As such, growth of international trade would not lead 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 choice of route can depend on the type of good transported. This report uses the following categories:

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

(b) Containerised goods for mixed inland and maritime transport between Europe and Asia.

(c) High-value containerised goods for mixed inland and air transport between Europe and Asia.

Euro-Asian cargo for transport by inland modes includes high value and small volume goods, particularly containerised cargo. These are typically goods for which air transport would be expensive and maritime transport slow. All goods of the Harmonized System of Trade Classification (HS) were identified as suitable for inland transport (table 1.10).

Table 1.10 Cargo for Euro-Asian inland transport

Commodity Group	Description	Possibility of containerisation	Preferential mode of transport
01-05 Animal and Animal Products			
01	Animals; live	-	rail, road
02	Meat and edible meat offal	possible (refcontainers) reefer containers = refrigerated shipping container	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

Table 1.10 Cargo for Euro-Asian inland transport (continued)

Commodity Group	Description	Possibility of containerisation	Preferential mode of transport
15	Animal or vegetable fats and oils and their cleavage products; prepared animal fats; animal or vegetable waxes	possible (containers/ refcontainers)	maritime, rail, road
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; pastry cooks' 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 and 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

Table 1.10 Cargo for Euro-Asian inland transport (continued)

Commodity Group	Description	Possibility of containerisation	Preferential mode of transport
39-40 Plastics / Rubbers			
39	Plastics and articles thereof	possible (containers)	maritime, rail, road
40	Rubber and articles thereof	possible (containers)	maritime, rail, road
41-43 Raw Hides, Skins, Leather and Furs			
41	Raw hides and skins (other than fur skins) 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	Fur skins and artificial fur; manufactures thereof	possible (containers)	maritime, rail, road
44-49 Wood and 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; basket ware 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
66	Umbrellas, sun umbrellas, walking-sticks, seat sticks, whips, riding crops; and parts thereof	possible (containers)	maritime, rail, road

Table 1.10 Cargo for Euro-Asian inland transport (continued)

Commodity Group	Description	Possibility of containerisation	Preferential mode of transport
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; coins	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

Table 1.10 Cargo for Euro-Asian inland transport (continued)

Commodity Group	Description	Possibility of containerisation	Preferential mode of transport
94	Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, N.E.C..; illuminated signs, illuminated name-plates and the like; prefabricated buildings	possible (containers)	air, maritime, rail, road
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; collector's pieces and antiques	possible (containers)	air, rail, road

Source: UNECE

According to the Coordinating Council on Trans-Siberian Transportation (CCTT) and OSJD,[6] railways could compete with air or maritime modes for the transport of the following goods:

	Competition with …	
	Air	Maritime
pharmaceuticals	YES (high)	YES
electronic products	YES	YES
IT	YES	YES
fashion products	–	YES
footwear	–	YES
automotive components	–	YES
tyres	–	YES
specific construction materials	–	YES
timber and wood	–	YES
chemicals	–	YES
fertilizers	–	YES
white goods	–	YES
pipes	–	YES
particular agricultural products	–	YES
machinery	–	YES

Source: CCTT and OSJD

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 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 Europe to China.

Examples of specific services included:

- The Chongqing–Xinjiang–Europe train with electronics, cars, and medical equipment.
- 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.

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

With the development of internet technologies and improved internet access, express delivery and an e-commerce market were established, which increased its share in Europe-Asia trade flows.

WTO[7] in 2013 valued business to business (B2B) e-commerce at about $15 trillion and business to consumer (B2C) e-commerce at more than $1 trillion United States Dollars.

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 to 120 million items. The difficulties in obtaining statistics on international e-commerce transactions do not allow an accurate measure of the size of this market using official statistics such as 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 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 United States Dollars.[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 to speed up the delivery and minimize costs.

Inland transport could obtain a good market share. In one UPS study,[9] the transport of goods via the inland routes of Chengdu–Lodz and Zhangzhou–Hamburg was twice as fast as a 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 those interviewed were willing to switch to inland transport.

I.2.2. Main trade partners

A matrix of corresponding European and Asian countries was developed for the report.

The countries participating in the EATL project were divided:

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

Countries of Europe participating in Euro-Asian trade: 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.

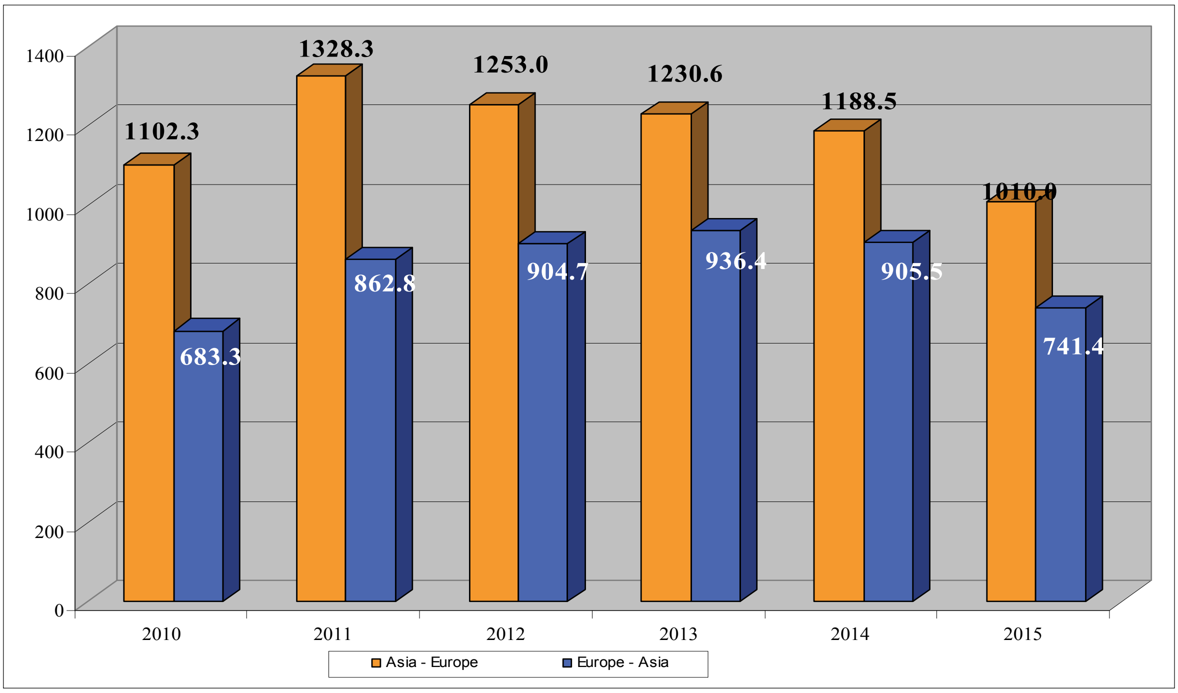
Two tables of Asian and European import and exports were developed with the following in mind.

European Union member States are represented as in EU-28.

The three countries marked by* above were not participants of EATL, but are included due to the share of the Euro-Asian inland transport: India, Japan and the Republic of Korea.

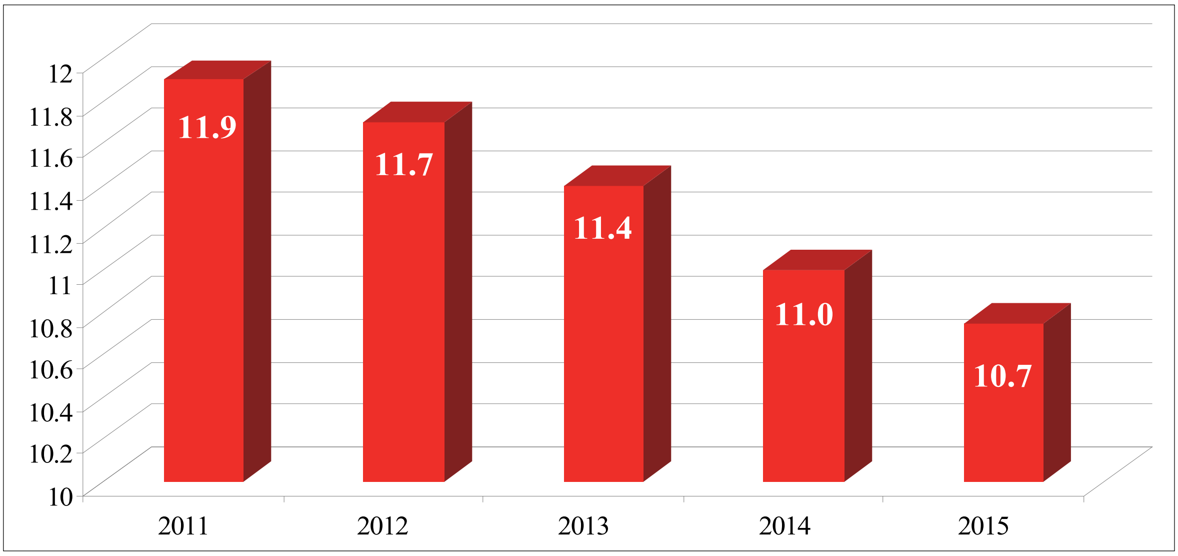
The Russian Federation and Turkey are in both the European and the Asian tables. Both countries are between the two continents, thus inland trade flows to and from Europe and Asia.

Figure 1.3 Trade in goods between selected European and Asian countries in 2010–2015, billions of United States dollars



Source: United Nations Comtrade database

Figure 1.4 Share of trade in goods between selected European and Asian countries, in 2011–2015, per cent



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

Figure 1.3 shows the total volume of trade between Europe and Asia on inland transport routes from United Nations Comtrade data (United States Dollars).

The share of trade between Europe and Asia, which was transported on inland routes steadily declined from 2011 to 2015 as a percentage of global trade: 11.9 per cent in 2011 and 10.7 per cent in 2015 (figure 1.4).

Trade flows between the selected European and Asian countries are given in tables 1.11 to 1.22.

Figures of flows for certain types of commodity are in the annex.

Goods that cannot be transported in containers between Europe and Asia, for example, oil, gas, coal, cereals, wood, live animals, some types of machinery and equipment (nuclear reactors, boats, airplanes, railway rolling stock), were excluded from the total volume of trade between Europe and Asia. The latter was done to enable a focus only on those cargo flows for which inland transport could compete with maritime transport.

Table 1.11 Import of goods to Asia from selected European countries in 2010, million United States Dollars

Asia import country	Europe export country											
	Belarus	Bosnia and Herzegovina	Georgia	EU-28	the former Yugoslav Republic Macedonia	Republic of 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 (Islamic Republic of)	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: United Nations Comtrade database
*) India, Japan and the Republic of Korea are not EATL project countries

Table 1.12 Export of goods from Asia to selected European countries in 2010, million United States Dollars

Asia import country	Europe import country											
	Belarus	Bosnia and Herzegovina	Georgia	EU-28	the former Yugoslav Republic Macedonia	Republic of 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 (Islamic Republic of)	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
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: United Nations Comtrade database
*) India, Japan and the Republic of Korea are not EATL project countrie

Table 1.13 Import of goods to Asia from selected European countries in 2011, million United States Dollars

Asia import country	Europe export country										
	Belarus	Bosnia and Herzegovina	Georgia	EU-28	the former Yugoslav Republic Macedonia	Republic of 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 (Islamic Republic of)	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: United Nations Comtrade database

*) India, Japan and the Republic of Korea are not EATL project countries

Table 1.14 Export of goods from Asia to selected European countries in 2011, million United States Dollars

Asia import country	Europe export country										
	Belarus	Bosnia and Herzegovina	Georgia	EU-28	the former Yugoslav Republic Macedonia	Republic of 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 (Islamic Republic of)	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: United Nations Comtrade database

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

Table 1.15 Import of goods to Asia from selected European countries in 2012, million United States Dollars

Asia import country	Europe export country											
	Belarus	Bosnia and Herzegovina	Georgia	EU-28	the former Yugoslav Republic Macedonia	Republic of 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 (Islamic Republic of)	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
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: United Nations Comtrade database
*) India, Japan and the Republic of Korea are not EATL project countries

Table 1.16 Export of goods from Asia to selected European countries in 2012, million United States Dollars

Asia import country	Europe export country											
	Belarus	Bosnia and Herzegovina	Georgia	EU-28	the former Yugoslav Republic Macedonia	Republic of 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 (Islamic Republic of)	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: United Nations Comtrade database
*) India, Japan and the Republic of Korea are not EATL project countries

Table 1.17 Import of goods to Asia from selected European countries in 2013, million United States Dollars

Asia import country	Europe export country											
	Belarus	Bosnia and Herzegovina	Georgia	EU-28	the former Yugoslav Republic Macedonia	Republic of 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 (Islamic Republic of)	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: United Nations Comtrade database
*) India, Japan and the Republic of Korea are not EATL project countries

Table 1.18 Export of goods from Asia to selected European countries in 2013, million United States Dollars

Asia import country	Europe export country											
	Belarus	Bosnia and Herzegovina	Georgia	EU-28	the former Yugoslav Republic Macedonia	Republic of 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 (Islamic Republic of)	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
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: United Nations Comtrade database
*) India, Japan and the Republic of Korea are not EATL project countries

Table 1.19 Import of goods to Asia from selected European countries in 2014, million United States Dollars

Asia import country	Europe export country											
	Belarus	Bosnia and Herzegovina	Georgia	EU-28	the former Yugoslav Republic Macedonia	Republic of 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 (Islamic Republic of)	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
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: United Nations Comtrade database
*) India, Japan and the Republic of Korea are not EATL project countries

Table 1.20 Export of goods from Asia to selected European countries in 2014, million United States Dollars

Asia import country	Europe export country											
	Belarus	Bosnia and Herzegovina	Georgia	EU-28	the former Yugoslav Republic Macedonia	Republic of 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 (Islamic Republic of)	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: United Nations Comtrade database
*) India, Japan and the Republic of Korea are not EATL project countries

Table 1.21 Import of goods to Asia from selected European countries in 2015, million United States Dollars

Asia import country	Europe export country											
	Belarus	Bosnia and Herzegovina	Georgia	EU-28	the former Yugoslav Republic Macedonia	Republic of 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 (Islamic Republic of)	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: United Nations Comtrade database

*) India, Japan and the Republic of Korea are not EATL project countries

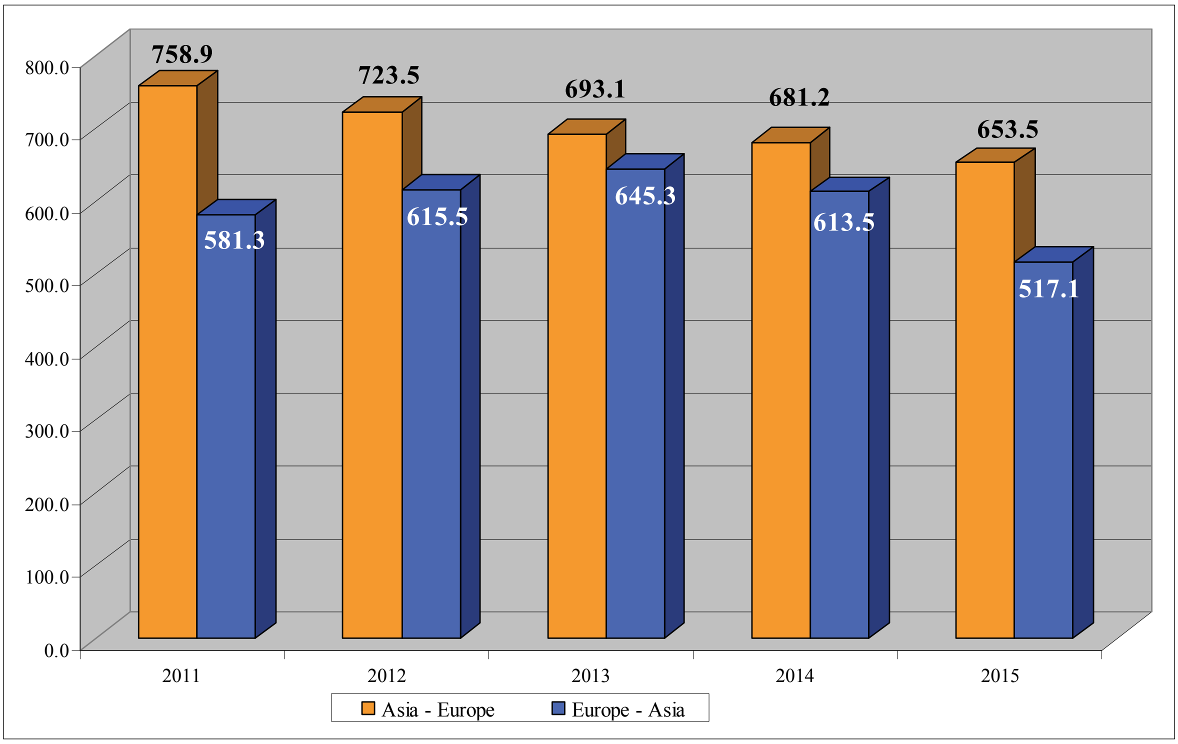
Table 1.22 Export of goods from Asia to selected European countries in 2015, million United States Dollars

Asia import country	Europe export country											
	Belarus	Bosnia and Herzegovina	Georgia	EU-28	the former Yugoslav Republic Macedonia	Republic of 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 (Islamic Republic of)	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
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: United Nations Comtrade database

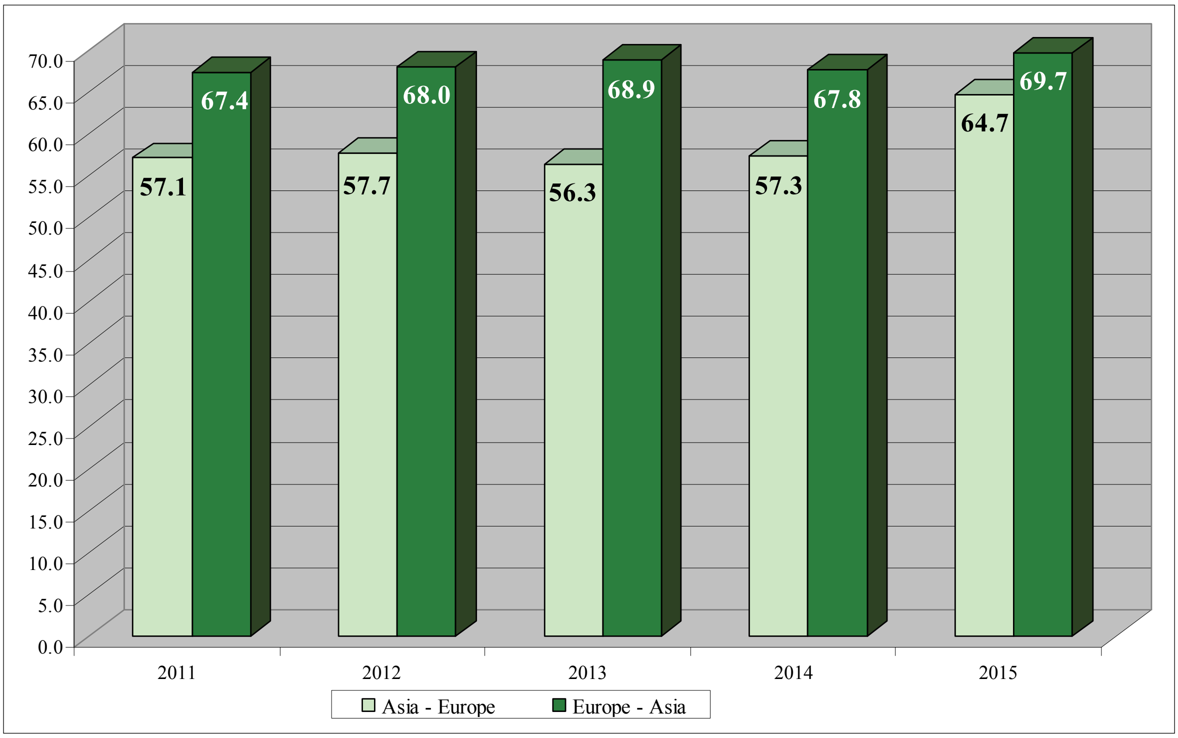
*) India, Japan and the Republic of Korea are not EATL project countries

Figure 1.5 Trade in containerised goods between selected European and Asian countries in 2011–2015, billion United States Dollars



Source: United Nations Comtrade database

Figure 1.6 The share of containerised goods in total volume of trade between selected European and Asian countries in 2011–2015, percentage



Source: United Nations Comtrade database

According to the Comtrade database, the volume of containerised trade on inland routes between Europe and Asia was $1,170.6 billion United States Dollars in 2015. Asia exported $653.5 billion of goods to Europe United States Dollars; while Europe exported $517.1 billion United States Dollars (figure 1.5).

The share of containerised goods in total volume of trade between Europe and Asia for the period 2011–2015 was approximately 65 per cent for the routes from Asia to Europe and 70 per cent for the routes going in the opposite direction. (figure 1.6).

The annex shows that for most types of goods, the following pairs of trading partners led the volume of trade flows between Europe and Asia: China and EU-28; Republic of Korea and EU-28; China and the Russian Federation; China and Turkey; EU-28 and China; Japan and EU-28.

I.3. Euro-Asian transport flows

I.3.1. Overview

Euro-Asian trade was largely transported by sea, according to organizations such as UNCTAD, Eurostat, IATA, UIC, Boeing Corporation and their container statistics[10] at the time of phase III of EATL. More than 95 per cent of the volume (in metric tonnes) and nearly 70 per cent of the value (in United States dollars) of cargo United States Dollars was transported by maritime routes. Air cargo between Europe and Asia was less than 2 per cent by volume, but over 30 per cent by value. Railways carried 1 per cent of volume and more than 2 per cent of the value. The road transport of goods between China and Europe (without a change of trucks or transhipment en route) began in 2017.

"Maritime routes" or "maritime transport" in this report are intermodal transport from Asia to Europe, port transhipment and continuation in Europe on rail, truck, or both.

According to Eurostat statistics the total volume of goods transported between the EU-28 and China in 2016 was approximately 105 million tonnes (table 1.23).

Table 1.23 Volume of goods transported between the European Union and China by mode of transport, 2011–2016 (million tonnes)

Modes of transport	2011	2012	2013	2014	2015	2016	percentage change
From China to the 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 the 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 EU-28 and China	90.2	84.7	90.9	96.9	100.8	105.0	116.4

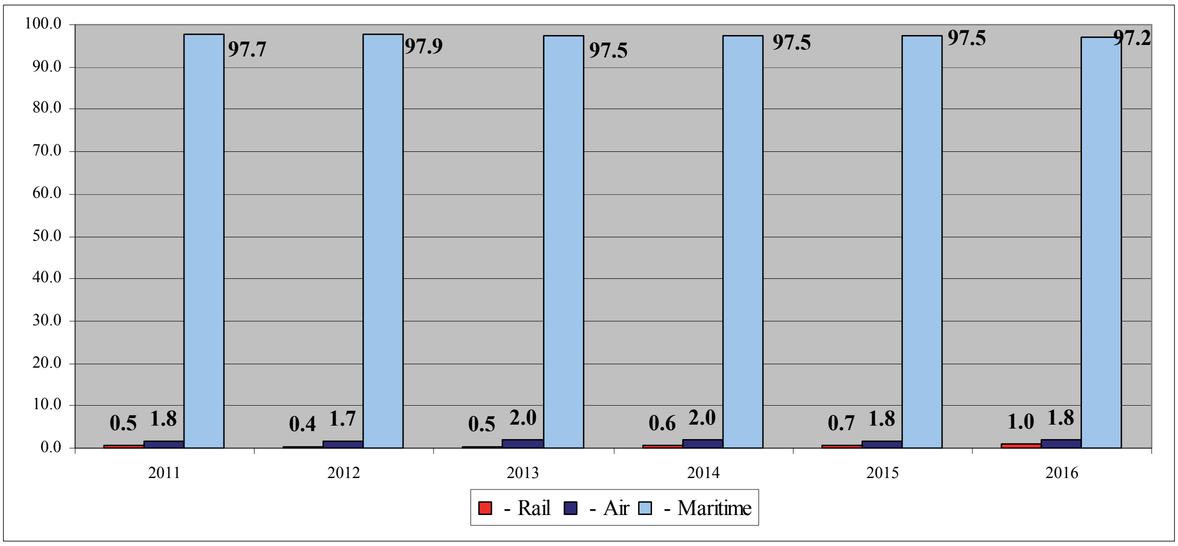
Source: Eurostat

Table 1.24 Average value of one tonne transported between the European Union and China by modes of transport, 2011–2016 (United States dollars)

Modes of transport	2011	2012	2013	2014	2015	2016	2011-2016, %
From China to the European Union							
Maritime	4 865	4 886	4 353	4 440	4 925	4 174	85.8
Rail	5 057	6 023	5 956	7 956	9068	9 841	194.6
Air	79 266	83 342	71 676	65 206	81 772	75 931	95.8
From the European Union to China							
Maritime	3 125	3 016	3 027	3 215	2 400	2 273	72.8
Rail	3 056	4 946	10 083	10 130	8 647	12 057	394.5
Air	83 047	88 239	76 615	10 1073	87 011	74 154	89.3

Source: Calculations based on Eurostat statistics

Figure 1.7 Market share by mode of transport in cargo flows (in tonnes) between the European Union and China, 2011–2016 (percentage)



Source: Eurostat

As noted above, the value of the goods affects the customer's or logistic provider's choice of transport mode. See table 1.24.

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

The interest in railway links between China and the European Union has increased a lot as it offers a competitive service to products under certain conditions. The main advantage of rail as compared to maritime is that it is faster. Several multinational companies, including Audi, BMW, General Motors, Volkswagen and Samsung have begun operating regular block trains on different EATL routes.

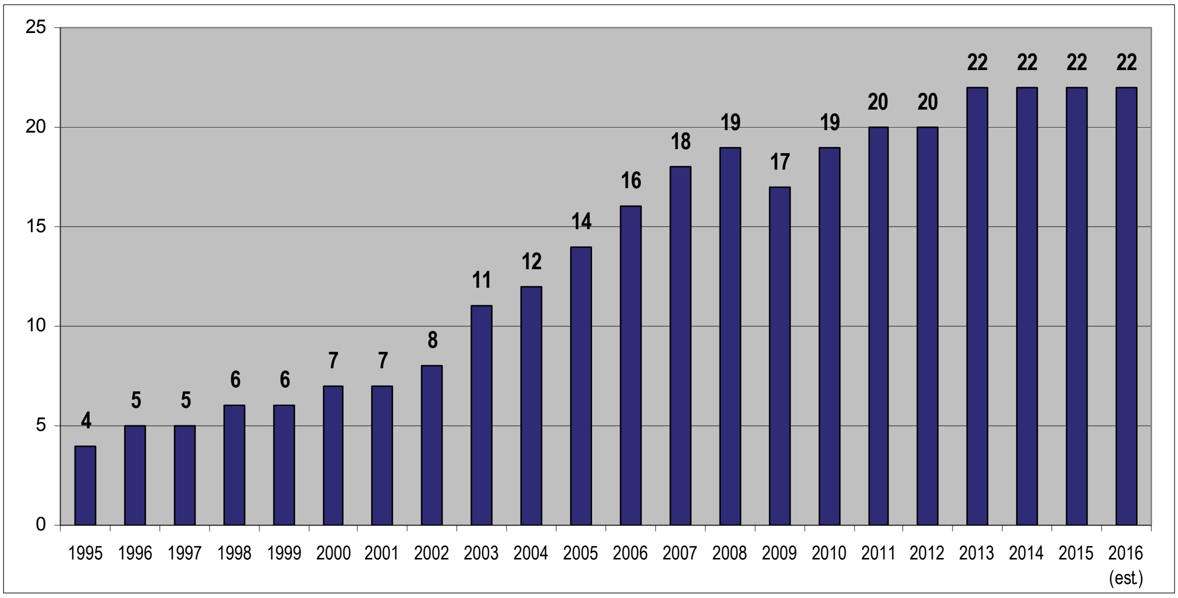
However, land transport is unlikely to ever compete with maritime routes because of a capacity limit of 1–2 per cent of the physical volume (in metric tonnes) of sea transport. However inland routes could obtain a good share of time-sensitive cargo, such as high-value components in the automotive or computer industries.

I.3.2. Liner shipping

In phase III, three factors were identified that combined impacted on containerised trade growth (figure 1.8): (a) the decline in volumes on the head haul of the Eastern Asia–Europe trade routes; (b) the impact of low commodity prices and the resulting purchasing power of commodity exporting countries, and (c) the pressure of the slowdown in China.

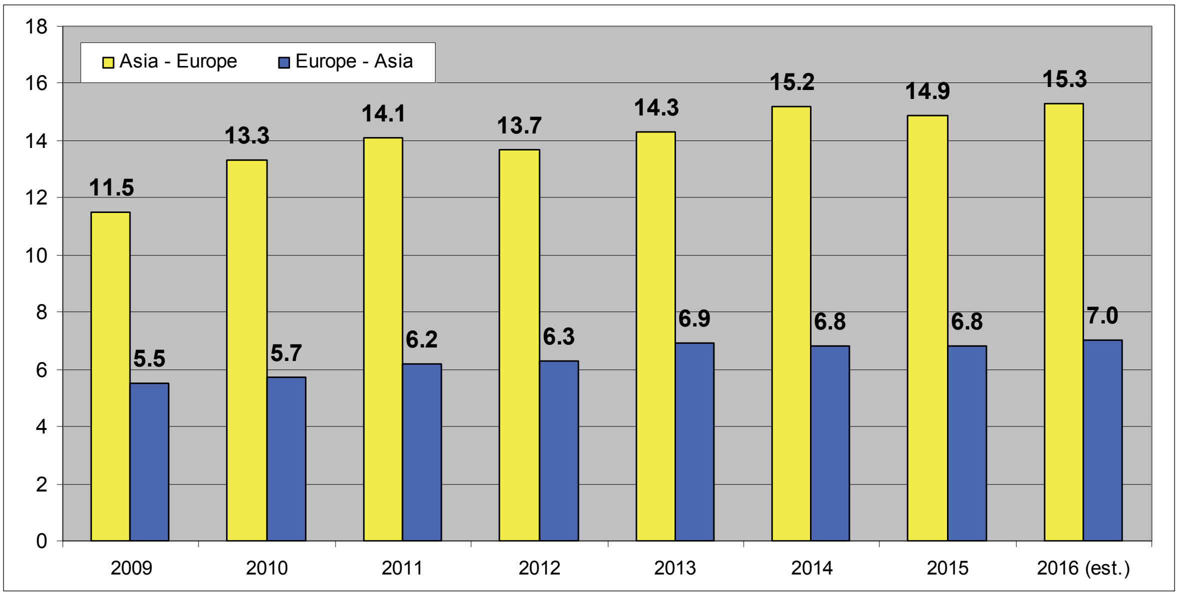
The decline in 2015 of European containerised trade with Asia seemed inconsistent with data that indicates that, in 2015 intra-European trade increased. Intraregional imports grew by 1.4 per cent while imports from the rest of the world remained unchanged. The share of intraregional imports of total 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 in 2015, a shift was argued in favour of regional and closer-to-end-market sources of goods.

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



Source: UNCTAD (2016) World Maritime Review Container Trades Statistics Ltd. (CTS), updated December 2016, available at: www.containerstatistics.com

Figure 1.9 Containerised cargo flows between Asia and Europe, 2009–2016 (million TEUs)



Source: UNCTAD (2016) World Maritime Review

Problems affecting the container freight market in 2015 were linked with 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 a further consolidation and restructuring of the container shipping industry.

Regular shipping liners dominated Euro-Asian trade due to incomparable economies of scale and punctual service, which was highly valued in modern supply chains. Maritime transport also showed high market flexibility that helped keep customers loyal. Flexibility involved the introduction of slow steaming and the creation of shipping alliances,and resulted in offers of flexible service rates.

Slow steaming — reducing vessel speeds to save fuel and cut costs — were adopted by the majority of shipping liners and is one of the important changes in the maritime shipping industry since the 2009 crisis.

Clarksons Research[14] showed that before slow steaming, service from the Far East to Europe typically included eight ships to maintain weekly calls over a period of 56 days for full rotation (28 days for one leg). After slow steaming was introduced, the number of vessels needed increased to ten to maintain weekly calls, and times en route increased to 70 days for a full rotation (35 days for one leg). At the same time, the reduction in speed also reduced bunker cost of a mega-containership by almost 50 per cent and even more for a 5,000 TEU's ship. Slow steaming also decreased environmental pollution.

Many shippers shifted to slow steaming since the decreased tariff seemed very attractive in a crisis (see figure 1.11 and table 1.19). Others with high-value merchandise opposed the practice due to an increased pipeline inventory associated with longer transit times (or times en route).

While opinions differ about the future of slow steaming. It gave a chance for rail operators to offer competitive services to customers who believe that slow steaming was not acceptable for their business model.

Creation of shipping alliances allows shipping lines to rationalise their resources by making usage of common resources such as ships, port terminals and networks around particular routes which leads to a decline in variable costs (incl. bunker costs and part charges). Vessel-sharing within an alliance helps carriers to increase service frequency without having to introduce extra vessels. As a negative side-effect, rate "harmonization" within the alliances, although legally prohibited, also occurs.

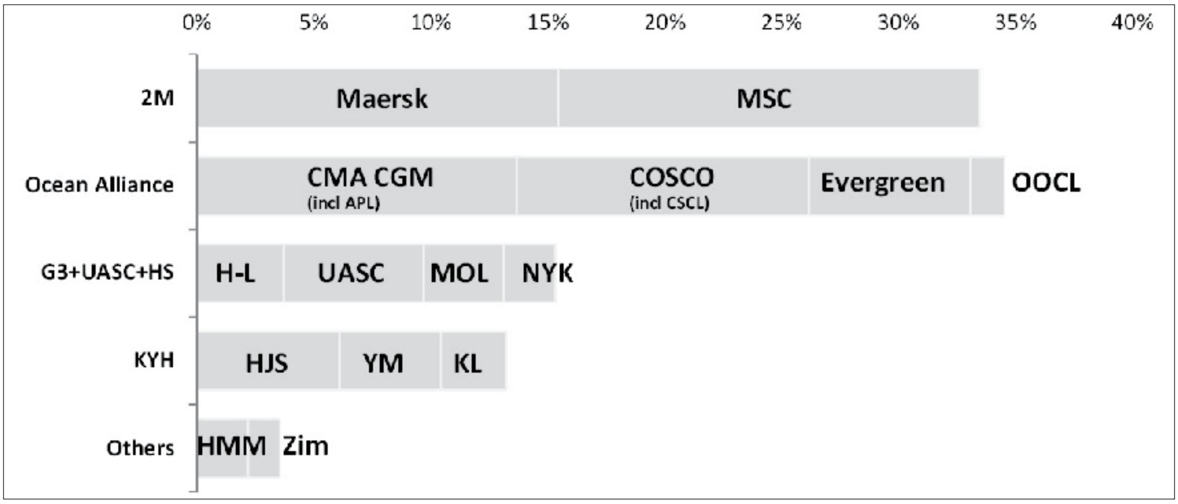
In 2016, four main container carrier alliances were officially approved by China, the United States of America and the European Union: 2M, Ocean 3, KYH and G6.[15] They moved more than 70 per cent of the cargo volumes on the major East-West trade lanes.

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

In 2017–2018, shipping alliances may see changes which may affect nearly all of the above shipping lines. Hapag-Lloyd, which recently merged with UASC, and five Asian carriers want to form the new vessel-sharing "THE Alliance". In addition, HMM was expected to join Maersk and MSC in the 2M alliance.

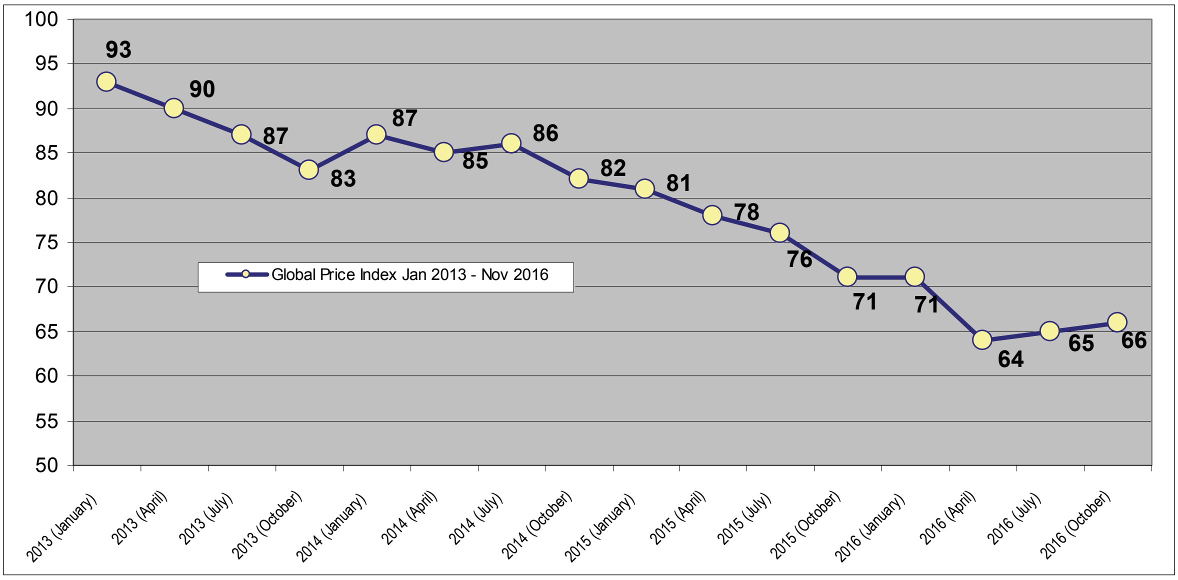
The exact impact of this new alignment of the major container ship operators had yet to be fully assessed. Shippers were advocating for greater scrutiny and the need to conduct reviews to determine how the alliances impacted the industry. An immediate consequence of consolidation was the tendency for alliances to focus on reducing transit times and increasing 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 lines trade lane. 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

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



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

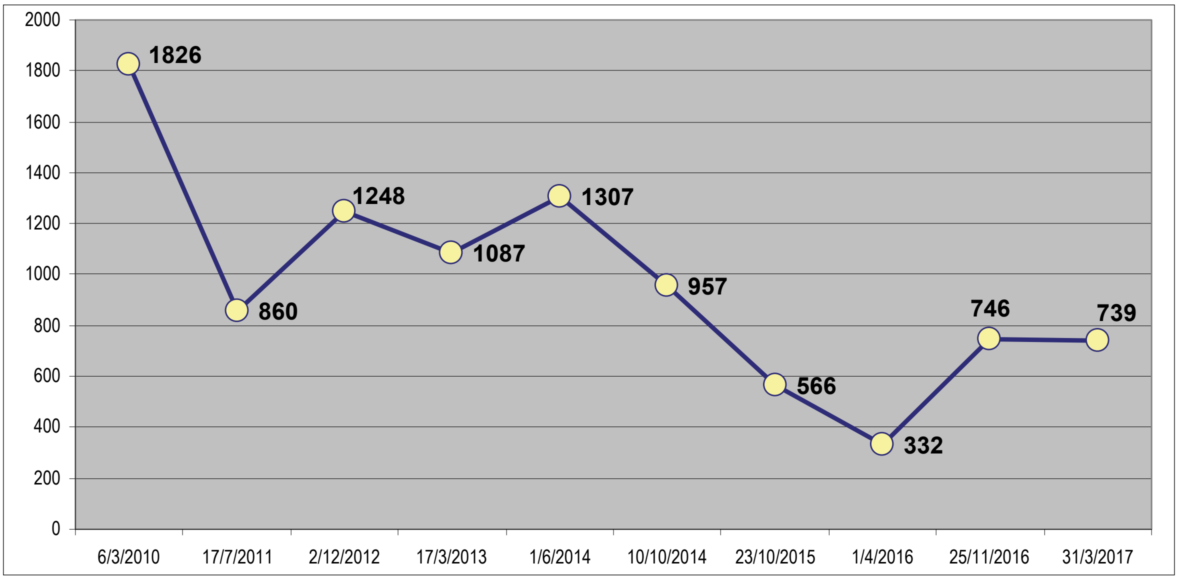
Flexible rates could have been introduced by maritime shipping companies as a result of slow steaming and a set-up of alliances, which helped to bring down the cost of operation and thus to keep business competitive. The crisis period illustrated that very well. Figure 1.14 shows the dynamics of Chinese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

East-West sea routes generally reduced their rates, as a reflection of the economic situation (figures 1.11, 1.12 and tables 1.25 and 1.26). The Far East–Northern Europe trade route freight rates, for example, averaged as low as $629 United States Dollars 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, FarEast–

Mediterranean spot rates fell by 41 per cent, reaching $739 United States Dollars 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, containerised trade continued to face the upsizing of container ships which influenced 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 1.12 China forwarders freight index, China-Europe shipping lines, 2010–2017 (United States dollars per TEU)



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

Table 1.25 Port-to-port freight index list on trade routes China – Europe shipping lines, 6 April 2017 (United States dollars per TEU)

Port of departure in China	Port of destination in Europe						
	Antwerp	Bremen	Felixstowe	Hamburg	Le Havre	Rotterdam	Zeebrugge
Guangzhou	1 850	300	2 070	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 1.26 Container freight markets and rates on trade routes Far East – Europe (United States dollars per TEU)

Freight markets	2009	2010	2011	2012	2013	2014	2015
Shanghai – Northern Europe	1 395	1 789	881	1 353	1 084	1 161	629
percentage change	–	+28.24	-50.75	+53.58	-19.88	+7.10	-45.82
Shanghai – Mediterranean	1 397	1 739	973	1 336	1 151	1 253	739
percentage change	–	+24.49	-44.05	+37.31	-13.85	+8.86	-41.02

Source: UNCTAD (2016) World Maritime Review

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

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

Some observers maintained that the costs of ever-larger ships may outweigh their benefits. Disadvantages include reduced frequency of service, 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 issues arising from dredging deeper channels and expanding yard area.

I.3.3. Railway transport

Railways had a dual role in developing trade and transit on the Euro-Asian routes. Railways transported large volumes of intraregional cargo (for example, coal from Kazakhstan to the Far Eastern Russian ports on EATL routes 1 and 6 or wheat from Russian Siberia and Kazakhstan to Iran (Islamic Republic of) along sections of EATL routes 5 and 6). However, the volume of container long-distance transport increased every year along most Euro-Asian routes.

Oil and oil products, coal, ores, metals and grains were the main cargoes transported by rail over long distances in the EATL countries, particularly Azerbaijan, China, Kazakhstan, Mongolia, the Russian Federation and Turkmenistan. International cargo on some sections of EATL rail routes amounted to millions of tonnes annually (table 1.27).

Table 1.27 Volume of international goods transport by rail between selected neighbouring countries in the EATL region in 2015, (thousands of tonnes)

From railways of:	To railways of:							
	Afghanistan	Armenia	Azerbaijan	Belarus	China	Georgia	Iran (Islamic Republic of)	Finland
Azerbaijan	–	–	–	–	–	6 340.0	6.4	–
Georgia	–	948.5	1 621.8	–	–	–	–	–
Kazakhstan	–	–	3 124.3	–	3 278.4	–	–	–
Latvia	–	–	–	280.9	–	–	–	–
Lithuania	–	–	–	3 117.0	–	–	–	–
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 1.27 Volume of international goods transport by rail between selected neighbouring countries in the EATL region in 2015, (thousands of tonnes) (continued)

From railways of:	To railways of:							
	Kazakhstan	Kyrgyzstan	Latvia	Lithuania	Republic of Moldova	Mongolia	Poland	Romania
Azerbaijan	173.6	–	–	–	–	–	–	–
Belarus	–	–	30 512.0	26 324.0	–	–	7 546.0	–
China	7 110.0	–	–	–	–	8 270.0	–	–
Kazakhstan	–	5057.9	–	–	–	–	–	–
Kyrgyzstan	285.9	–	–	–	–	–	–	–
Latvia	–	–	–	1 566.6	–	–	–	–
Lithuania	–	–	1 900.0	–	–	–	135.0	–
Republic of Moldova	–	–	–	–	–	–	–	1 608.8
Poland	–	–	–	–	–	–	–	–
Russian Federation	25 078.7	–	19 861.1	266.9	–	1 482.0	2 469.1	–
Uzbekistan	4 443.7	299.7	–	–	–	–	–	–
Ukraine	–	–	–	–	3 475.17	–	9 251.01	309.85

Source: OSJD

Table 1.27 Volume of international goods transport by rail between selected neighbouring countries in the EATL region in 2015, (thousands of tonnes) (continued)

From railways of:	To railways of:					
	Russian Federation	Tajikistan	Turkmenistan	Ukraine	Uzbekistan	Ro-Ro lines to Bulgaria, Romania, Russian Federation and Ukraine
Azerbaijan	630.8	–	427.4	–	–	–
Belarus	11 225.0	–	–	8 225.0	–	–
China	21 370.0	–	–	–	–	–
Georgia	–	–	–	–	–	15 549.5
Kazakhstan	57 228.8	–	511.6	–	18 846.4	–
Kyrgyzstan	–	–	–	–	299.7	–
Latvia	1 705.0	–	–	–	–	–
Lithuania	7 853.0	–	–	–	–	–
Mongolia	5 905.4	–	–	–	–	–
Poland	–	–	–	8 499.0	–	–
Republic of Moldova	–	–	–	1 691.5	–	–
Russian Federation	–	–	–	44 928.7	–	–
Tajikistan	–	–	–	–	1 787.4	–
Uzbekistan	–	3 977.2	2 106.6	–	–	–
Ukraine	19 577.66	–	–	–	–	–

Source: OSJD

EATL increasingly served the container trains called “block trains”. The number and quality of block train runs along EATL corridors increased during phase III of the EATL project as a result of the combined efforts of the EATL countries. The number of block trains including regular services between China and Western Europe steadily grew, as a wider range of consignors perceived railways as an alternative to sea or air transport.

Many block train runs that were launched as pilot project became regular container services. The main objective was to create modern and competitive container transport services between Asia and Europe and the making of 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 implemented projects on inland container services).

EATL Rail routes 1 and 2

In 2015, 1,269 container trains transited on EATL routes 1 and 2. The number of runs increased by 255 trains compared to 2014 (25 per cent more), including 581 block trains China – Europe – China which increased by 327 trains (or by 2.2 times).

Major operators of container trains for China – Europe (tables 1.28 and 1.29) on sections of the Trans-Siberian route were: CRCT, CRIMT, Kaztransservice, Kedetrans, RZD Logistics, TransContainer, UTLC, Belintertrans, Trans-Rail BCh, InterRail Holding, DB Schenker, Trans-Eurasia Logistics and FELB.

Cargo included Internet Technology products (mobile phones, computers, etc.), clothes, shoes, automobiles and spare parts, bakery products, wine, coffee beans, etc.

Due to the growth in e-commerce, postal items were expected to be significant and to increase transport volumes between China and Europe. CRCT organized pilot transportation from Chongqing, Urumchi and Zhengzhou to Kazakhstan, and from Harbin to the Russian Federation.

Table 1.28 Container services to/from China by DB Schenker and Trans-Eurasia Logistics

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

Source: Annual TSR Digest 2015. CCTT, 2016

Table 1.29 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	Places in Czechia, Germany and Poland	37
Souzhou	Warsaw	43
Yiwu	Madrid	4
Yiwu	Places in Poland	2
Hefei	Places in Germany	2
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

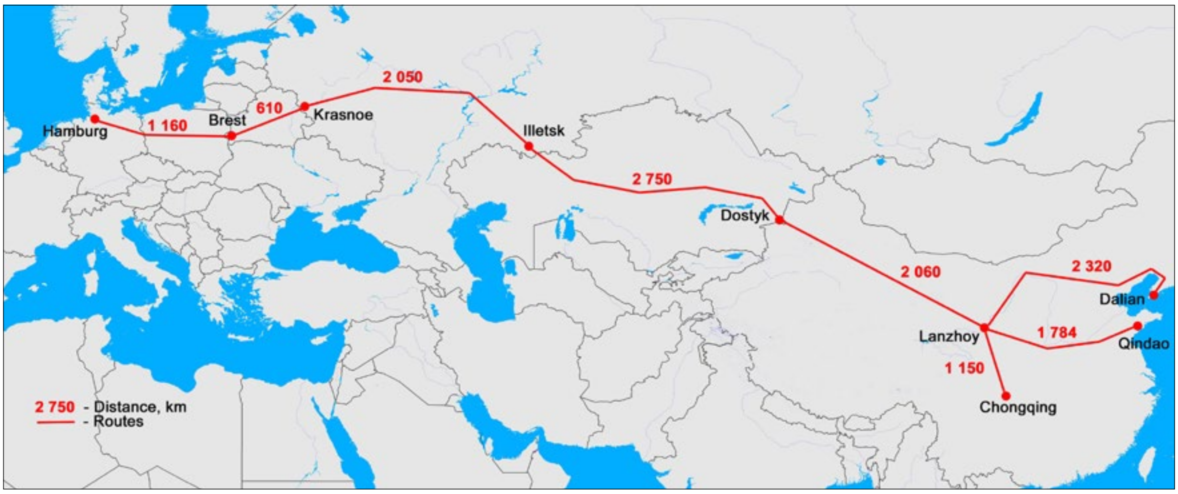
TransContainer

In September 2010, TransContainer (of the Russian Federation) and Far East Land Bridge jointly transported BMW automobile spare parts from Germany to China. Transport went through the Chop station until November 2010, and then the route was changed to the Dobra station. Three block trains a week, on average, were dispatched. 'Door-to-door' delivery via Leipzig / Wackersdorf (Germany) – Dobra / Brest – Zabaikalsk – Shenyang (China) route took 22–25 days (figure 1.13).

In 2014, 164 block trains transported 13,409 TEU to Europe, an increase of 47 per cent compared to the same period of 2013. In 2014, 100 container trains transported 9,287 TEU to Zabaikalsk, an increase of 57 per cent compared to the same period of 2013. In 7 months of 2015, 90 container trains transported 6,266 TEU to Europe, a decrease of 6 per cent compared to the same period of 2014.

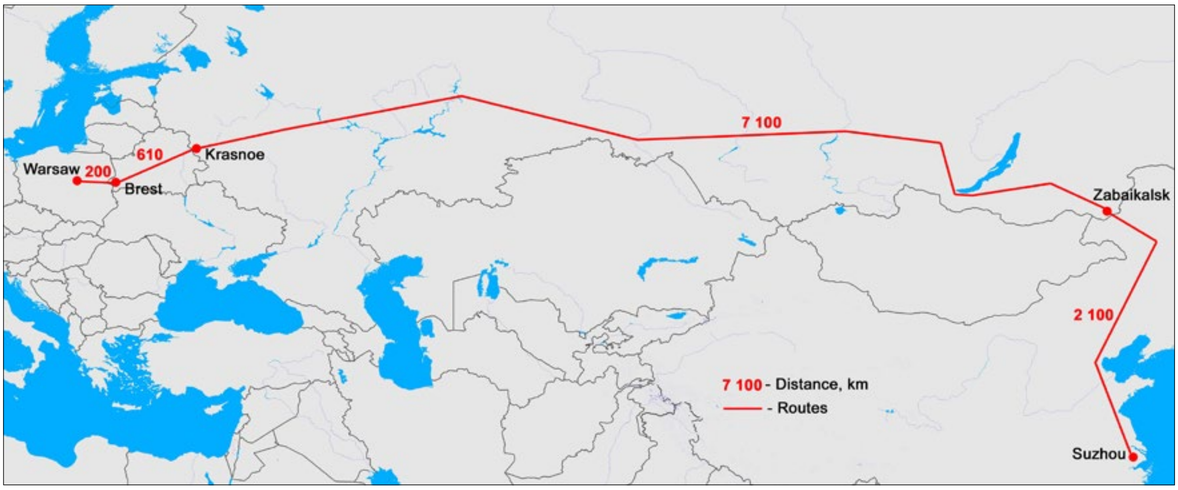
In 7 months of 2015, 65 container trains transported 5,334 TEU to Warsaw (figure 1.14), a 2 per cent decrease compared to the same period of 2014.

Figure 1.13 TransContainer Service Europe – China



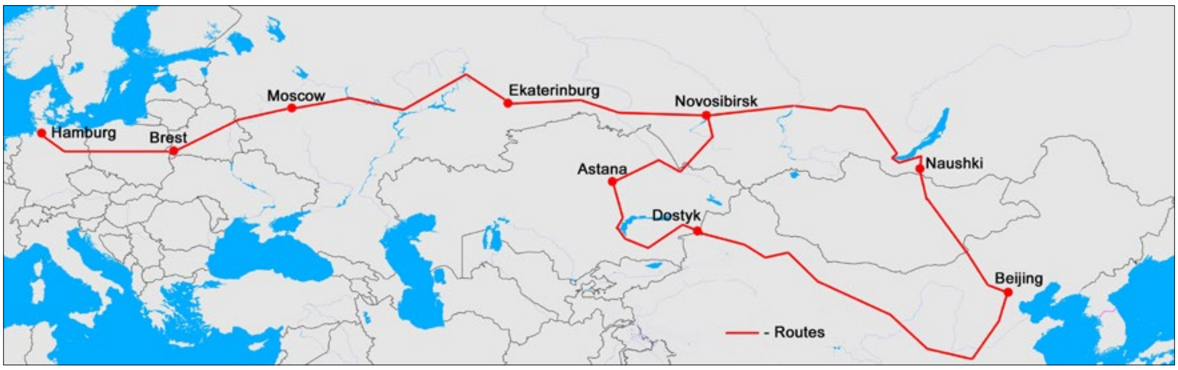
Source: TransContainer, CCTP (Annual TSR Digest 2015. Coordinating Council on Trans-Siberian Transportation International Association, 2016)

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



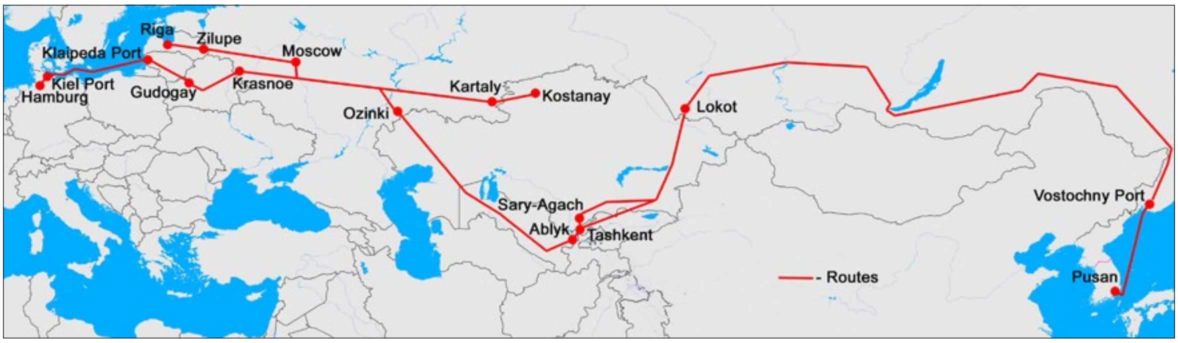
Source: TransContainer, CCTP (Annual TSR Digest 2015. Coordinating Council on Trans-Siberian Transportation International Association, 2016)

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 the Republic of Korea – Europe



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

TransContainer services via the Port of Vostochny

Container train No. 1031 / 1032 NakhodkaVostochnaya – Zaschita:

Transported Kia and General Motors spare automobile parts. TransContainer was the service operator. In 2014, 74 trains transported 9,285 TEU, a 13 per cent decrease from 2013.

Container train No. 1029 / 1030 Nakhodka Vostochnaya – Sergeli:

The route from the Republic of Korea to Uzbekistan via the territories of Kazakhstan and the Russian Federation was used for a General Motors/Uzbekistan joint venture automobile spare part transportation. Furthermore, the route was used for mixed freight, synthetic resin and polyethylene transportation. In 2014, 54 trains transported 70,073 TEU.

Container train No. 1029 /1030 Nakhodka Vostochnaya – Qostanay:

The route transported SsangYong Motor Company, Iveco, and Toyota automobile spare parts. In 2014, 36 trains transported 4,658 TEU, an 18 per cent increase over 2013.

Container train No. 1031 /1032 Nakhodka Vostochnaya - Ulugh Beg:

The route was used for Isuzu mini-van spare part transportation to the SamAuto factory in Uzbekistan. In 2014, 17 trains transported 1,789 TEU, 2.2 times greater than 2013.

Container train No.1031 / 1032 Nakhodka Vostochnaya – Pitnyak:

The route from the Republic of Korea to Uzbekistan via Kazakhstan and the Russian Federation was used for the transport of GM-Uzbekistan joint venture spare automobile parts. In 2014, 25 trains transported 2,795 TEU.

RZD Logistics (RZDL) and the Far East Land Bridge (FELB)

RZD Logistics and its affiliated railway logistics providers organised container railway transportation services from Asia to Europe. Examples include, the Far East Land Bridge (FELB) which is specialised in transit railway container transportation on the China - Europe - China route via Zabaikalsk and YuXinOu (Chongqing) Logistics Co. Ltd. which provides regular railway container transportation on the Trans-Kazakhstan China – Europe – China route.

Figure 1.17 FELB Technology of Container transport between China and Europe

Source: Annual TSR Digest 2015. CCTT, 2016

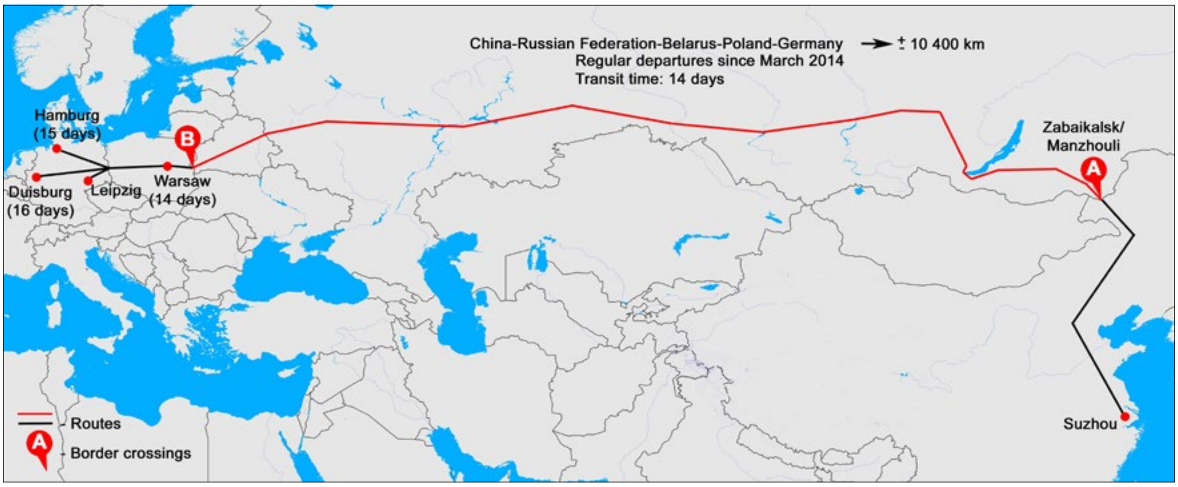
FELB used border crossing points for cargo heading from China to Europe, such as Brest / Malaszewicze (at the Belarusisan Polish border) for cargo transported to Poland, Germany, the Netherlands or Belgium (Dobra / Chop (Slovakia / Ukraine) - to Austria, Czechia, Italy, Slovakia and Slovenia (Zahony / Chop (Hungary / Ukraine) - to Austria, southern Germany and Hungary. Cargo included electronics and automotive spare parts.

A new FELB service on the Trans-Siberian route was the container train from Suzhou (figure 1.18), a large industrial centre in south-eastern China to Warsaw, then Hamburg and Duisburg (Germany). Trains departed daily from China.

It took RZDL and FELB only a few years of operation on the Trans-Siberian route to halve the travel time. In 2016 average transit time of transportation was 14-16 days. Other advantages included ‘door-to-door’ delivery and less-than-full-car transport.

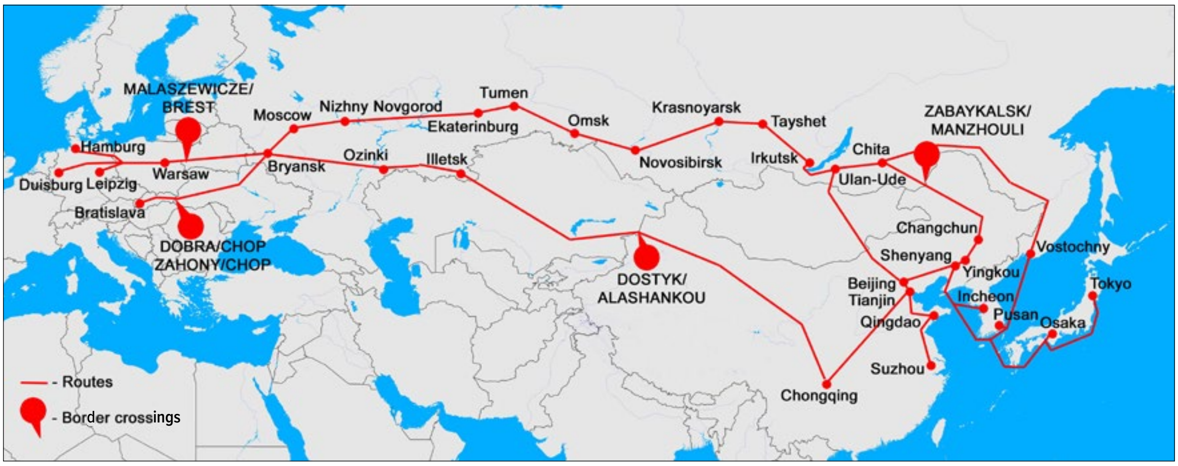
Approximately 27,000 TEU were transported in 2014 by RZDL in the China - Europe - China transit service via the Trans-Siberian route and the Trans-Kazakhstan branch.

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

Figure 1.19 Asia – Europe Container Services by RZDL and FELB



Source: RZD Logistics, Far East Land Bridge

In 2014, 100 per cent of RZDL shares were integrated into the UTLC charter capital, with UTLC integrating the assets of certain Russian Federation, Belarus and Kazakhstan railways to develop the transit container services in the Eurasian Economic Union[19] and its common market of services.

It was assumed that by joining UTLC, RZDL would be better placed to promote transit projects for customers in China, Republic of Korea and Europe (Figure 1.19).

United Transport and Logistics Company

In 2015, the United Transport and Logistics Company JSC (affiliate of RZD) organized a container train from the port of Yingkou (China) to Moscow, based on a memorandum of cooperation between RZD and the Yingkou Port Group. The block train of 45 containers of consumer goods departed from the port on September 17 and in two days reached the border point in Zabaikalsk. There, 17 containers were added.

To simplify the customs clearance procedures while crossing the border the early notification system was used. It allowed checking the shipping documents prior to the arrival of trains at the border. Total transit time of cargo delivery by that train was 13 days.

DB Schenker Rail and Trans-Eurasia Logistics

A key activity of DB Schenker Rail AG was establishing and developing transport routes between the European Union and China, Mongolia, the Russian Federation, as well as other CIS States.

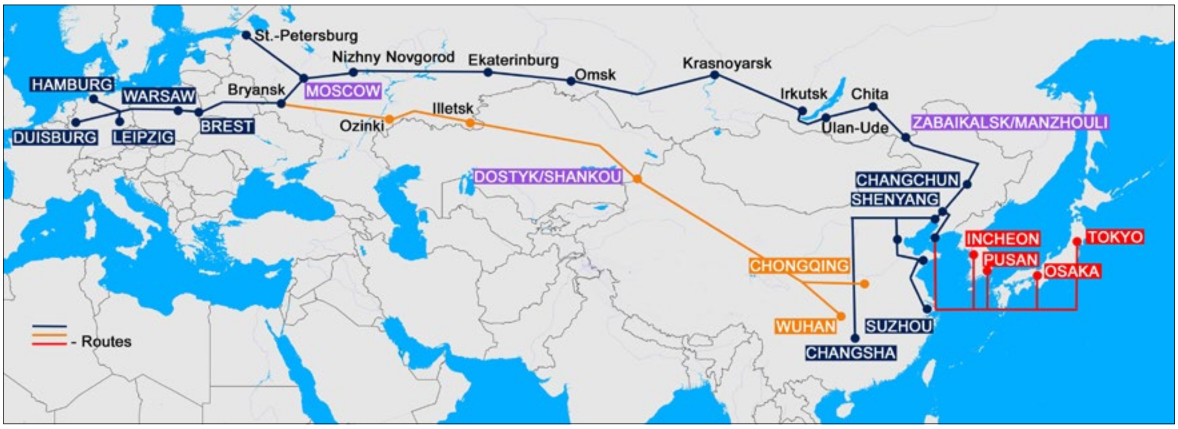
DB Schenker operated regular rail services between China and Germany. The operator, Trans Eurasia Logistics GmbH was a joint venture of Deutsche Bahn AG and RZD. Cargo was delivered from over 24 locations in Asia to Duisburg and Hamburg (figure 1.20).

The estimated transit time from freight transfer at Dostyk (Kazakhstan) / Alashankou (China) or in Zabaikalsk (Russian Federation) / Manzhouli (China) to Brest (Belarus) / Malaszewicze (Poland) was 10 days (figure 1.21). The transit time in the European Union from Malaszewicze to Duisburg / Hamburg was 1.5 days.

The two routes transported more than 40,000 TEU in 2012–2014.

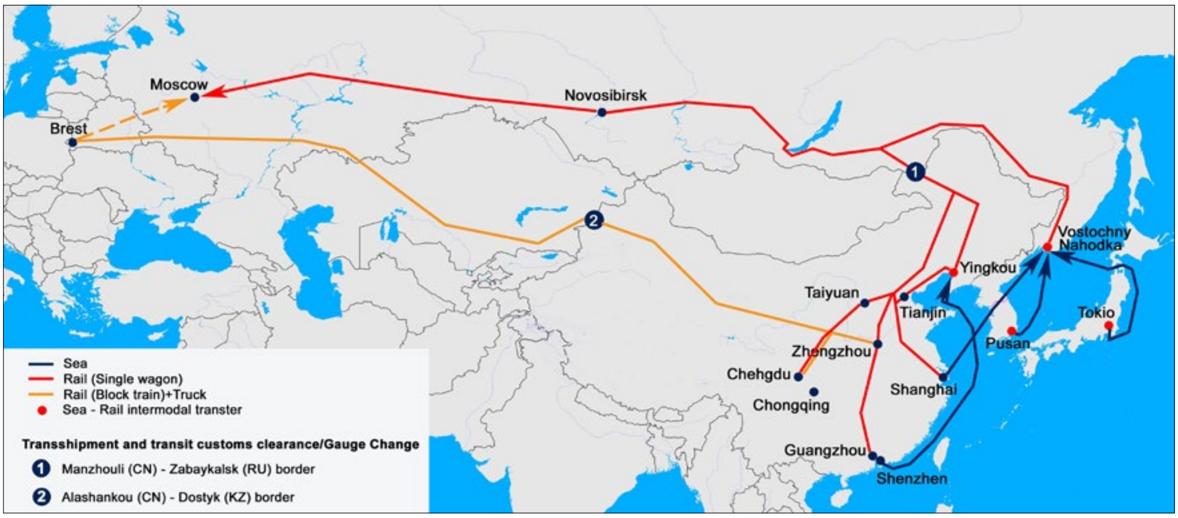
It is noteworthy that the China - Germany railway route was the longest route in the world.

Figure 1.20 Regular intermodal China – Europe Services by DB Schenker Rail AG and Trans Eurasia Logistics GmbH



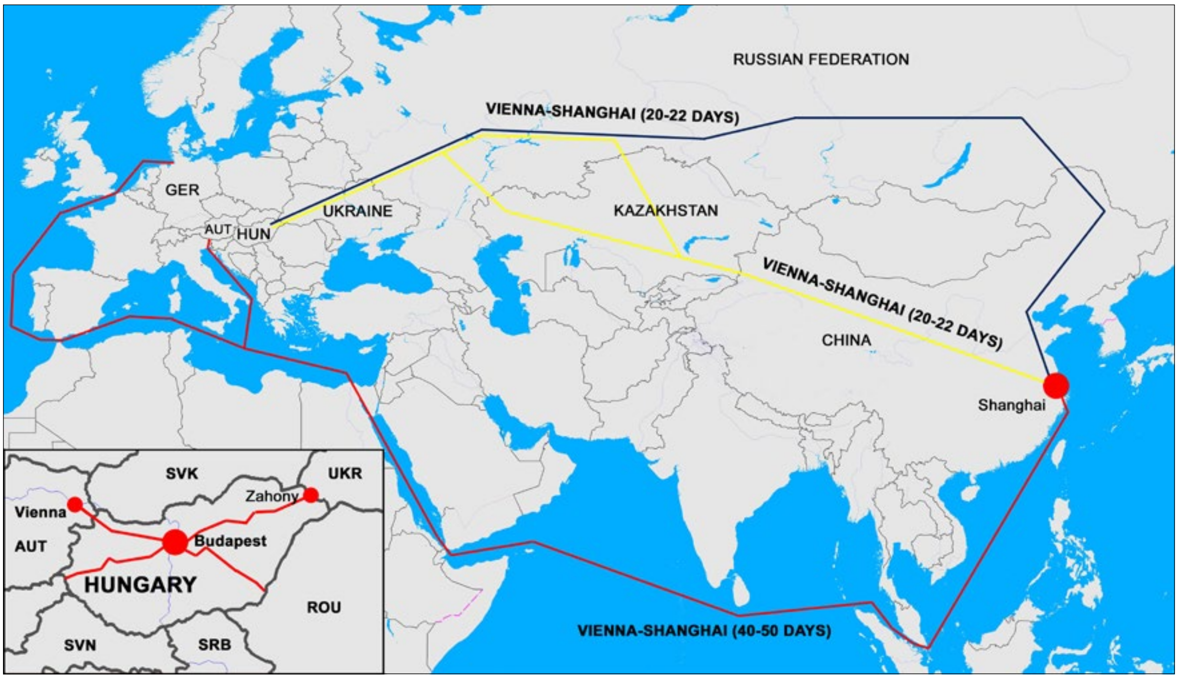
Source: Annual TSR Digest 2015. Coordinating Council on Trans-Siberian Transportation International Association, 2016

Figure 1.21 Rail Network of DB Schenker Rail AG



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

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

Developing Container Services

Urumchi – Zahony – Austria:

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

"Baikal Shuttle" Project by RZD

A new RZD transport service, 'Baikal Shuttle' was developed to transport goods manufactured in East Asian countries of Japan and the Republic of Korea that have no direct connection with the Russian railways, heading to Siberia and the European part of the Russian Federation as well as transit transportation to Eastern and Western European countries.

This service provided consignors of Japan and the Republic of Korea with the ability to transport containerised volumes of cargo on a regular basis with strictly followed frequency and schedule accuracy on a door-to-door basis. The block train en route time was 8 days, 3 hours 57 minutes. In 2016 it was planned to cut the transit time down to 7 days.

Services for consignors where based on specific objectives of the clients. Transport and value-added logistics services on the 'Baikal Shuttle' were 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 on-board the ship, customs formalities in the ports of Japan and the Republic of Korea, maritime transport, customs procedures in the port of Vostochniy, off-boarding of containers and transfer to a train, rail transport to Moscow, delivery at the consignee's warehouse.

FESCO Multimodal Container Services along TRANSSIB corridor

FESCO transport group (a subsidiary of Far-Eastern Shipping Company) was one of the major private logistics companies in the Russian Federation with assets in ports, railways and integrated logistics. FESCO's diversified asset portfolio allowed delivery of 'door-to-door' cargo and controlled all stages of a multimodal transport chain. The majority of the operations are in the east of the Russian Federation which provided FESCO with an opportunity to get additional advantages from participating in dynamically growing volumes of trade operations between the Russian Federation and countries of Asia.

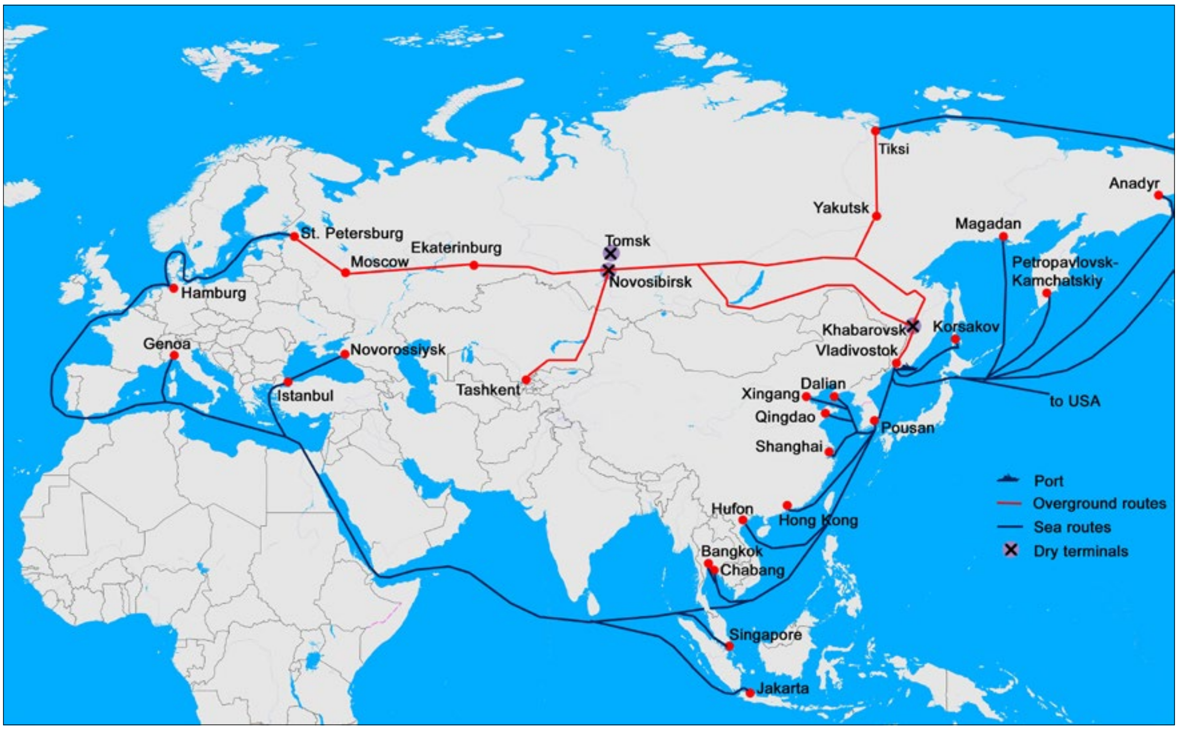
Container transportation was the FESCO Group core business. With all required assets FESCO delivered containers using multimodal schemes or organized separate maritime container transportation or railway dispatches. The Group also carried out dispatches of refrigerated containers by sea and rail. Sea lines, railway assets and owned port terminals allowed performing 'door-to-door' container transportation, with little risk of freight loss.

FESCO services provide, i.e. 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 allows FESCO organize fast container trains running in the territory of the Russian Federation (figure 1.23).

Regular transportation by the flagship 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 providing multimodal services from the major ports of China, the Republic of Korea, Japan and south-eastern Asia. Transit time from China via Vladivostok to Moscow was 28-33 days; the en route time Vladivostok - Moscow was 11 days.

Twice a week FESCO Siberian Shuttle container trains were dispatched from Vladivostok to Novosibirsk and back to Vostochniy station. 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 on the FESCO Ural Shuttle line

Figure 1.23 Regular FESCO intermodal transport



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

to Yekaterinburg in 32-37 days, including the section from Vladivostok to Yekaterinburg 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 Afghanistan, China, Kazakhstan and other Central Asian countries.

In March 2015, FESCO launched a Baltic Shuttle service (FBS) connecting South-East Asia – Vladivostok – St. Petersburg. The railway haul of FBS was the route from the Vladivostok station to the Shushary station in St. Petersburg. FBS was dispatched from Vladivostok once a week. The service was organized as a loop route with a return dispatch from St. Petersburg to Vladivostok and via Vladivostok to South-East Asia and to the ports of the Far East of the Russian Federation, Petropavlovsk-Kamchatski, Magadan, Korsakov.

FMS (FESCO Moscow Shuttle) – Vladivostok – Moscow:

The service was oriented towards the cargo heading from the ports of South-East Asia via the Vladivostok port, freight from the Far East region, as well as the cargo of 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 Urban Logistics Service (ULS) container terminal. In 2016, the train service was twice a month. The transit time 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 a range of 500 km from the final destination point.

FESCO also provided the following services:

- FESCO Siberian Shuttle: Vladivostok – Novosibirsk and FESCO Siberian Shuttle eastbound – Novosibirsk – Vladivostok.
- FESCO Ural Shuttle: Vladivostok – Yekaterinburg.
- FESCO Amur Shuttle: Moscow – Khabarovsk and FESCO Amur Shuttle westbound – Khabarovsk – Moscow.
- FESCO Ob Shuttle: Moscow – Novosibirsk.
- FESCO Lena Shuttle: Moscow – Yakutsk/ Berkakit; Vladivostok – Yakutsk. The transit time from Moscow to Berkakit was 15-17 days, and to Yakutsk 21-23 days. The dispatches from Vladivostok to Berkakit were expected to be carried out once in 6-10 days with the transit time of 6-8 days.

Container services to/from Mongolia

The 'Mongolian Vector' train connected Europe to Mongolia on the Brest - Ulan-Bator route since 2012. The train left 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 days.

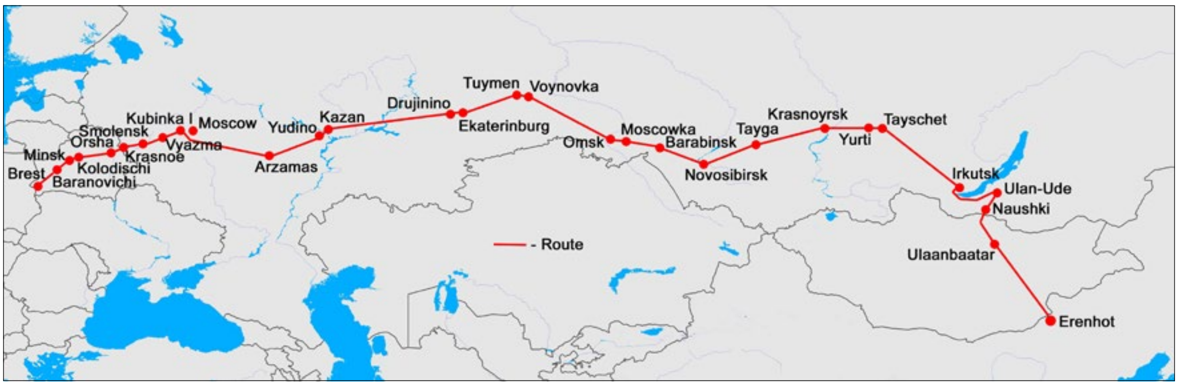
From 1 March 2005, the route (figure 1.24) was extended to China on the Hohhot (China) - Erlyan - Naushki - Brest - Duisburg route (9,821 km) via Mongolia, once a month, with the transit time of 18 days. In 2006, approximately 600 TEUs were transported in both directions. The Mongolian Vector was in service within the framework of a joint ESCAP and OSJD project aiming at improving the effectiveness of the Euro-Asian railway routes.

From May 2014, a China - Europe train ran, once a month, on the Erlyan - Naushki - Brest route. In 2016, there was a loop route between Europe and China with the container train running in both directions.

Other railway container services on EATL routes are:

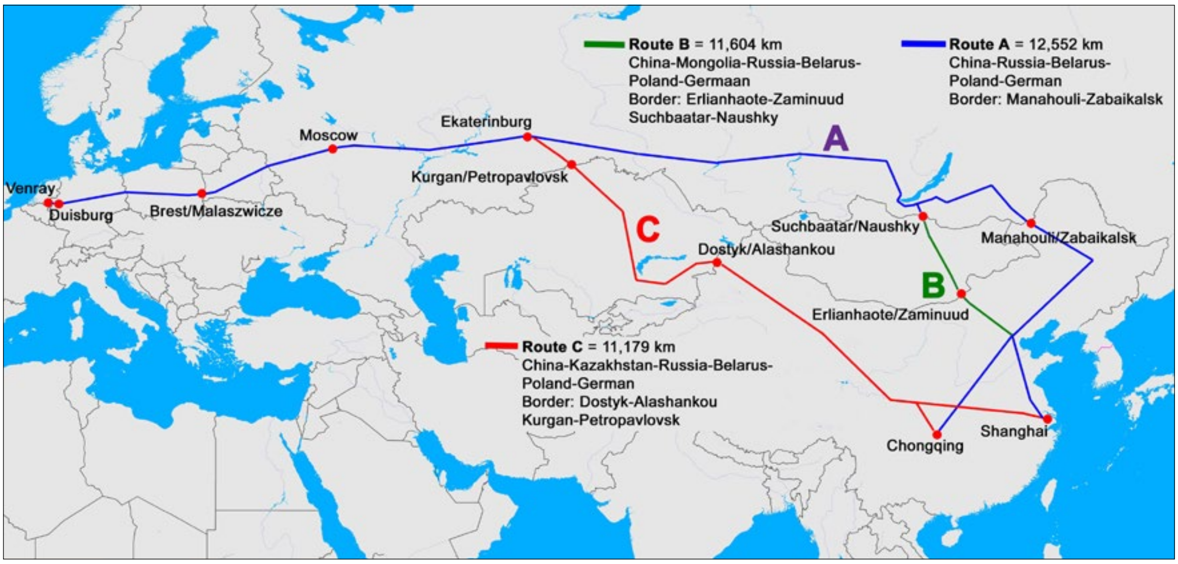
- COSCO Logistics, the largest 3PL in China: the routes are in figure 1.25. Commodities included equipment, tools and building materials for cement production, electrical power station equipment including capacitor set and capacitor voltage transformer substations, and monitoring systems, and well drilling, logging, and well cementation for oil fields once a month. In 2016, COSCO

Figure 1.24 Mongolian Vector Container Block Train Route



Source: BelInterTrans, 2013

Figure 1.25 COSCO Logistics railway routes



Source: COSCO Logistics

examined combinations of sea and rail transport between China and Europe. One option was to enter Europe through the port of Piraeus in Greece, then move the cargo by rail to central and northern Europe.

- Deutsche Post-DHL has several routes between Asia and Europe. Since 2011, Deutsche Post runs a daily intermodal service from Shanghai to Moscow on the Trans-Siberian Railway. A weekly express freight service was launched in 2013 from Chengdu in Western China, across Kazakhstan to a cargo port in Poland and on to the Russian Federation and Belarus by truck or train in 12-14 days. The transported products were mainly electronics, machinery, pharmaceuticals and chemicals. In January 2014, Deutsche Post introduced the first temperature-controlled rail container service between China and Europe on a year-round basis. In March 2014, the company announced the development of rail-based forwarding services on the China-Europe route via a new joint venture called United Transport and Logistics Company with plans of door-to-door delivery in 21 days.

DB Schenker's container rail services through the Eurasian land bridge began in 1973, with the first container on the Trans-Siberian Railway. In 2008, the freight train was launched between Beijing and Hamburg, and in 2009 a weekly regular service launched between Shanghai or Beijing to Hamburg, Nuremberg or Duisburg. Cargo was mainly from the automotive industry, chemical industry and manufactures of household goods. In 2009 in cooperation with Russian Railways (RZD), DB Schenker Logistics established the Trans-Eurasia Logistics GmbH.

DB Schenker's northern rail route connected Shanghai to Moscow and Duisburg by way of the Trans-Siberian line in 18-20 days. In September of 2011, a regular train service began specifically for BMW from Leipzig to Shenyang in north-eastern China. In November, a daily train service began exclusively for BMW automotive components to Shenyang. From 2012, weekly services were offered from Chongqing to Duisburg for IT customers. The transport time for a block train to reach Duisburg was 18 days. Then, in September 2014 the first freight train ran from Hamburg to Zhengzhou in Henan province, China. The duration of the journey was around 17 days which was 20 days faster than by sea.

KTZ Express was established in 2013, as the first national multimodal transport and logistics company of Kazakhstan Railways (KTZ). Rail freight services through Kazakhstan, which is considered an LLDC, took 16 days – twice or thrice less than sea shipping. Products included pharmaceuticals, farm products and electronics with a focus on electronic companies with 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 already used this rail route. There was also interest from Europe for dedicated block train services to Asia for products such as fruit and spare automotive parts.

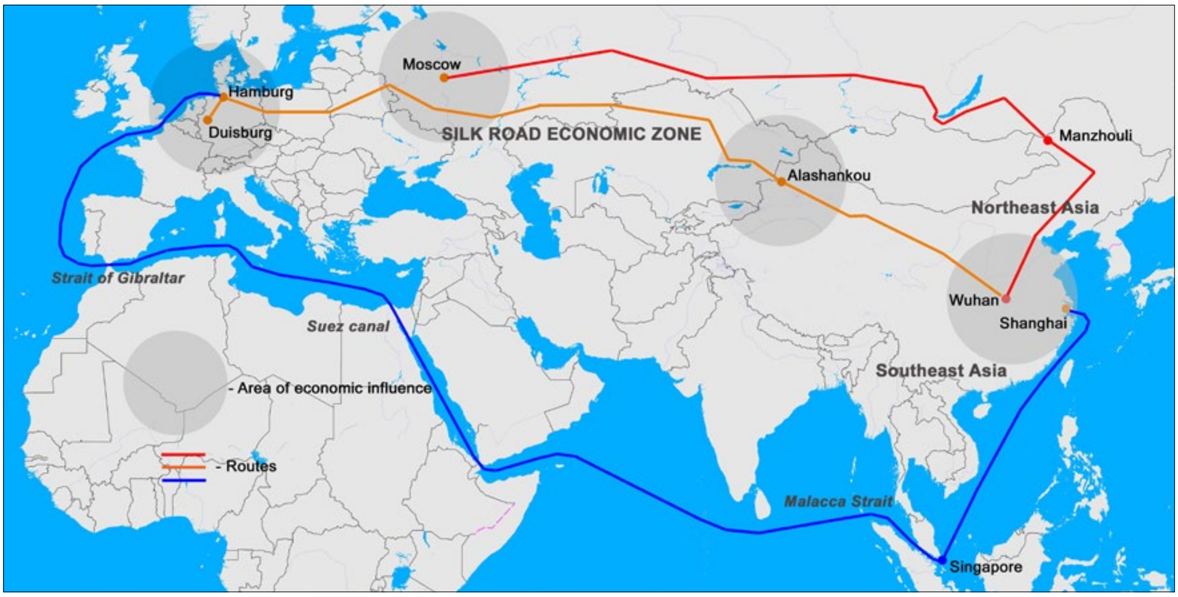
Yuxinou Logistics Co., Ltd. (in the industrial hub of Chongqing) provides freight railway services between Asia and Europe: a main service connects China–Kazakhstan–Russian Federation–Belarus–Poland to Germany in 16 days. The weekly service leaves Chongqing and with electronic products from, e.g. Hewlett-Packard Co., Acer Inc., Apple Inc. or Foxconn Technology Co.

Far East Land Bridge, in Vienna, is one of the first logistic companies that provided rail services between Europe and Asia. In 2007 they started providing two-way container rail services on the Trans-Siberian Railway route, and on European and Chinese rail networks. The main customers included Audi, BMW, Samsung and Volkswagen.

The Wuhan-Europe freight train was an express cargo train linking Wuhan with over 20 countries, including Czechia, Belarus, Germany, Russian Federation as well as several countries in Central Asia. Besides customized trains and public trains, random trains and LCL services were also provided to serve small and micro enterprises. In 2014, Wuhan-Europe ran four lines: two through the Alataw Pass (China), one at Khorgos (China-Kazakhstan border) and one at Manzhouli (China).

In 2015 two-way freight trains were started linking Wuhan with Hamburg and Duisburg in Germany, as well as a “Russian Federation-Manzhouli-Wuhan” timber train. Trains linking Wuhan with Minsk and Moscow were also launched in 2015 (figure 1.26).

Figure 1.26 Wuhan-Europe freight trains



Source:Hubei Government site: http://en.hubei.gov.cn/

In November 2015, Wuhan Asia-Europe Logistics Co., Ltd. signed a strategic reciprocal agreement on commerce and trade logistics with 12 Chinese and Russian logistics companies. Wuhan Asia-Europe Logistics on 5 January 2016 announced that Wuhan freight trains ran a total of 164 rides/shipments in 2015, carrying 14,912 TEUs. The growth rate exceeded 500 per cent and the company ranks first now in terms of growth nationwide.

The main cargoes 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.

Wuhan – Europe freight train operations were planned to extend westward to new offices, e.g. in countries like France.

China Railway Express Co., Ltd. is a family company founded in 1993 in Beijing. The first China – Europe container block train arrived in Poland. In June 2016, China Railway Express ran from Chengdu station[20] through Kazakhstan – Russian Federation – Belarus to Warsaw in 12 days. The twenty-two-carriage train delivered electronics goods and auto parts to the Polish State Railways Cargo Terminal. The arrival of the train marked the opening of the Chinese New Silk Road project for a new commercial route between Asia and Europe. At the same time, a container block train left Poland for China with Polish goods.

The business model of rail transport in these supply chains was based on the “corporate” scheduled block trains that serve individual shippers and operate from plant to plant (or from plant to logistics centre). These trains supported constant guaranteed industrial cargo flows of selected customers. Most of the examples in I.3.3 follow this model.

The next step – introduction of regular services for customers shipping less than full train loads – was expected to be 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 also mean contracting local terminal operators and probably freight forwarders.

At the time of writing this report, there were not so many known services of this type, but the number of known examples was increasing. Often “corporate” train operators used the excessive capacity to attract customers from the market which seemed to be the natural way to develop regular container services.

EATL Rail route 4

A new container line, owned by TurkRail Demiryolu Tasimacilik kicked off EATL route 4 from Halkali (Turkey) to Vienna on 14 July 2017. New generation container wagons are preferred for this train. Other train services along this route included:

- A container train run twice a week since April 2016, Cerkezkoy (Turkey) - Bulgaria - Serbia - Hungary - Giengen (Germany).
- A container train run twice a week since June 2016, Budapest (Hungary) - Romania - Bulgaria - Halkali (Turkey).

EATL Rail routes 6, 7 and 8

Iran (the Islamic Republic of) began container services on:

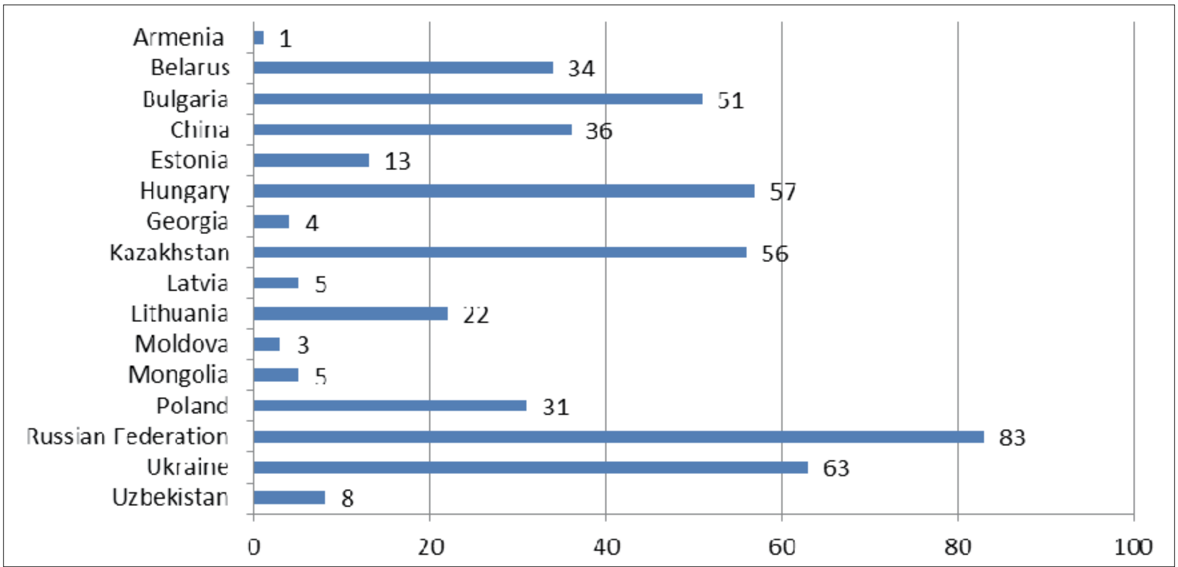
- A block train since 2012, from Bandarabaas (Iran (Islamic Republic of)) to Almaty (Kazakhstan) on the North – South International Transport Corridor.
- A block train from 2009, Turkey – Iran (Islamic Republic of) – Pakistan on the Trans-Asian Railway.
- A block train Almaty – Tashkent – Ashgabat – Tehran – Istanbul in 2002.

Other services such as the block train India – Iran (Islamic Republic of) – Azerbaijan (or Caspian Sea) – the Russian Federation – Northern Europe were in planning.

Container services routes

According to OSJD data more than 450 routes for block trains operated in the OSJD member States in 2016 (figure 1.27, table 1.30). Nearly 170 block trains were regularly scheduled. The remaining block trains ran on requests from cargo owners and logistics services providers. In Poland and the Czechia, almost all block trains ran on a regular basis.

Figure 1.27 Number of block trains routes in OSJD member States, in 2016



Source: OSJD

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016)

Train Number	Route	Train Characteristics	Frequency
Byelorussian Railway			
1022/1021	Russian Federation - Lithuania - Belarus - Russian Federation (Kaliningrad - Kybartai - Gudogai - Krasnoye - Kuntsevo Moscow-Tov.-Smolenskaja/Kupavna/Tuchkovo/Vorsino)	container	on request
1025/1026	China - Russian Federation - Belarus (Zabaikalsk - Krasnoye - Koliadichi/Brest)	container	on request
1027/1028	Russian Federation - Belarus (Mys Tschurkin /Uglovaja/ Nakhodka /Nakhodka-Vost. - Krasnoye - Koliadichi/Brest)	container	on request
1037/1038	China - Russian Federation - Belarus - European countries (Zabaikalsk - Krasnoye - Brest/Malaszewicze)	container	on request
	Russian Federation - Belarus - European countries (Vladivostok/Nakhodka-Vost. - Krasnoye - Brest/ Malaszewicze)	container	on request
1039/1040	Russian Federation - Belarus - European countries (Zabaikalsk/Vladivostok/ Nakhodka-Vost. - Krasnoye - Brest/Malaszewicze)	container	on request
1062/1061	European countries - Belarus - Russian Federation (Bruzgi - Krasnoye - Nowoijerusalimskaja)	container	on request
1064/1063	France - Poland - Belarus - Russian Federation (Malaszewicze - Brest - Krasnoye - Vorotynsk)	container	on request
1066/1065 East Wind	Germany - Poland - Belarus - Russian Federation (Malaszewicze - Brest - Krasnoje - Bekasovo-Sort./ Kuntsevo-2/Vorsino)	container	on request
1068/1067	Germany - Poland - Belarus - Russian Federation (Malaszewicze - Brest - Krasnoye - Moscow-Tov.- Paveletskaja/Sbornaja-Ugolnaja/Hovrino/Vorsino)	container	on request
	Poland - Belarus - Russian Federation (Malaszewicze - Brest - Krasnoye - Kuntsevo-2/Silikatnaja)	container	on request
1070/1069 China Express	China - Mongolia - Russian Federation - Belarus - European countries (Erlian/Zamyn-Uud - Naushki - Krasnoje - Brest/Malaszewicze)	container	on request
1074/1073	Germany - Poland - Belarus - Russian Federation (Malaszewicze - Brest - Krasnoye - Nakhodka-Vost.)	container	on request
1076/1075	European countries - Belarus - Russian Federation - Kazakhstan - China (Malaszewicze/Brest - Krasnoje - Iletsk-I - Almaty-1 - Dostyk/Altynkol)	container	on request
1274/1273	European countries - Belarus - Russian Federation - Kazakhstan - China (Malaszewicze/Brest - Krasnoje - Iletsk-1 - Dostyk/Altynkol)	container	on request
1078/1077 Kazakhstan Vector	European countries - Belarus - Russian Federation - Kazakhstan (Malaszewicze/Brest - Krasnoye - Semiglavy Mar - Arys-1)	container	on request
1080/1079	Belarus - Russian Federation (Brest - Krasnoye - Kaluga-1/ Perspektivnaja)	container	daily
1082/1081	Belarus - Russian Federation (Brest - Krasnoye - Kaluga-1/ Perspektivnaja)	container	daily
1084/1083	Poland - Belarus - Russian Federation (Malaszewicze - Brest - Krasnoye - Tikhonovo/Silikatnaja/ Kuntsevo-2/ Sbornaja-Ugolnaja/Moscow-Tov.-Paveletskaja)	container	on request
1086/1085 Mongolian Vector	Belarus - Russian Federation - Mongolia (Brest - Krasnoye - Naushki)	container	on request
1088/1087	Belarus - Russian Federation (Brest - Krasnoye - Kaluga-1/ Perspektivnaja)	container	on request

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
1090/1089	Belarus - Russian Federation (Brest - Krasnoye - Kostariha/ Nizhny Novgorod Avtozavod)	container	on request
1096/1095	Belarus - Russian Federation (Brest - Krasnoye - Nizhny Novgorod Avtozavod)	container	on request
1219/1220 Mercury	Lithuania - Belarus - Russian Federation (Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Kuntsevo-2/ Moscow-Tov.-Paveletskaja/Kresty/Silikatnaja/ Severnaja)	container	on request
1221/1222	Lithuania - Belarus - Russian Federation - Kazakhstan - Uzbekistan - Afghanistan (Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Semiglavy Mar - Karakalpakhstan - Galaba)	container	on request
	Lithuania - Belarus - Russian Federation - Kazakhstan - Uzbekistan (Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Semiglavy Mar - Karakalpakhstan - Ulugbek)	container	on request
Saule-2	Lithuania - Belarus - Russian Federation - 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 - Russian Federation - Kazakhstan (Panariai/Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Kartaly-1 - Kustanai)	container	on request
Saule-1	Lithuania - Belarus - Russian Federation - Kazakhstan (Draugiste (Port Klaipeda)/ Sestokai - Gudogai - Krasnoye - Kartaly-1 - Almaty-1)	container	on request
1263/1264	Kazakhstan - Russian Federation - Belarus (Zhinishke - Semiglavy Mar - Zakopyt'e - Brest)	container	on request
1265/1266	China - Kazakhstan - Russian Federation - Belarus - European countries (Dostyk/Altynkol - Iletsk-1 - Krasnoye - Brest/Malaszewicze)	container	on request
1352/1351 Eurasia-2	Latvia - Belarus - Russian Federation - Kazakhstan (Riga - Bigosovo-styk - Zaolscha-styk - Semiglavy Mar - Aktobe-2)	container	on request
1401/1402 Zubr	Estonia - Latvia - Belarus - Ukraine - Republic of Moldova (Ulemiste/Muuga - Valga - Bigosovo - Berezhest - Iliechyevsk/ Iliechyevsk-Paromnaja/Odessa-Port/ Mogilev-Podolski - Giurgiulesti-Port)	container	daily
1423/1424	Russian Federation - Belarus - Lithuania - Russian Federation (Akulovo/Mikhnevo - Krasnoye - Gudogai - Kibartai - Lesnoje-Nowoje)	container	on request
1425/1426	Russian Federation - Belarus - Lithuania - Russian Federation (Mikhnevo - Krasnoye - Gudogai - Kibartai - Lesnoje-Nowoje)	container	on request
1427/1428	Poland - Belarus - Russian Federation (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
	Republic of Moldova - Ukraine - Belarus - Lithuania (Giurgiulesti-Port - Mogilev- Podolski - Berezhest - Gudogai - Draugistee (Port Klaipeda)	container and contrailer train	daily
	Romania - Republic of Moldova - Ukraine - Belarus - Lithuania (Ungeny - Mogilev-Podolski - Berezhest - Gudogai - Draugiste (Port Klaipeda))	container and contrailer train	daily

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
	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

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
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
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			
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

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
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 (Austria)	container	on request
	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

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
	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 (Czechia) - Rajka (Hungary) - Hodos (Slovenia) - Koper (Slovenia)	container	on request
	Dobra u Frydek-Mlstek (Czechia) - 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 (Czechia)	container	on request
	Koper (Slovenia) - Hodos (Slovenia) - Rajka (Hungary) - Dobra u Frydek-Mlstek (Czechia)	container	on request
	Koper (Slovenia) - Hodos (Slovenia) - Rajka (Hungary) - Zilina (Slovakia)	container	on request
	Torokbalint (Hungary) - Gyekenyes (Hungary) - Rijeka (Croatia)	container	on request
"Georgian Railway" JSC			
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			
1251/1252	Russian Federation - 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 - Russian Federation (Ablyk/Jizzakh - Sary-Agach - Iletsk-1 - Moscow-Tovarnaya- Paveletskaya/Kuntsevo-2/Sbornaya-Ugolnaya/ Moscow-Tovarnaya)	container	on request
1029/1030	Russian Federation - Kazakhstan (Nakhodka-Vostochnaya/ Bratsk/Ust-Ilimsk/ Lesosibirsk - Kulunda - Kustanai/Aksu-1)	container	on request
1257/1258	Kazakhstan - Russian Federation (Kustanai - Kartaly-1 - Moscow-Tovarnaya-Paveletskaya/ Kuntsevo-2/ Sbornaya-Ugolnaya/Moscow-Tovarnaya)	container	on request
1285/1286	Russian Federation - 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

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
	Russian Federation - Kazakhstan - Uzbekistan - Afghanistan (Nakhodka-Vostochnaya - Lokot - Sary-Agach - Galaba)	container	on request
1031/1032	Russian Federation - Kazakhstan (Perwaya Rechka/Ussuriysk/ Khabarovsk-2/ Zabaikalsk/ Vladivostok/ Nakhodka-Vostochnaya/Bratsk/Ust-Ilimsk/ Lesosibirsk - Lokot - Zashchita/Zhety-Su/Almaty-1/ Sorokovaya)	container	on request
	Russian Federation – Kazakhstan (Nakhodka-Vostochnaya - Lokot - Sorokovaya/ Astana/Atyrau/Mangyshlak/Aktau-Port)	container	on request
	Kazakhstan - Russian Federation (Zhinishke/Aksu-1 - Lokot - Nakhodka-Vostochnaya)	container	on request
	Kazakhstan - Russian Federation (Zashchita - Lokot - Moscow-Tovarnaya- Paveletskaya/Kuntsevo-2/Sbornaya-Ugolnaya/Moscow-Tovarnaya)	container	on request
1033/1034	Russian Federation - Kazakhstan (Novorossiysk - Kartaly-1 - Kustanai)	container	on request
1035/1036	Russian Federation - Kazakhstan (Buslovskaya - Semiglavy Mar - Zhinishke)	container	on request
	Russian Federation - Kazakhstan (Vorsino/Tuchkovo - Semiglavy Mar - Almaty-1)	container	on request
1070/1069	Czechia/Slovakia - Poland - Belarus - Russian Federation - Kazakhstan (Malaszewicze - Brest - Krasnoye - Kartaly-1 - Zashchita)	container	on request
1045/1046	Russian Federation - Kazakhstan - Turkmenistan (Nakhodka-Vostochnaya - Lokot - Bolashak - Turkmenbashi-2)	container	on request
1072/1071	Kazakhstan - Russian Federation - Belarus (Aksu-1 - Kartaly-1 - Krasnoye - Brest)	container	on request
1076/1075	European countries - Belarus - Russian Federation - Kazakhstan - China (Malaszewicze - Brest - Krasnoye - Iletsk-1 - Almaty-1 - Dostyk/Altynkol)	container	on request
	Altynkol - Almaty-1 - Altynkol		
1273/1274	Poland - Belarus - Russian Federation - Kazakhstan - China (Malaszewicze - Brest - Krasnoye - Iletsk-1 - Dostyk/Altynkol - Chengdu)	container	on request
1078/1077 Kazakhstan Vector	Germany - Poland - Belarus - Russian Federation - 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 - Russian Federation - Kazakhstan - Uzbekistan - Afghanistan (Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Semiglavy Mar - Karakalpakstan - Galaba)	container	on request
	Lithuania - Belarus - Russian Federation - Kazakhstan - Uzbekistan (Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Semiglavy Mar - Karakalpakstan - Ulugbek)	container	on request
	Lithuania - Belarus - Russian Federation - 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 - Russian Federation - Kazakhstan (Draugiste/Port Klaipeda) - Eglaine - Zilupe - Semiglavy Mar - Almaty-1)	container	on request

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
1226/1225 Baltic Wind	Lithuania - Belarus - Russian Federation - Kazakhstan (Paneriai/Draugiste (Port Klaipeda) - Gudogai - Krasnoye - Kartaly-1 - Kustanai)	container	on request
1253/1254 New Silk Way	China - Kazakhstan - Russian Federation - 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 - Russian Federation (Zhety-Su - Semiglavy Mar - Obninskoye)	container	on request
	China - Kazakhstan - Russian Federation (Dostyk - Semiglavy Mar - Moscow-Tovarnaya-Paveletskaya/Silikatnaya)	container	on request
	China - Kazakhstan - Russian Federation (Dostyk - Semiglavy Mar - Kupavna/ Khovrino/Kresty/Kuntsevo-2)	container	on request
1259/1260 Saule	China - Kazakhstan - Russian Federation - Belarus - Lithuania - European countries (Dostyk/Altynkol - Iletsk-1 - Krasnoye - Gudogai - Draugiste (Port Klaipeda)/Sestokai)	container	on request
Saule-1	Lithuania - Belarus - Russian Federation - 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 - Russian Federation - Belarus (Zhinishke - Semiglavy Mar - Zakopytie - Brest)	container	on request
1265/1266	China - Kazakhstan - Russian Federation - Belarus - Poland - Germany (Dostyk/Altynkol - Iletsk-1 - Krasnoye - Brest - Malaszewicze)	container	on request
1269/1270	China - Kazakhstan - Russian Federation (Dostyk/Altynkol - Semiglavy Mar - Novorossiysk/ Krasnodar-Sortirovochny)	container	on request
1271/1272	Kazakhstan - Russian Federation - Belarus - Lithuania (Zhinishke - Semiglavy Mar - Zakopytie - Gudogai - Klaipeda)	container	on request
1278/1277	Russian Federation - 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 - Russian Federation - Azerbaijan - Georgia (Dostyk - Semiglavy Mar - Samur - Beyuk-Kyasik - Tbilisi-Uzlovaya)	container	on request
1284/1283	China - Kazakhstan - Russian Federation (Dostyk - Kartaly-1 - Formachyevo)	container	on request
1287/1288	China - Kazakhstan - Turkmenistan - Iran (Islamic Republic of) along the route Dostyk/ Altynkol - Bolashak - Sarahs	container	on request
1292/1291	Russian Federation - Kazakhstan - China (Vartsila - Iletsk-1 - Dostyk)	container	on request
1293/1294	Kyrgyzstan - Kazakhstan - Russian Federation (Alamedin - Lugovaya - Semiglavy Mar - Khovrino/ Kuntsevo-2/Vorsino)	container	on request
1350/1349 Eurasia-1	Latvia - Russian Federation - Kazakhstan (Riga - Zilupe - Semiglavy Mar - Aktobe)	container	on request

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

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

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
X8002	European countries - Poland - Belarus - Russian Federation - Kazakhstan - China (Malaszewicze - Brest - Osinovka - Krasnoye - Iletsk-1 - Dostyk - Alashankou (border) - Putian)	container	once a week
X8204/1	European countries - Poland - Belarus - Russian Federation - Mongolia - China (Malaszewicze - Brest - Osinovka - Krasnoye - Naushki - Sukhe-Bator - Zamyn-Uud - Erlian (border) - Putian)	container	once a week
X8011/2/1	China - Kazakhstan - Russian Federation - 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 - Russian Federation - Kazakhstan - China (Malaszewicze - Brest - Osinovka - Krasnoye - Iletsk-I - Dostyk - Alashankou (border) - Wujiashan)	container	once a week
X8428/7	China - Kazakhstan - Russian Federation - Belarus - Poland - European countries (Xia Ning - Alashankou (border) - Dostyk - Iletsk-1 - Krasnoye - Osinovka - Brest - Malaszewicze)	container	once a week
X8402/1	China - Russian Federation - Belarus - Poland - European countries (Suzhouxi - Manchuria (border) - Zabaikalsk - Krasnoye - Osinovka - Brest - Malaszewicze)	container	2 times a week
X8408/7	Belarus - Russian Federation - China (Brest - Osinovka - Krasnoye - Manchuria (border) - Suzhouxi)	container	on request
X8426/5	China - Kazakhstan - Russian Federation - Belarus - Poland - European countries (Dalang, Shilong - Alashankou (border) - Dostyk - Iletsk-1 - Krasnoye - Osinovka - Brest - Malaszewicze)	container	on request
X8065	China - Kazakhstan - Russian Federation - 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 - Russian Federation - Kazakhstan - China (Malaszewicze - Brest - Osinovka - Krasnoye - Iletsk-1 - Dostyk - Alashankou (border) - Yiwu)	container	2 times a month
X8057	China - Kazakhstan - Russian Federation - Belarus - Poland - European countries (Shenyangdong - Manchuria (border) - Zabaikalsk - Krasnoye - Osinovka - Brest - Malaszewicze)	container	on request
X8058	Belarus - Russian Federation - China (Brest - Osinovka - Krasnoye - Zabaikalsk - Manchuria (border) - Shenyangdong)	container	on request
X8024/3	China - Kazakhstan - Russian Federation - Belarus - Poland - European countries (Hefeidong - Alashankou (border) - Dostyk - Iletsk-1 - Krasnoye - Osinovka - Brest - Malaszewicze)	container	once a week
X8057	China - Russian Federation (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

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
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 - Russian Federation (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			
1418/1417 Baltica-Transit	Estonia/Lithuania - Latvia - Russian Federation - 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	Riga/Moscow-Tov./Seliatino	container	on request
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 - Russian Federation - Kazakhstan (Riga - Rezekne - Sebezh - Ozinki/Aktobe)	container	on request
Lithuanian Railways JSC			
1022/1021	Kaliningrad - Kybartai (Russian Federation) - Vaidotai - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Kuntsevo-2, Moscow-Tovarnaya- Smolenskaya, Kupavna (Russian Federation)	container	on request
1220/ 1219 Mercury	Draugiste (Port Klaipeda) - Vaidotai - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Kuntsevo-2, Moscow-Tovarnaya- Smolenskaya, Silikatnaya, Kresty, Severnaya (Russian Federation)		
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 (Russian Federation) - Semiglavy Mar - Oazis (Kazakhstan) - Karakalpakstan - Galaba (Uzbekistan) – Afghanistan	container	on request

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
Saule-2	Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Ozinki (Russian Federation) - Semiglavy Mar - Aktobe, Almaty-1 (Kazakhstan)		
26/1225 Baltic Wind	Paneriai, Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Kartaly-1 (Russian Federation) - Aksu (Oblast) - Kustanai, Karagandy (Kazakhstan)	container	on request
1259/1260	Zhinishke - Semiglavy Mar (Kazakhstan) - Ozinki - Zlynka (Russian Federation) - Zakopytie - Gudogai (Belarus) - Kena - Klaipeda (Lithuania)	container	on request
1259 Saule	Dostyk - Iletsk-1 (Kazakhstan) - Kanisay - Krasnoye (Russian Federation) - 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) (Russian Federation) - 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 (Russian Federation) - 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 (Russian Federation) - Osinovka - Gudogai (Belarus) - Kena - Kybartai (Lithuania) - Nesterov - Lesnoye-Novoye (Russian Federation)	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) - Giurgiule§ti-Port (Republic of Moldova)	container-contrailer	daily
	Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Slovechno (Belarus) - Berezhest - Mogilyev-Podolski (Ukraine) - Ungheni (Republic of 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 the Republic of Moldova» State Enterprise			
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 (Republic of 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

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
Experimental	Rybnitsa - Kolbasnaya (Republic of Moldova)/Slobodka - Izov (Ukraine)/ Hrubieszow - Zamosc (Poland)		
Ulan-Bator Railway JSC			
1406 Mongolian Vector	Brest (Belarus) - Naushki (Russian Federation)/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 (Russian Federation) - Brest (Belarus)	container	4 times a month
1286	Brest (Belarus) - Naushki (Russian Federation) - Sukhe-Bator (Mongolia) - Ulan Bator - Zamyn-Uud (Mongolia) - Erlian (China)	container	2 times a month
Polish State Railways 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 (Netherlands) - Poznan (Poland) - Rotterdam (Netherlands)	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 (Netherlands) - Warszawa-Praga (Poland) Warszawa-Praga (Poland) - Rotterdam (Netherlands)	container	3 times a week
41365	Rotterdam (Netherlands) - 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, Russian Federation)	container	7 times a week
43202,43206/ 43205,43209	Mlada Boleslav (Czechia) - Malaszewicze (Poland) - Mlada Boleslav (Czechia) - Kaluga (Russian Federation)	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

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
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 (Netherlands) - Poznan (Poland) Poznan (Poland) - Rotterdam (Netherlands)	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 (Netherlands) - Warszawa-Praga (Poland) Warszawa-Praga (Poland) - Rotterdam (Netherlands)	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, Russian Federation)	container	7 times a week in both directions
43202 43209	Mlada Boleslav (Czechia) - Malaszewicze (Poland) - Mlada Boleslav (Czechia) - (Kaluga, Russian Federation)	container	7 times a week in both directions
41840 41841	Velka Ida (Slovakia) - Malaszewicze (Poland) - Velka Ida (Slovakia) (Kaluga, Russian Federation)	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 (Republic of Moldova) Rybnitsa Oknitsa (Republic of Moldova) - Zamosc Bortatycze (Poland)	container	4 times a week in both directions
Russian Railways JSC			
1022/1021	Kaliningrad - Nesterov (Russian Federation) - Kybartai (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Kuntsevo-2/Moscow-Tovarnaya- Smolenskaya/Kupavna (Russian Federation)	container	on request
1023/1024	Manchuria (China) - Zabaikalsk - Suzemka (Russian Federation) - Zernovo - Chop - Dobra/Chop, Batevo (Ukraine) - Slovakia/Hungary	container	on request
	Nakhodka-Vostochnaya - Suzemka (Russian Federation) - Zernovo - Chop - Dobra/ Chop, Batevo (Ukraine) - Slovakia/ Hungary	container	on request
1025/1026	Manchuria (China) - Zabaikalsk - Krasnoye (Russian Federation) - Osinovka - Brest (Belarus)	container	on request
1027/1028	Nakhodka/Nakhodka-Vost. - Krasnoye (Russian Federation) - Osinovka - Brest (Belarus)	container	on request

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
1251/1252	Zabaikalsk/Rybniki/Vladivostok/Nakhodka-Vostochnaya/ Bratsk/ Ust-Ilimsk/Lesosibirsk - Kulunda (Russian Federation) - 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 (Russian Federation)	container	on request
1029/1030	Nakhodka-Vostochnaya/Bratsk/Ust-Ilimsk/ Lesosibirsk - Kulunda (Russian Federation) - Kustanai/Aksu-1 (Kazakhstan)	container	on request
1257/1258	Kustanai (Kazakhstan) - Kartaly-1 - Moscow-Tovarnaya-Paveletskaya/ Kuntsevo-2/Sbornaya-Ugolnaya/Moscow-Tovarnaya (Russian Federation)	container	on request
1285/1286	Rybniki /Vladivostok/Nakhodka-Vostochnaya /Bratsk/Ust-Ilimsk/ Lesosibirsk - Lokot (Russian Federation) - Sary-Agach (Kazakhstan) - Ablyk/ Ulugbek/ Nukus/ Pitnjak/ Qarshi/Bukhara-2/Jizzakh (Uzbekistan)	container	on request
	Nakhodka-Vostochnaya - Lokot (Russian Federation) - Sary-Agach (Kazakhstan) - Galaba (Uzbekistan) - Afghanistan	container	on request
1031/1032	Zabaikalsk/Vladivostok/Nakhodka-Vostochnaya/Bratsk/ Ust-Ilimsk/ Lesosibirsk - Lokot (Russian Federation) - Zashchita/Zhety-Su/Almaty-1 (Kazakhstan)	container	on request
	Zhinishke/Aksu-1 (Kazakhstan) - Lokot - Nakhodka-Vostochnaya (Russian Federation)	container	on request
	Zashchita (Kazakhstan) - Lokot - Moscow-Tovarnaya-Paveletskaya/ Kuntsevo-2/Sbornaya-Ugolnaya/Moscow-Tovarnaya (Russian Federation)	container	on request
1033/1034	Novorossiysk - Kartaly-1 (Russian Federation) - Kustanai (Kazakhstan)	container	on request
1035/1036	Buslovskaya - Ozinki (Russian Federation) - Semiglavy Mar - Zhinishke (Kazakhstan)	container	on request
	Vorsino - Ozinki (Russian Federation) - Semiglavy Mar - Almaty-1 (Kazakhstan)	container	on request
1037/1038	China - Zabaikalsk - Krasnoye (Russian Federation) - Osinovka - Brest (Belarus) - Malaszewicze (Poland)	container	on request
	Vladivostok/Nakhodka-Vostochnaya - Krasnoye (Russian Federation) - Osinovka - Brest (Belarus) - Malaszewicze (Poland)	container	on request
1039/1040	Zabaikalsk/Vladivostok/Nakhodka-Vostochnaya - Krasnoye (Russian Federation) - Osinovka - Brest (Belarus) - Malaszewicze (Poland)	container	on request
1062/1061	European countries - Bruzgi - Osinovka (Belarus) - Krasnoye - Novojerusalimskaya (Russian Federation)	container	on request
1064/1063	France - Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Vorotynsk (Russian Federation)	container	on request
1066/1065 East Wind	(Germany - Poland - Belarus - Russian Federation) (France - Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Bekasovo-Sort./ Kuntsevo-2/ Vorsino (Russian Federation)	container	on request
1068/1067	Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Moscow-Tovarnaya-Paveletskaya/ Sbornaya-Ugolnaya (Russian Federation)	container	on request

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
	Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Kuntsevo-2/Silikatnaya (Russian Federation)		
1070/1069	Czechia/Slovakia - Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Lokot (Russian Federation) - Kartaly-1 - Zashchita (Kazakhstan)	container	on request
1072/1071	Aksu-1 (Kazakhstan) - Kartaly-1 - Krasnoye (Russian Federation) - Osinovka - Brest (Belarus)	container	on request
1074/1073	Germany - Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Nakhodka-Vostochnaya (Russian Federation)	container	on request
1076/1075	Berlin/ Duisburg/Hamburg (Germany) - Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Kanisay (Russian Federation) - Iletsk-1 - Almaty-1 - Dostyk/ Altynkol (Kazakhstan) - Chongqing/Zhengzhou (China)	container	on request
	Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Kanisay (Russian Federation) - Iletsk-1 - Dostyk/Altynkol (Kazakhstan) - Chengdu (China)	container	on request
1078/1077 Kazakhstan Vector	Germany - Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Ozinki (Russian Federation) - Semiglavy Mar - Arys-1 (Kazakhstan)	container	on request
1080/1079	Brest - Osinovka (Belarus) - Krasnoye - Kaluga-1/ Perspektivnaya (Russian Federation)	container	on request
1082/1081	Brest - Osinovka (Belarus) - Krasnoye - Kaluga-1/ Perspektivnaya (Russian Federation)	container	on request
1084/1083	Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Tihonovo/Silikatnaya/Kuntsevo-2/Sbornaya-Ugolnaya/ Moscow-Tovarnaya-Paveletskaya (Russian Federation)	container	on request
1086/1085 Mongolian Vector	Brest - Osinovka (Belarus) - Krasnoye - Naushki (Russian Federation) – Mongolia	container	on request
1088/1087	Brest - Osinovka (Belarus) - Krasnoye - Kaluga-1/ Perspektivnaya (Russian Federation)	container	on request
1090/1089	Brest - Osinovka (Belarus) - Krasnoye - Kostarikha/Nizhny Novgorod Avtozavod (Russian Federation)	container	on request
1096/1095	Brest - Osinovka (Belarus) - Krasnoye - Nizhny Novgorod Avtozavod (Russian Federation)	container	on request
1144/1143	Dorne^ti (Romania) - Vadul-Siret - Zernovo (Ukraine) - Suzemka - Moscow-Tovarnaya-Paveletskaya (Russian Federation)	container	on request
1156/1155	Dorne^ti (Romania) - Vadul-Siret - Zernovo (Ukraine) - Suzemka - Tolyatti (Russian Federation)	container	on request
1158/1157 Odessa	Odessa-Port - Zernovo (Ukraine) - Suzemka - Moscow -Tovarnaya- Paveletskaya/Vorsino (Russian Federation)	container	on request
1162/1161	Kosice (Czechia/Slovakia) - Uzhgorod-2 - Zernovo (Ukraine) - Suzemka - Perspektivnaya/Nizhny Novgorod Avtozavod (Russian Federation)	container	on request
1164/1163	Dobra (Slovakia) - Chop - Zernovo (Ukraine) - Suzemka - Moscow-Tovarnaya-Paveletskaya/Kuntsevo-2/ Silikatnaya/ Vorsino (Russian Federation)	container	on request
1219/1220 Mercury	Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Kuntsevo-2/ Moscow-Tovarnaya- Paveletskaya/ Kresty/Silikatnaya/Severnaya (Russian Federation)	container	on request

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
1221/1222	Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Ozinki (Russian Federation) - Semiglavy Mar (Kazakhstan) - Karakalpakstan (Uzbekistan) - Galaba (Afghanistan)	container	on request
Saule-2	Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Ozinki (Russian Federation) - Semiglavy Mar - Karakalpakstan (Kazakhstan) - Ulugbek (Uzbekistan)	container	on request
	Draugiste (Port Klaipeda) - Kena (Lithuania) - Gudogai - Krasnoye - Ozinki (Russian Federation) - Semiglavy Mar - Aktobe /Almaty-1 (Kazakhstan)	container	on request
1226/1225 Baltic Wind	Paneriai/Draugiste (Port Klaipeda) (Lithuania) - Gudogai - Osinovka (Belarus) - Krasnoye - Kartaly-1 (Russian Federation) - Kustanai (Kazakhstan)	container	on request
1253/1254 New Silk Way	China - Dostyk/Altynkol - Iletsk-1 (Kazakhstan) - Kanisay - Suzemka (Russian Federation) - 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 (Russian Federation)	container	on request
	China - Dostyk - Semiglavy Mar (Kazakhstan) - Ozinki - Moscow-Tovarnaya-Paveletskaya/Silikatnaya (Russian Federation)	container	on request
1259/1260	Zhinishke - Semiglavy Mar (Kazakhstan) - Ozinki - Zlynka (Russian Federation) - Zakopytie - Gudogai (Belarus) - Kena - Klaipeda (Lithuania)	container	on request
Saule	China - Dostyk/Altynkol - Iletsk-1 (Kazakhstan) - Kanisay - Krasnoye (Russian Federation) - 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 (Russian Federation) - Kartaly-1 - Almaty-1 (Kazakhstan)	container	on request
1265/1266	China - Dostyk/Altynkol - Iletsk-1 (Kazakhstan) - Kanisay - Krasnoye - Ozinki (Russian Federation) - Brest (Belarus) - Malaszewicze (Poland) - Germany	container	on request
1269/1270	China - Dostyk/Altynkol - Semiglavy Mar (Kazakhstan) - Ozinki - Novorossiysk (Russian Federation)	container	on request
1278/1277	Buslovskaya - Kanisay (Russian Federation) - Iletsk-1 - Dostyk (Kazakhstan) – China	container	on request
1282/1281	China - Dostyk - Semiglavy Mar (Kazakhstan) - Ozinki - Samur (Russian Federation) - Yalama (Azerbaijan) - Beyuk-Kyasik - Tbilisi-Uzlovaya (Georgia)	container	on request
1284/1283	China - Dostyk (Kazakhstan) - Kartaly-1 - Formachyevo (Russian Federation)	container	on request
1292/1291	Vartsila - Kanisay (Russian Federation) - Iletsk-1 - Dostyk (Kazakhstan) – China	container	on request
1350/1349 Eurasia-1	Riga - Zilupe (Latvia) - Posin - Ozinki (Russian Federation) - 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 (Russian Federation)	container	on request
1356/1355 Riga-Moscow	Riga - Zilupe (Latvia) - Posin - Bekasovo-Sort /Moscow-Tovarnaya/ Seliatino (Russian Federation)	container	on request

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
1409/1410	Muuga - Koidula (Estonia) - Pechory-Pskovskiye - Moscow-Tovarnaya/ Shushary Octyabrskaya RW/ Moscow-2 Mitkovo/Kaluga-1/Kuntsevo-2/ Obninskoye/ Tuchkovo/Vorotynsk/Khovrino/Chernikovka (Russian Federation)	container	on request
1411/1412	Muuga - Koidula (Estonia) - Pechory-Pskovskiye - Moscow-Tovarnaya/ Vorotynsk (Russian Federation)	container	on request
	Muuga - Koidula (Estonia) - Pechory-Pskovskiye - Kanisay (Russian Federation) - Iletsk-1 - Almaty-1 (Kazakhstan)	container	on request
1415/1416	Muuga - Koidula (Estonia) - Pechory-Pskovskiye - Ozinki (Russian Federation) - Semiglavy Mar (Kazakhstan) - Karakalpakstan – Galaba	container	on request
	Muuga - Koidula (Estonia) - Pechory-Pskovskiye - Tolyatti/ Zhigulyevskoye More (Russian Federation)	container	on request
	Valga (Estonia)/Eglaine (Latvia) - Zilupe (Latvia) - Posin - Ozinki (Russian Federation) - Semiglavy Mar - Aktobe - Sary-Agach (Kazakhstan) - Chukursai (Uzbekistan)	container	on request
1418/1417 Baltica-Transit	Valga (Estonia)/Eglaine (Latvia) - Zilupe (Latvia) - Posin - Ozinki (Russian Federation) - Semiglavy Mar - Almaty-1 (Kazakhstan)	container	on request
	Valga (Estonia)/Eglaine (Latvia) - Zilupe (Latvia) - Posin - Ozinki (Russian Federation) - Semiglavy Mar (Kazakhstan) - Karakalpakstan - Galaba (Uzbekistan) - Afghanistan	container	on request
	Muuga/Paldiski - Narva (Estonia) - Ivangorod-Narvski - Petropavlovsk (Russian Federation) - Sary-Agach (Kazakhstan) - Chukursai (Uzbekistan)	container	on request
1420/1419	Muuga/Paldiski - Narva (Estonia) - Ivangorod-Narvski - Petropavlovsk (Russian Federation) - Lugovaya (Kazakhstan) - Alamedin (Kyrgyzstan)	container	on request
Baltica-Transit-2	Muuga - Narva (Estonia) - Ivangorod-Narvski - Petropavlovsk (Russian Federation) - Almaty-1/Dostyk/ Altynkol (Kazakhstan) – China	container	on request
	Muuga - Narva (Estonia) - Ivangorod-Narvski - Ekaterinburg-Tov./ Blochnaya/Batareynaya/Kitoy - Kombinatskaya (Russian Federation)	container	on request
1421/1422	Grivno - Krasnoye (Russian Federation) - Osinovka - Gudogai (Belarus) - Kybartai (Lithuania) - Nesterov - Lesnoye-Novoye (Russian Federation)	contrailer	on request
1423/1424	Grivno - Krasnoye (Russian Federation) - Osinovka - Gudogai (Belarus) - Kybartai (Lithuania) - Lesnoye-Novoye (Russian Federation)	contrailer	on request
1425/1426	Akulovo/Grivno - Krasnoye (Russian Federation) - Osinovka - Gudogai (Belarus) - Kybartai (Lithuania) - Lesnoye-Novoye (Russian Federation)	contrailer	on request
1427/1428	Malaszewicze (Poland) - Brest - Osinovka (Belarus) - Krasnoye - Mikhnevo (Russian Federation)	contrailer	on request
1432/1431 Astana European Train	Mativcy (Slovakia) - Uzhgorod-2 - Topoli (Ukraine) - Kartaly-1 (Russian Federation) - Astana (Kazakhstan)	contrailer	on request
1101/1102 Russian Federation-Express	Berlin - Brest - Osinovka (Belarus) - Krasnoye - Bekasovo-Sort / Kuntsevo-2 (Russian Federation)	fast container train	on request
Europe-Express	Kuntsevo-2/Bekasovo-Sort. - Krasnoye (Russian Federation) - Osinovka - Brest (Belarus) - Berlin (Germany)	fast container train	on request

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
O'zbekiston temir yo'llari JSC			
1029/1030	Russian Federation - Kazakhstan - Uzbekistan (Vladivostok/Nakhodka-Vostochnaya - Kulunda - Sary-Agach - Sergeli/ Tashkent-Tov /Chukursai)	container	on request
1031/1032	Russian Federation - Kazakhstan - Uzbekistan (Rybniki /Vladivostok/Nakhodka-Vostochnaya - Lokot - Sary-Agach - Ablyk/Ulugbek/Nukus/Pitnjak)	container	on request
	Russian Federation - Kazakhstan - Uzbekistan - Afghanistan (Nakhodka-Vostochnaya - Lokot - Sary-Agach - Galaba)	container	on request
1221/1222	Lithuania - Belarus - Russian Federation - 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 - Russian Federation - Kazakhstan - Uzbekistan - Afghanistan (Muuga - Pechory-Pskovskiye - Semiglavy Mar - Karakalpakstan - Galaba)	container	on request
1420/1419 Baltica Transit-2	Estonia - Russian Federation - Kazakhstan - Uzbekistan (Muuga/Paldiski - Narva - Petropavlovsk - Sary-Agach - Chukursai)	container	on request
Ukrainian Railway PJSC			
1023/1024	Manchuria (China) - Zabaikalsk - Suzemka (Russian Federation) - Zernovo - Chop (Ukraine), Batevo (Ukraine) - Dobra (Slovakia)/Eperjeske (Hungary)	container	on request
	Nakhodka - Suzemka (Russian Federation) - 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 (Republic of Moldova)	container	on request
1156/1155	Chumesti - Dornesti (Romania) - Vadul-Siret - Zernovo (Ukraine) - Suzemka - Tolyatti (Russian Federation)	container	once a week
1158/1157 Odessa	Odessa - Zernovo (Ukraine) - Suzemka - Moscow-Tov-Paveletskaya/ Vorsino (Russian Federation)	container	on request
1162/1161	Villanova-de-Asti (Czechia) - Kosice - Mativcy (Slovakia) - Uzhgorod-2 - Zernovo (Ukraine) - Suzemka - Perspektivnaya/ Nizhny Novgorod Avtozavod (Russian Federation)	container	once a week
1164/1163	Kosice - Mativcy (Slovakia) - Chop - Zernovo (Ukraine) - Suzemka - Moscow-Tovarnaya-Paveletskaya/Kuntsevo-2/ Silikatnaya/Vorsino (Russian Federation)	container	on request
1181/1182 Kreschatik	Odessa/Iliechyevsk - Kiev-Liski (Ukraine)	container	on request
1183/1184 Podolje	Odessa/Iliechyevsk - Khmelnitski (Ukraine)	container	on request

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
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 (Republic of 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 (Republic of Moldova) - Iasi (Romania)	combined	3 times a week
1144/1143	Chumesti - Dornesti (Romania) - Vadul-Siret - Zernovo (Ukraine) - Suzemka - Moscow-Tovarnaya-Paveletskaya (Russian Federation)	container	once a week
1432/1431 Astana European Train	Kosice - Mativcy (Slovakia) - Uzhgorod-2 - Zernovo (Ukraine) - Suzemka - Kartaly-1 (Russian Federation) - Aksu - Astana	contrailer	on request
1433/1434 Jaroslav	Kiev-Liski - Izov (Ukraine) - Hrubieszow - Stawkow (Poland)	combined	on request
Czech Railways JSC			
40736	Budapest (Hungary) - Kuty (Slovakia) - Decin (Czechia) - Bremerhaven (Germany)	container	once a week
40737	Bremerhaven (Germany) - Decin (Czechia) - Kuty (Slovakia) - Budapest (Hungary)	container	2 times a week
40738	Budapest (Hungary) - Kuty (Slovakia) - Decin (Czechia) - Bremerhaven (Germany)	container	once a week
41341	Hamburg (Germany) - Decin (Czechia) - Melnik (Czechia)	container	5 times a week
41342	Melnik (Czechia) - Decin (Czechia) - Hamburg (Germany)	container	4 times a week
41343	Hamburg (Germany) - Decin (Czechia) - Melnik (Czechia)	container	5 times a week
41344	Melnik (Czechia) - Decin (Czechia) - Hamburg (Germany)	container	4 times a week
41345	Bremerhaven (Germany) - Decin (Czechia) - Kuty (Slovakia) - Bratislava (Slovakia)	container	once a week
41347	Bremerhaven (Germany) - Decin (Czechia) - Melnik (Czechia)	container	once a week
41348	Melnik (Czechia) - Decin (Czechia) - Bremerhaven (Germany)	container	once a week
41349	Bremerhaven (Germany) - Decin (Czechia) - Kuty (Slovakia) - Bratislava (Slovakia)	container	once a week
41355	Bremerhaven (Germany) - Decin (Czechia) - Melnik (Czechia)	container	once a week
41356	Melnik (Czechia) - Decin (Czechia) - Bremerhaven (Germany)	container	1 time a week
41357	Bremerhaven (Germany) - Decin (Czechia) - Melnik (Czechia)	container	once a week
41360	Lovosice (Czechia) - Decin (Czechia) - Duisburg (Germany)	container	5 times a week
41361	Duisburg (Germany) - Decin (Czechia) - Lovosice (Czechia)	container	5 times a week
41362	Lovosice (Czechia) - Decin (Czechia) - Hamburg (Germany)	container	once a week

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
41369	Hamburg (Germany) - Decin (Czechia) - Lovosice (Czechia)	container	2 times a week
41378	Lovosice (Czechia) - Decin (Czechia) - Hamburg (Germany)	container	4 times a week
41379	Hamburg (Germany) - Decin (Czechia) - Lovosice (Czechia)	container	once a week
41720	Dunajska Streda (Slovakia) - Kuty (Slovakia) - Havirov (Czechia)	container	once a week
41721	Havirov (Czechia) - Kuty (Slovakia) - Dunajska Streda (Slovakia)	container	once a week
41730	Dunajska Streda (Slovakia) - Kuty (Slovakia) - Ceska Trebova (Czechia)	container	7 times a week
41731	Ceska Trebova (Czechia) - Kuty (Slovakia) - Dunajska Streda (Slovakia)	container	7 times a week
41732	Dunajska Streda (Slovakia) - Kuty (Slovakia) - Ceska Trebova (Czechia)	container	7 times a week
41733	Ceska Trebova (Czechia) - Kuty (Slovakia) - Dunajska Streda (Slovakia)	container	7 times a week
41752	Bratislava (Slovakia) - Kuty (Slovakia) - Melnik (Czechia)	container	2 times a week
41753	Melnik (Czechia) - Kuty (Slovakia) - Bratislava (Slovakia)	container	once a week
42328	Praha Zizkov (Czechia) - Decin (Czechia) - Hamburg (Germany)	container	6 times a week
42335	Hamburg (Germany) - Decin (Czechia) - Praha Zizkov (Czechia)	container	6 times a week
42340	Praha Zizkov (Czechia) - Decin (Czechia) - Pirna (Germany)	container	once a week
42343	Hamburg (Germany) - Decin (Czechia) - Praha Zizkov (Czechia)	container	2 times a week
42361	Pirna (Germany) - Decin (Czechia) - Praha Zizkov (Czechia)	container	once a week
42362	Praha Zizkov (Czechia) - Decin - Pirna (Germany)	container	2 times a week
43201	Malaszewicze (Poland) - Petrovice (Czechia) - Mlada Boleslav (Czechia)	container	2 times a week
43202	Mlada Boleslav (Czechia) - Petrovice (Czechia) - Malaszewicze (Poland)	container	2 times a week
43204	Mlada Boleslav (Czechia) - Petrovice (Czechia) - Malaszewicze (Poland)	container	2 times a week
43205	Malaszewicze (Poland) - Petrovice (Czechia) - Mlada Boleslav (Czechia)	container	2 times a week
43206	Mlada Boleslav (Czechia) - Petrovice (Czechia) - Malaszewicze (Poland)	container	2 times a week
43207	Malaszewicze (Poland) - Petrovice (Czechia) - Mlada Boleslav (Czechia)	container	2 times a week
43400	Koper (Slovenia) - Kuty (Slovakia) - Dobra (Czechia)	container	4 times a week
43401	Dobra (Czechia) - Kuty (Slovakia) - Koper (Slovenia)	container	2 times a week
Estonian Railway JSC			
14099991/1402 Zubr	Ulemiste/Muuga-Valga (Estonia) - Indra (Latvia) - Bigosovo - Slovechno (Belarus) - Berezhest - Iliechyevsk/ Iliechyevsk-Ferry/Odessa-Port/ Mogilyev-Podolski/Izov (Ukraine) - Valcinej - Oknitsa (Republic of Moldova)	container	on request
1409/1410	Muuga - Koidula (Estonia) - Pechory-Pskovskiye (Russian Federation) - 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 (Russian Federation) - Moscow-Tov.-Oct./Vorotynsk	container	on request
1415/1416	Muuga - Koidula (Estonia) - Pechory-Pskovskiye (Russian Federation) - Iletsk-1 (Kazakhstan) - Almaty-1	container	on request

Table 1.30 Block trains routes and container services on the railways of OSJD member States (14 October 2016) (continued)

Train Number	Route	Train Characteristics	Frequency
	Muuga - Koidula (Estonia) - Pechory-Pskovskiye (Russian Federation) - Semiglavy Mar (Kazakhstan) - Karakalpakstan (Uzbekistan) - Galaba (Afghanistan)		
	Muuga - Koidula (Estonia) - Pechory-Pskovskiye (Russian Federation) - Tolyatti/ Zhigulyevskoye More		
1418/1417 Baltica-Transit	Muuga - Valga (Estonia) - Rezekne (Latvia) - Sebezh - Ozinki (Russian Federation) - Aktobe (Kazakhstan) - Sary-Agach (Uzbekistan) – Chukursai	container	on request
	Muuga - Valga (Estonia) - Rezekne (Latvia) - Sebezh (Russian Federation) - Semiglavy Mar (Kazakhstan) - Dostyk/Altynkol		
	Muuga - Valga (Estonia) - Rezekne (Latvia) - Sebezh - Semiglavy Mar (Russian Federation) - Oazis (Kazakhstan) - Karakalpatia (Uzbekistan) - Jomboy		
1420/1419 Baltica Transit-2	Muuga/Paldiski - Narva (Estonia) - Ivangorod-Narvski (Russian Federation) - Petropavlovsk (Kazakhstan) - Sary-Agach (Kazakhstan) - Chukursai (Uzbekistan)	container	on request
	Muuga - Narva (Estonia) - Ivangorod-Narvski (Russian Federation) - Petropavlovsk (Kazakhstan) - Almaty-1 / Dostyk (China)		
	Muuga - Narva (Estonia) - Ivangorod-Narvski (Russian Federation) - Petropavlovsk (Kazakhstan) - Lugovaya (Kyrgyzstan) – Alamedin		
	Muuga - Narva (Estonia) - Ivangorod-Narvski (Russian Federation) - Ekaterinburg-Tov./Blochnaya/ Batareynaya/ Kitoy – Kombinatskaya		
South Caucasus Railway 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 assessed to be 20-30 per cent more efficient since they used simplified documents of carriage and could move faster through border crossing.

According to CCTT TSR Annual digest 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
- 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 on 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 the EATL region.

“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 integrated management.

Traditional supply chains (the “old” Silk Way is probably the best historic example) have represented long 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 logistics providers acting on behalf of the focus companies of the supply chains. The entire logistics 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 chain 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 like 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 of the commodity markets served by the supply chain and of the transport services market.

In many cases the actual route is not the shortest one, even for one 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 transhipment 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.

A "traditional" node is the spot where the flow of vehicles and commodities are interrupted and players that must cooperate in resumption of this flow often have 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 too long waiting times for cargo – either on board 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 transhipment 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 a 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 despite intermodal competition (which is one of the drivers of transport system efficiency) different modes are compelled to cooperate 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 a "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 services 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 programmes and projects implemented during phase III of the EATL project showed, for example the ADB CAREC Programme or the NELTI Project road transport could be an efficient option for moving cargo between Europe and some Asian countries, such as Central Asian countries, Afghanistan or Mongolia). 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 an IRU permits study based[21] 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, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan – participating in the EATL project (with more than 10 million paper permits issued annually). There were thus too many agreements which complicated business (especially permit receipt and use).

At the same time if a country of Europe and a country of Asia had not concluded an intergovernmental road transport agreement, then bilateral, transit or third country operation were not possible between them.

Table 1.31 lists bilateral or multilateral agreements on international road transport concluded by countries in Europe and Asia. The presence of bilateral or multilateral agreements concluded and entered into force (indicated as "+" in the table) were a good indicator for the degree of seamlessness of road transport operations between the countries involved.

Table 1.31 Bilateral/multilateral agreements on cargo flows by road transport between Europe and Asia

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

Source: IRU, World Bank

*) India, Japan and the Republic of Korea are not EATL project countries

Legend:

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

China during phase III of EATL was poorly integrated in the international Euro-Asian road transport system. Intergovernmental bilateral agreements on international road transport were concluded only with four countries (Kazakhstan, Kyrgyzstan, the Russian Federation and Tajikistan) and as of May 2017 also with Turkey. 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, Kyrgyzstan and Pakistan that envisaged transit cargo transportation related to Chinese and Pakistani trade across Central Asia. But this quadrilateral agreement was not used.

China had a restrictive permit system for road transport of goods, these 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. Russian carriers could not enter China through the territory of Kyrgyzstan).
- Limitations related to the distance of entering the territory of China for the transport operators from the Eurasian countries.
- Lack of possibility for the 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 except for 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.

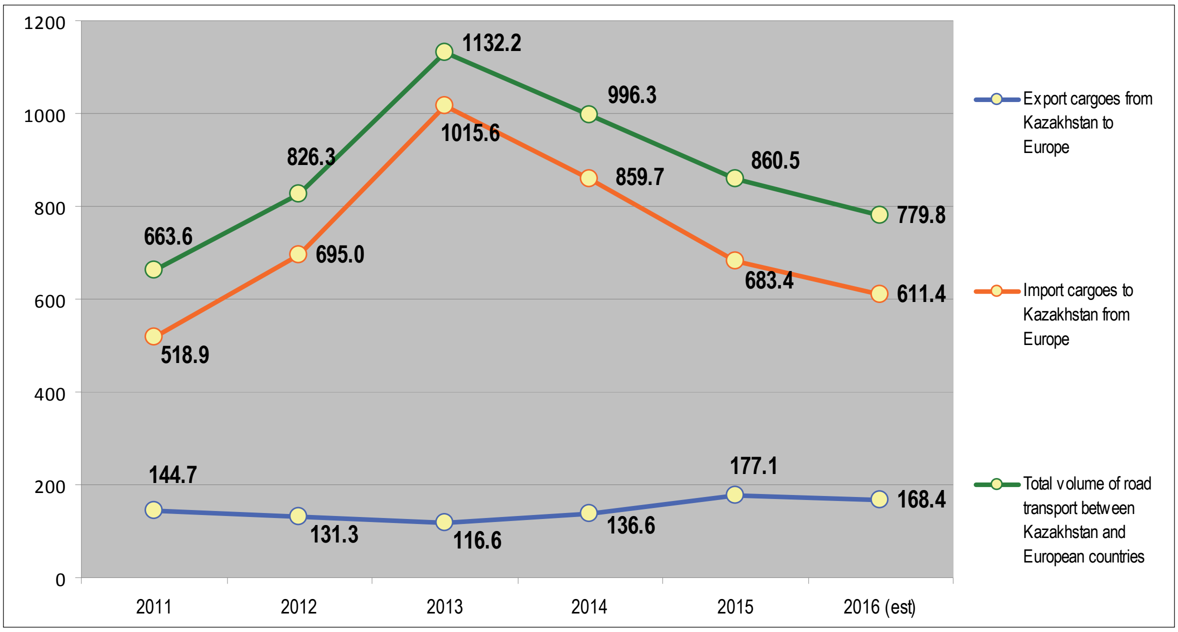
Thus, to integrate China in the regional or the Eurasian road transport market requires a review of the existing bilateral agreements on international road transport. Development mechanisms for transport shall be found, however, not only between China and its neighbours but between China and the European countries. The latter would require a solution to transit of Chinese cargo across the territory of Central Asia. The entry into force of Shanghai 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 tonnes, a decrease by 9.4 per cent compared to the level of 2015 and 31.1 per cent 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).

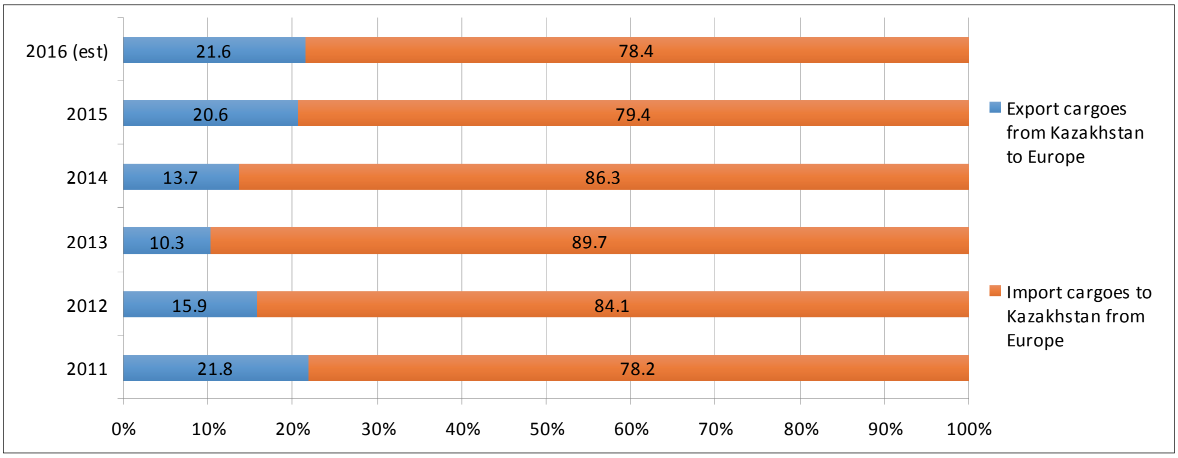
The share of the Europe-Asia direction in the total volume of road transport between Kazakhstan and European countries was estimated in 2016 approximately at the level of 2011 but much lower than in 2013, when the Kazakhstani Tenge/Euro exchange rate was the highest, which contributed to an increase in import of goods from Europe to Kazakhstan (Figure 1.29).

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



Source: UNECE

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



Source: UNECE

I.3.5. Air transport

Because 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 services on the trade lanes that connect Asia with Europe grew well above long-term trend – from 2000 to 2017 (Table 1.32).

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

Table 1.32 Historical and forecast air cargo annual growth rates, per cent

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

trading block, with China at the forefront. The e-commerce market of China was expected to exceed the combined markets of France, Germany, Japan, the United States of America and the United Kingdom of Great Britain and Northern Ireland 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 major express carriers, including DHL, FedEx and UPS, as well as newer carriers such as SF Express in China, e-commerce flows were already the core business.

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

Airlines used freight planes 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 dimension). The distinct advantages of freight planes allow operators to offer a higher value of service. Freight planes 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 freight planes. The share of cargo carried on freight planes remained high in markets across the world, especially on the world's largest trade routes between Asia and Europe, where approximately 80 per cent of total air cargo traffic was carried by freight planes (figure 1.30).

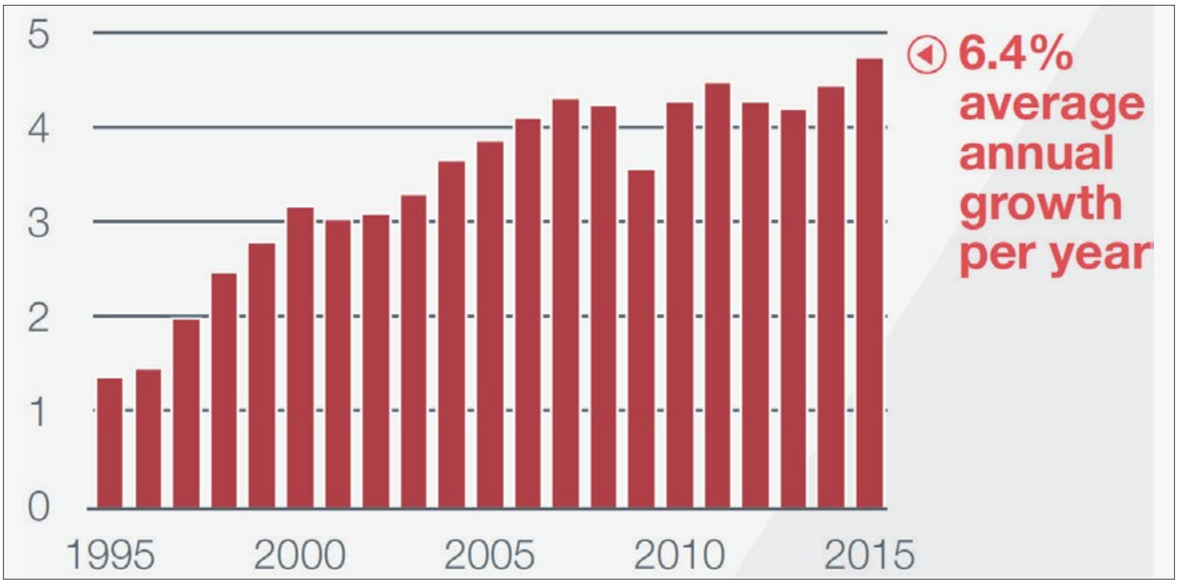
Express carriers continued to operate substantial freight fleets, flying 40 per cent of the widebody freighters and generating 40 per cent of air cargo industry revenues in 2015. These operators used freight planes as a link in their door-to-door proprietary transport network, a network that is tailored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

Most of the remaining large freight plane capacity was deployed for air freight. Air freight demand was highly concentrated with 85 per cent of scheduled large flights operated out of the top 50 cargo airports, including airports across Asia, the Middle East and Europe. Air cargo between Europe and Asia comprised three main service sectors: scheduled freight, charter freight, and mail. Scheduled freight accounted for more than 90 per cent of all air cargo traffic and included general and express (sometimes referred to as "integrator") freight. The market share remains 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 Euro-Asian market comprised approximately 20.3 per cent of the world's air cargo traffic in tonne-kilometres and 10.5 per cent in tonnage. Euro-Asian air cargo traffic averaged a 6.4 per cent growth per year since 1995. The market grew 6.0 per cent in 2014 and 6.5 per cent in 2015 (figure 1.31). The Euro-Asian annual growth chart shows overall air traffic flows between Europe and Asia and includes 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 1.30 Total air cargo traffic carried by freight planes on the Euro-Asian routes in comparison with other main transcontinental air transport markets, percentage

Figure 1.31 Volume of Euro-Asian air cargo traffic, in 1995–2015 (millions of tonnes)



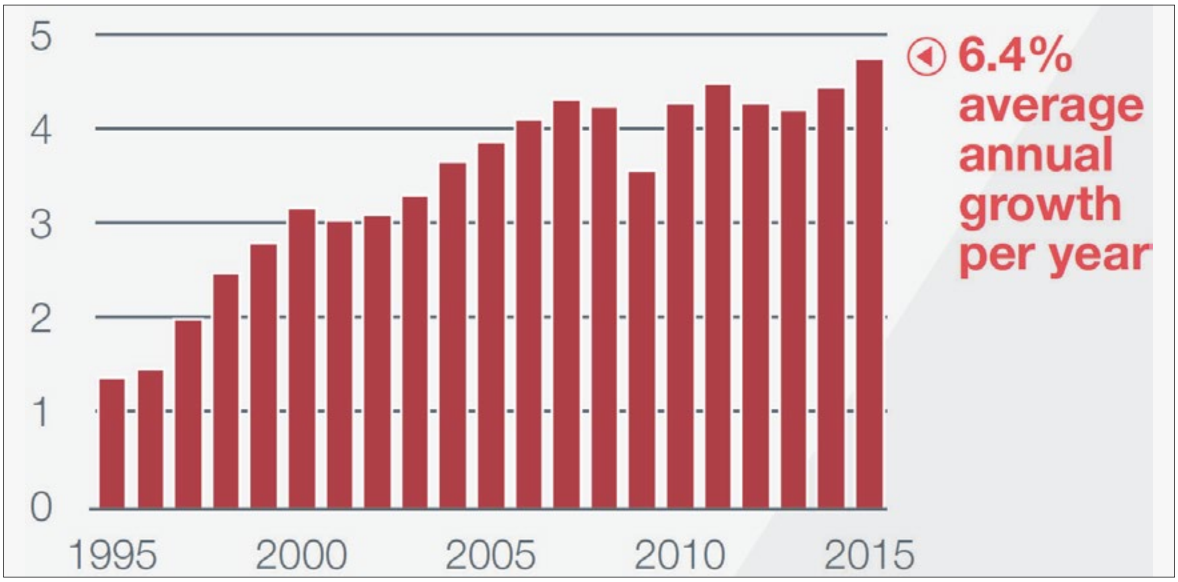
Source: Boeing (2016) World Air Cargo Forecast 2016–2017

Asia air exports to Europe accounted for approximately 60 per cent of the market. Europe imported 2.4 million tonnes and exported 1.4 million tonnes.

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

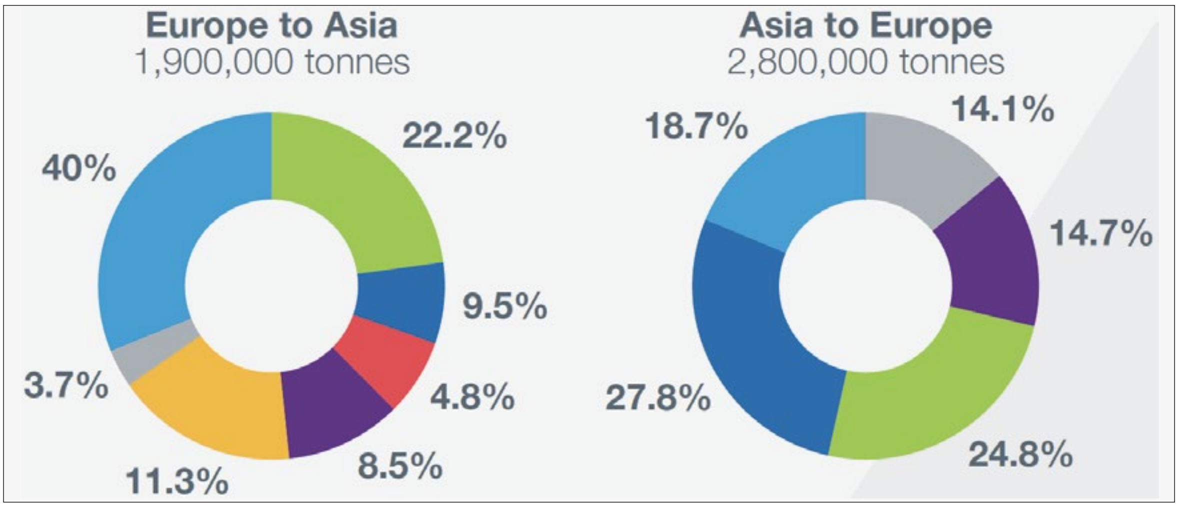
From Europe to Asia, six commodity categories account for 60 per cent of air cargo traffic (figure 1.33).

Figure 1.32 Annual growth of air cargo flows between Asia and Europe, in 1998–2013, million tonnes



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

Figure 1.33 Air cargo structure by main commodity groups between Asia and Europe in 2015, per cent



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

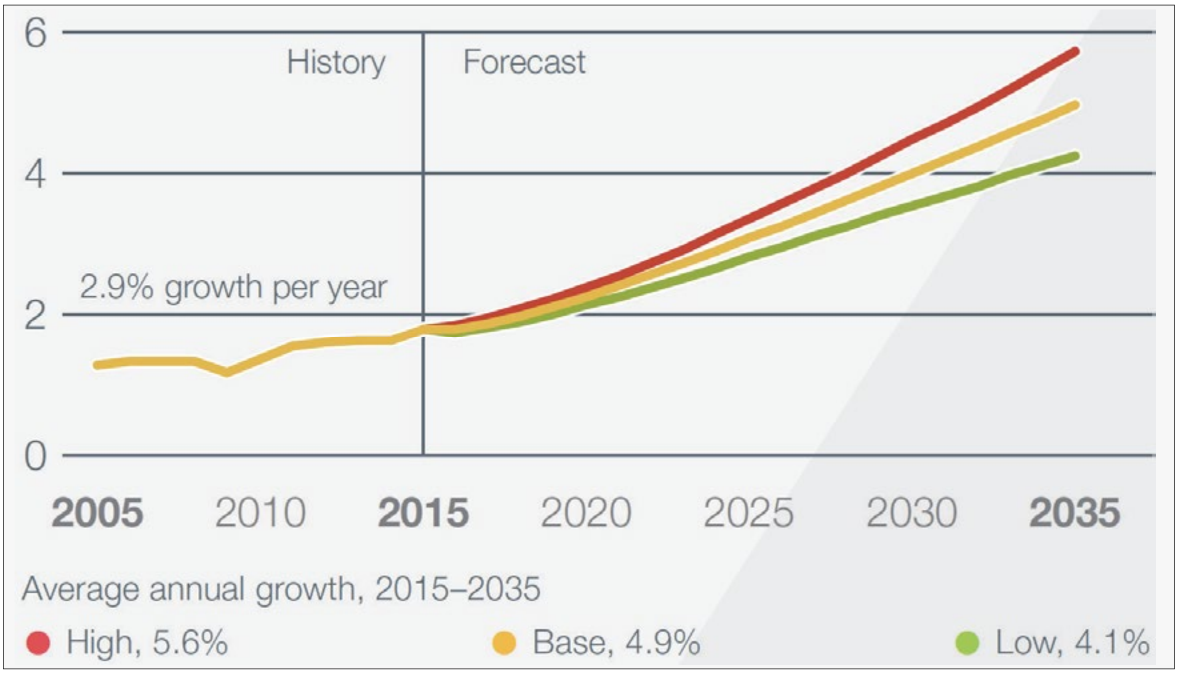
In descending order, the categories are machinery and electrical equipment, perishables, computers, office, and communication equipment, documents and small packages, transportation equipment and parts, and apparel. From Asia to Europe, the top five commodity categories account for 81 per cent of air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

A particularly fast-growing market segment between Europe and Asia was documents and small packages, sometimes referred to as “traditional express traffic.” This trade flow averaged 6.2 per cent 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 Euro-Asian market was forecasted to grow an average of 4.6 per cent per year until 2035. Asia to Europe was forecasted at an average of 4.5 per cent per year. Europe to Asia was forecasted to grow 4.9 per cent annually.

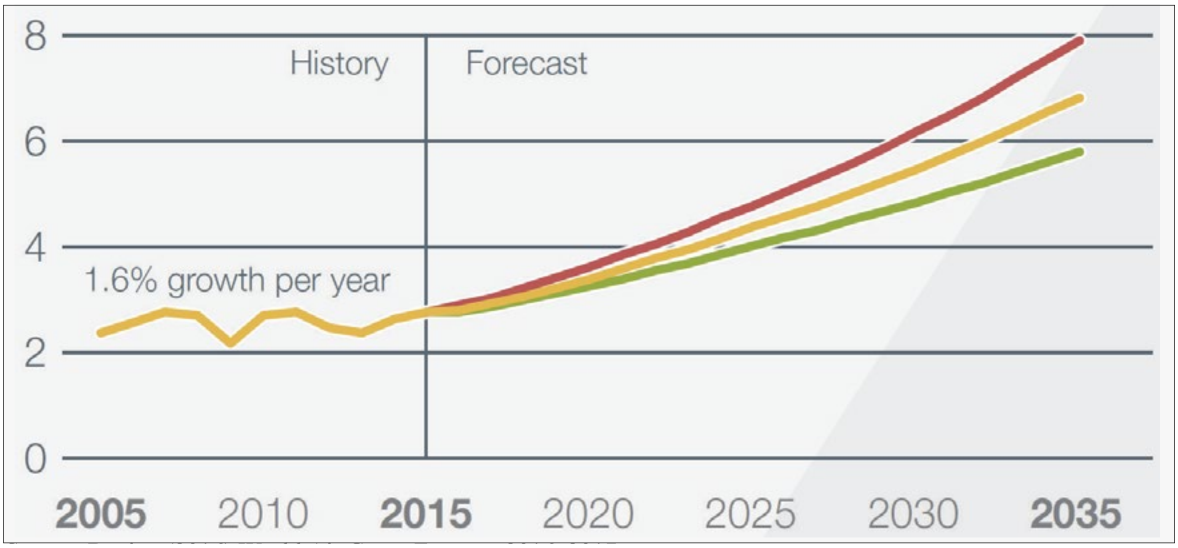
Base, low, and high models were developed to forecast the Euro-Asian air cargo market using GDP projections of 0.5 per cent below and above the baseline.

Figure 1.34 Euro-Asian air cargo market forecast up to 2033 by Boeing (of tonnes)



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

Figure 1.35 Asian-Euro air cargo market forecast up to 2033 by Boeing (millions of tonnes)



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

Conclusions

The freight transport market between Europe and Asia was highly competitive, with the different modes incl. sea, rail, road and air transport as well as international multimodal operators and logistics providers all competing for their share. Sea transport accounted for about 97 per cent of the total volume of cargo transported between Europe and Asia (in tonnes), but the share of rail and air transport was increasing in phase III of the EATL project.

Maritime transport was by large the main transport mode due to low rates, high accuracy, compliance with schedules, close cooperation between Euro-Asian logistics providers, the established geography of production located near seaports, the introduction of new methods such as slow steaming with reduced costs. However, maritime transport was not suited to e-commerce consumers, who were interested in short delivery times.

The contribution of railways in the EATL development grew steadily through increases in the number of regular scheduled block train runs on EATL routes.

Road transport served only intraregional links and trade between Central Asian LLDCs and China, Europe and the Middle East. Signing of the Intergovernmental Agreement of the Shanghai Cooperation Organization Member States on the Facilitation of International Road (SCO Road Transport Agreement) during the annual summit of the member States of the SCO, held in Tajikistan in 2014 demonstrated the high-level of dedication to improving connectivity among the SCO member states. 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.

Air transport was expected to become a serious competitor for both maritime and land transport for the delivery of high-value and time-sensitive cargo between Europe and Asia. The significant growth of e-commerce and the enhanced need for delivery of express postal items from China and other Asian countries to Europe were also in the benefit of the air transport sector.

I.3.6. Seaports and hinterland connections on EATL corridors

Seaports were of great importance for EATL countries. They enabled overseas trade for maritime and landlocked countries and offered effective transhipment between maritime and other transport modes. Trade and transport flows passing through seaports 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 in East Asia, where seaports were deeply integrated in the whole logistic infrastructure.

Since the beginning of the twenty-first century, a 'terminalisation phase' of port development has continued. Port business 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 an 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.

'Port terminalisation' continued 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 seaports, 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 in Asia, mainly of China, cargo throughput in Asian seaports grew steadily from 2007 to 2017. In the same period, the major European ports of Rotterdam, Antwerp, and Hamburg, grew respectively by 167 per cent, 159 per cent and 144 per cent. In 2016, the ports of Ningbo-Zhousan, Shanghai, Tianjin and other ports in Eastern Asia in Euro-Asian trade flows became the biggest seaports by tonnage in TEU, and the 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 (Table 1.33).

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.

Table 1.33 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 (Islamic Republic of))	5a	
Anzali (Iran (Islamic Republic of))	5	6
Arkhangelsk (Russian Federation)		1c
Astrakhan (Russian Federation)	5,5a,5b,5c	6,6a,6c
Atyrau (Kazakhstan)		6g
Alat/Baku (Azerbaijan)	3, 3a	4,4f,6a
Bandar Abbas (Iran (Islamic Republic of))	5	6,6f
Bandar Imam (Iran (Islamic Republic of))	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 (Islamic Republic of))	5f	6e
Chabahar (Iran (Islamic Republic of))	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
Iskenderun (Turkey)	3f,4a	
Izmir (Turkey)	4d,4e	
Kaliningrad (Russian Federation) *	8b	3c
Kavala (Greece)		5c
Kavkaz (Russian Federation)	8c	3e,3f
Lianyungang (China)	2,3,4,7	2,3,4,5
Makhachkala (Russian Federation)		3d
Mersin (Turkey)	3f,4a	
Murmansk (Russian Federation)	5h	7
Nakhodka (Russian Federation)		1
Novorossiysk (Russian Federation)	8d	3e,3f
Odessa (Ukraine)	3g	4b,4c,4i,4m,5d,7
Olya (Russian Federation)	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 (Russian Federation)	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 (Russian Federation)	1,6	1
Vostochny (Russian Federation)	1,6	1

Source: UNECE

In North-Western 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 1.34).

Table 1.34 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)

Table 1.35 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	10 015	10 130	9 450	1.15	-6.71
Xiamen	China	8 008	8 572	9180	7.04	7.09

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 1.35) 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.

The Russian seaports of Vladivostok and Nakhodka/Vostochny as well as Chinese port of Lianyungan played an important role for EATL as Euro-Asian connections between Japan, the Republic of Korea 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 (Islamic Republic of)) 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 being the third generation of the ports, which connected to the railway network of Iran (Islamic Republic of) 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 (Russian Federation), Aktau, Kuryk (Kazakhstan), Amirabad, Anzali (Iran (Islamic Republic of)) – 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 (Russian Federation), 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 throughput ports were Constanta with 0.7 million TEUs (2016), Novorossiysk with 0.6 million TEUs (2016) and Odesa with 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, transport links of Kazakhstan 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.3.7. Infrastructure of Euro-Asian Transport Links railway routes

Railway corridors in and outside the EATL region connect the countries with ports and international markets. However, the existing rail network does not necessarily match the changing trade patterns it is meant to serve. Growing export and import activity with China and Europe are being served insufficiently. Railways have 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 needs to be improved so that the improved railways will facilitate increased regional cooperation and integration.

Out of the nine EATL rail routes, six are in the East West Direction, and three in the North South direction (Table 1.36). 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, the east of the Russia Federation and Europe.

Table 1.36 EATL Rail Routes: number of gauge changes and ferry crossings

1	«Trans-Siberian Railway, Northern Road» West (N and E European Union (Finland, Latvia, Lithuania, Poland, Hungary)) to East (Russian Pacific)
	Countries crossed: Russian Federation, Belarus or Ukraine Number of gauge changes: 0
2	«Trans-Siberian Railway, Southern Route» West (N and E European Union (Finland, Lithuania, Poland, Hungary)) to East (China)
	Countries crossed: Ukraine, or Belarus, Russian Federation, Kazakhstan, China Number of gauge changes: 1 (Kazakhstan/China)
3	West (SE European Union (Hungary, Romania, Bulgaria) through Caucasus and Central Asia to East (China)
	Countries crossed: Republic of 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 European Union (Bulgaria) through Iran (Islamic Republic of) and Central Asia to East (China)
	Countries crossed: Turkey, Iran (Islamic Republic of), Turkmenistan, Uzbekistan, Kazakhstan, China Number of gauge changes: 2 (Iran (Islamic Republic of)/ Turkmenistan, Kazakhstan/China)
5	North (N European Union (Finland)) through Caucasus and Central Asia to South (Iran (Islamic Republic of))
	Countries crossed: Russian Federation, Azerbaijan, Iran (Islamic Republic of), Turkmenistan, Kazakhstan, Uzbekistan Number of gauge changes: 1 (Kazakhstan/China) Number of ferry crossings: 1 (Black Sea)
6	West (E European Union (Hungary, Poland)) to through Central Asia to East (Russian Pacific Coast)
	Countries crossed: Ukraine, Republic of Moldova, Russian Federation, Kazakhstan Number of gauge changes: 0
7	West (E European Union (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 European Union (Latvia, Poland and Lithuania)) through Caucasus to South (Azerbaijan, Iran (Islamic Republic of))
	Countries crossed: Ukraine, Russian Federation, Georgia, Azerbaijan, Iran (Islamic Republic of) Number of gauge changes: 1 (Azerbaijan/Iran)
9	North (N and E European Union) Finland) and Baltic Russian Federation) through Central Asia to South
	Countries crossed: Russian Federation, Kazakhstan, Uzbekistan, Tajikistan Number of gauge changes: 0

Source: UNECE

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, electrified traction and the uniform (1,520 mm) gauge. The part of the route situated in 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 Trans-Asian Railway 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 the Russian Federation was limited. Therefore, the Government of the Russian Federation and Russian Railways were implementing the projects of Trans-Siberian and Baikal-Amur mainlines modernization with the aim to increase capacity volumes for Euro-Asian traffic and to stimulate socioeconomic development of the entire region.

The implementation of this project was expected to bring:

- Additional 574 km of mainlines
- A new Baikal Tunnel of 6.7 km
- 42 switch-tracks
- 680 km of autoblocking system deviding the railway line into a series of sections or blocks
- Reconstruction of 91 railway stations
- Enhancement of power supply devices along all key destinations of the main lines
- Reconstruction of the number of large and medium artificial facilities and railway lines
- 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 (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 Trans-Asian Railway network. It coincided with Route 1 on the sections between the European Union border and the central Russian city of Yekaterinburg. There were some infrastructural limitations identified for this route:

- Change of gauge: the broad 1,520 mm gauge changed at the Kazakh-Chinese border to the 1,435 mm standard prevailing in China.
- Certain sections of the routes were not electrified (i.e. Dostyk – Aktogay – Mointy railway line).
- Out of date infrastructure and equipment at border crossings.
- The capacity of the section between Kazakhstan and the seaports of China was limited (some sections, i.e. Iletsk – Zhaysan, Kyzyl-Orda – Shieli were 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 and Romania) to the ports of Lianyungang and Shanghai. Route 3 extended PETCs IV, VIII, IX and the TRACECA routes to Eastern China. Significant parts of the route are part of the Trans-Asian Railway 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).

Route 3 and its branches passed through a significant number of countries and border crossings. Gauge changes were necessary at the borders of CIS 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 length of 105 kilometres, this Route 3 was expected to be fully operationalized between Azerbaijan (Baku/Alat) and Europe via Turkey. The capacity of railway line Baku – Tbilisi – Akhalkalaki – Kars was expected to reach 6.5 million tonnes in the short-term and 17 million tonnes in the long-term.

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, Iran (Islamic Republic of), 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 Trans-Asian Railway network.

There were two main limitations for this route:

- Two gauge changes (i.e. at the Iran (Islamic Republic of) – Turkmeninstan border and at the Kazakhstan – China border).
- Large sections of Route 4 were not electrified.

EATL Rail Route 5

The EATL Rail Route 5 connected northern Europe to Iran (Islamic Republic of), 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 Trans-Asian Railway network. At the time this report was written, the capacity of Route 5 was missing one link on the territory of Iran (Islamic Republic of) between Gazvin-Rasht-Astara.

The Gazvin-Rasht section with 164 km length was under construction with 93 per cent 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 Pan-European Transport Corridors (PETCs) III, V and IX towards the Pacific Ocean. Again, parts of the route are on the Trans-Asian Railway 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 Trans-Asian Railway 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 border of Iran at Astara. It provided another extension to PETCs III and V with most parts of the route belonging to the Trans-Asian Railway network. Imam Khomeini port (Iran (Islamic

Republic of)) – Bazargan (border with Turkey) – South Caucasus, werepart of this route which was one the transport infrastructure development priorities of Iran (Islamic Republic of) (Figure 1.36). 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 finalized among Armenia, Azerbaijan, Bulgaria, Georgia, Greece and Iran (Islamic Republic of) in 2016.

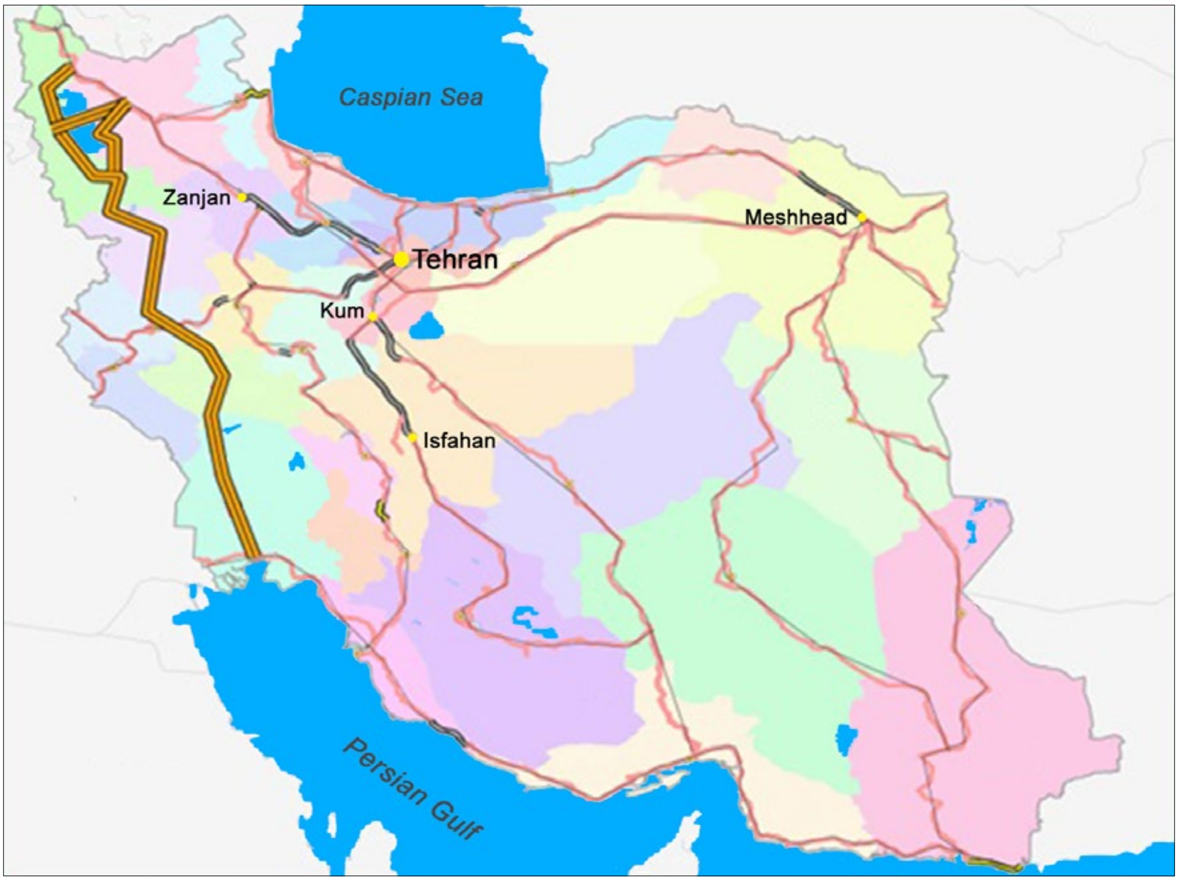
EATL Rail Route 9

The EATL Rail Route 9 connected northern Europe, the Russian Federation and Central Asia (Kazakhstan, Uzbekistan and Tajikistan). Significant parts of the route belonged to the Trans-Asian Railway network. Since long sections of Route 9 were not electrified, the capacity of the route was limited.

After construction of the Rasht-Astara railway section in Iran (Islamic Republic of), 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.

Figure 1.36 Scheme of Imam Khomeini port (Iran (Islamic Republic of)) – Bazargan (border with Turkey) corridor as a section of EATL 8, EATL 5 rail routes



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

Synergies between railway and maritime transport

'Railway and maritime shipping' is a typical combination for intercontinental transport and logistics decisions. Currently much attention is devoted to its development.

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

The strongest synergy between overland and maritime transport is in intermodal container transportation. The containerisation of cargo in recent decades has made it increasingly easy and fast to change transport mode.

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

An example that has gained much attention in recent years was the transport of goods by sea from China to the port of Piraeus (Greece) and then by rail to major distribution centres in Central 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 is 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 allows for more flexibility than shipping and is less expensive than pure rail (or air freight). It is of benefit for time-sensitive supply chains involving manufacturing production such as electronics and car spare parts. With this model, unlike the 'consecutive' model of sea-rail synergy, the shares of 'cheap' and 'fast' flows can be regulated.

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

- Asian terminal points should be in western and central China (for example, as far east as Chongqing).
- European terminal points should be 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 should be ensured as a basis for sustainable regular service.

I.3.8. Infrastructure of Euro-Asian Transport Link roads

Out of the nine EATL road routes, six are in the east-west direction, and three in the north-south direction (table 1.37).

EATL Road Route 1

EATL Road Route 1 started on the eastern borders of the European Union with Belarus and 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 Rail 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.

Table 1.37 EATL road routes

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

Source: UNECE

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 development. Two sections of this motorway were inaugurated in 2017. Also, a new motorway – Moscow bypass ("Central Ring Road") was constructed.

EATL Road Route 2

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

EATL Road Route 3 starts on the eastern borders of the European Union with Ukraine and ends in China (Lianyungang and Shanghai ports), through (eastern) China, Kazakhstan, Kyrgyzstan Russian Federation, and Ukraine. 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 (connecting Shymkent with Lianyungang) was completed in Kazakhstan and China (length of the route is 2,787 km in Kazakhstan and 3,425 km in China). In 2017, a modern crossing point was expected to be commissioned. 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 process.

EATL Road Route 4

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

EATL Road Route 5

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 (Islamic Republic of), 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, particularly in Central Asia.

EATL Road Route 6

EATL Road Route 6 connected northern Europe to Iran (Islamic Republic of), 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

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

EATL Road Route 8

EATL Road Route 8 was not operational for transit between China and the Russian Federation in 2017 – only bilateral transport operations were provided between Mongolia and the Russian Federation and separately – from Mongolia to China.

EATL Road Route 9

EATL Road Route 9 will not be operational for transit between China and the Russian Federation before 2017.

Several infrastructure issues were identified on the routes, which impede the development of long road haulage. Due to different standards for axle load, weight and dimensions of trucks in the EATL countries — especially between China, CIS and the European Union — the available road infrastructure does not support the same vehicle from the start to the end of any of the routes. All the routes were characterized by outdated infrastructure of border crossing points and undeveloped roadside, ancillary infrastructure.

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

The harmonization of standards for road parameters and the introduction of long and heavy vehicles (LHV), or road trains, was one of the opportunities for increasing the efficiency of road transport in the EATL region.

This trucking concept came from remote areas in Australia, Western Canada and the United States of America. 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 tonnes of the gross vehicle weight. The majority were between 80 and 120 tonnes. The train length reached 53 metres (see figure 1.37).

Axle loads of the road train did not exceed the limit because the number of axles that support 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 on the routes where LHV operated.

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

Many of the EATL countries, especially in the Central Asian region, have conditions to make operation of LHV possible.

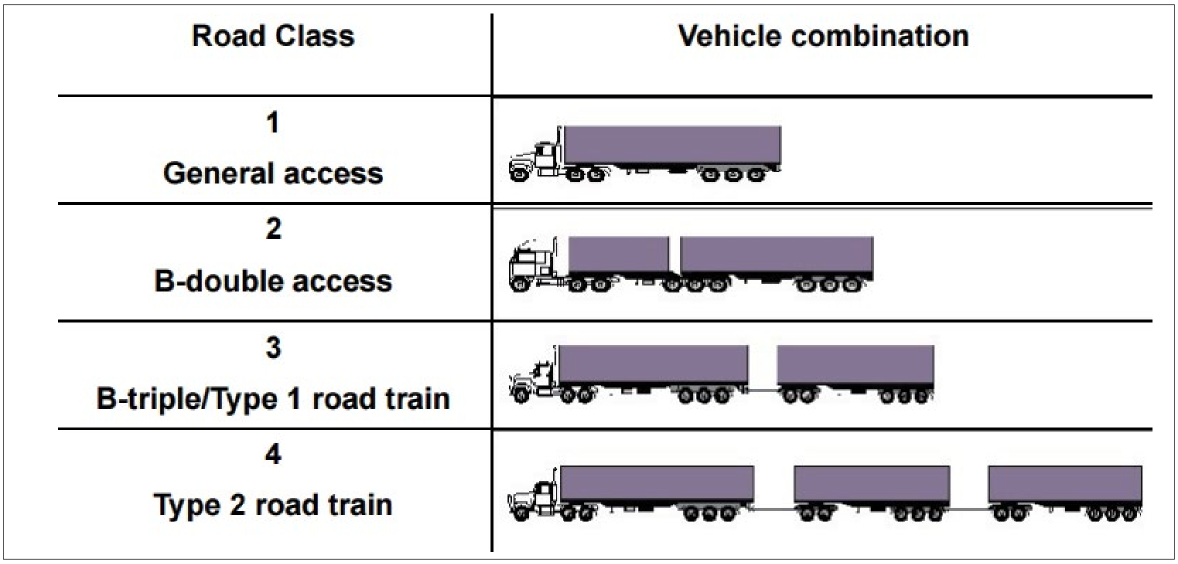
This concept was not developed only in regions with low economic and transport density. In Europe the so called European module system (EMS), or Eurokombi concept was widely discussed at the time this report was written. The idea was to allow longer and heavier combinations in one road vehicle using the existing equipment. Figure 1.38 shows how three standard European combinations can become two by recoupling the equipment. The EMS road train had the 25.25 m maximal length and the gross weight of 60 or 44 tonnes for different combinations (for volume or for weight cargoes). The average economic effect in comparison with traditional combinations was about 20-25 per cent.

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

Supporters of LHV argued that this type of vehicle:

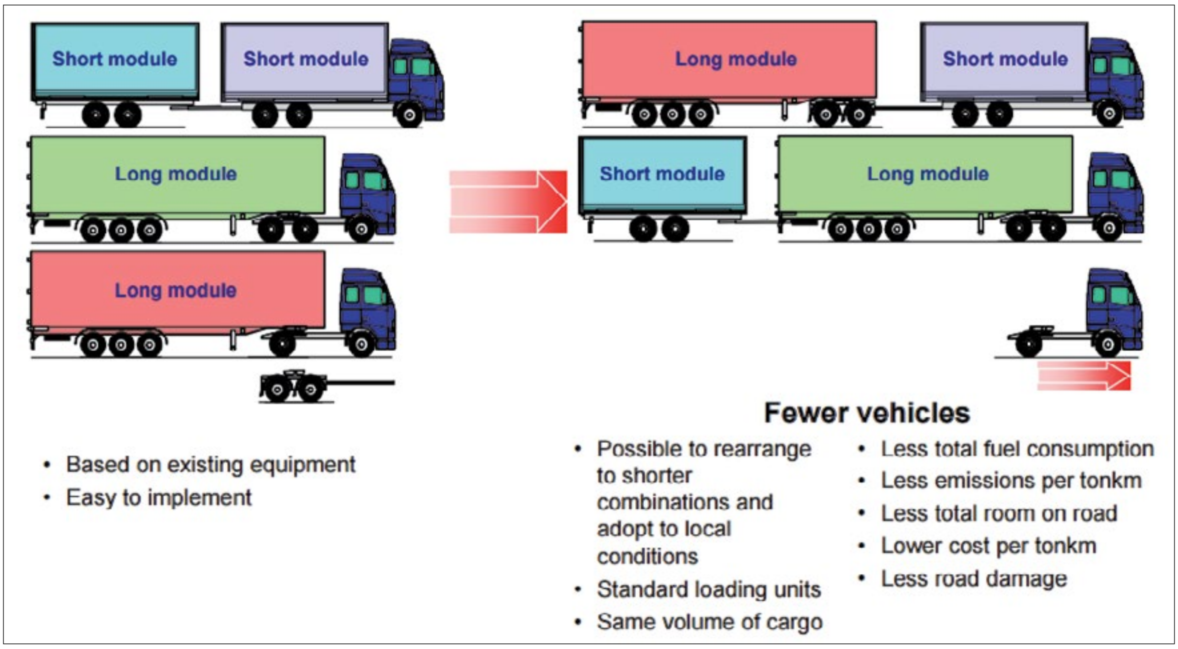
- Increased transport efficiency and economic competitiveness.
- Dramatically reduced the number of vehicles for a given amount of goods.
- Reduced environmental impact of trucking.
- Reduced road congestion and road wear.
- Supported intermodal transport.

Figure 1.37 Australian road vehicle types



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

Figure 1.38 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.3.9. Air transport infrastructure and logistics

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 delivery of high-value goods and small postal shipments between Europe and Asia.

Table 1.38 Top airports served Euro-Asian cargo flows, 2011–2016, thousands of tonnes

Airports	2011	2012	2013	2014	2015	2011-2015 percentage
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: Airports Council International (ACI) Data Centre, 2015

In Europe and Asia, transcontinental cargo transport is concentrated at hub airports. The largest hubs are Hong Kong, Shanghai, Seoul and Narita (Tokyo) in Asia, and Paris Charles de Gaulle and Frankfurt in Europe. Most airports increased their cargo traffic in recent years (table 1.38).

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

The growth of the inland transport of high-value goods and postal shipments by EATL routes was challenged by an intensive development of cargo terminals at airports in the Middle-East and the related growth of transit air cargo traffic (the share of transit reached 60-70 per cent of the total volume of air cargo and mail transhipment at these airports).

I.3.10. Logistic centres and dry ports in Euro-Asian Transport Links

The smooth functioning of the supply chain always required an adequate logistics. At the time this report was written, logistisc centres were considered as the mandatory components of logistic infrastructure with numerous functions in the supply chains.

Logistics Centres (LC) or dry ports had the most extensive structure of all components in the logistics network. They were composed of many collaborating facilities and cooperating logistics operators.

LCs provided intermodal transport services related to transhipment, storage, collection, distribution and relocation of goods between the shipper and the consignee.

Intermodal terminal was the specific component of the logistic centre. It served 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 one LC with other LCs at seaports, surface transport nodes, logistic hubs or industrial areas.

While in Europe and in North America, LCs had become the compulsory component of logistic infrastructure, Asia was in an early stage of LC development in phase III of EATL. To speed up development, in 2013 the Intergovernmental Agreement on Dry Ports was concluded under the auspices of ESCAP. The agreement aimed to promote cooperation for developing dry ports in the Asia-Pacific region. As of August 2017, the agreement had been signed by 17 and had been ratified by 13 ESCAP 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 ‘international 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[26] (in its annex I) identifies the dry port locations. They 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 (TAR), highways (AH) and inland waterways.

(d) Major 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 developing and operating dry ports in annex II of the agreement. The guiding principles considered dry port functions, the institutional, administrative and regulatory framework, the 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.

I.3.11. 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 on the needs of particular supply chains. Main supply chains would require regular services, high punctuality, flexible costs, value-added services availability, delivery speeds appropriate for certain types of cargo, which unfortunately do not apply to particular sections of Euro-Asian routes, but to entire transport-logistic chains.

Any transport route in the Euro-Asian continent would be able to attract traffic 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 in the EATL region provided that:

(a) Terminal points were placed in North-Western China and Eastern Europe.

(b) Guaranteed flows of high-value and time-sensitive cargo (automotive parts, electronics, etc.) from one shipper or a limited group of 'anchor' shippers from and to Asia, enabling a regular and sustainable railway service. In accordance with market requirements, cooperation between the different modes should be enhanced.

(c) Road transport in EATL corridors should be organized to possibly complement railway services rather than directly compete with them.

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 cannot provide effective services for certain commodities (perishables, high-value, etc.).

(c) A designated "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.

It is worth noting that on a short or mid-term horizon, air transport would be increasingly competitive with the Euro-Asian inland transport in the sector of high-value goods and e-commerce.

The role of logistic centres in EATL development was underestimated. In the hubs of EATL network, logistic centres could play a role of modern market-oriented nodes of supply chains that improve the competitiveness of the entire EATL network.

I.4. Duration and Costs of 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 mode and 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 better understand whether:

(a) Routes had principle advantages or disadvantages compared to others.

(b) Any route could be considered as the most competitive one.

(c) Any route had specific limitations to attract specific volumes of cargo.

Conclusions from the following comparative studies on maritime and inland routes have been summarised below:

- Study 1: an upgraded analysis undertaken during phase II of EATL
- Study 2: an analysis undertaken by the Russian Centre for Economic and Financial Research at the New Economic School (CEFIR)
- Study 3: research provided by PLASKE – freight forwarding company involved in the Euro-Asian intermodal container transportation
- Study 4: research by the Eurasian Development Bank

Study 1

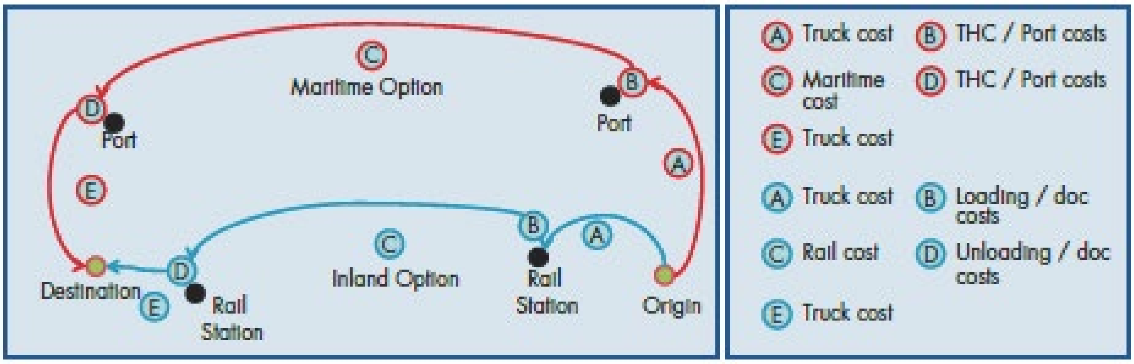
The phase II EATL study included a comparative time-cost analysis of maritime and inland Euro-Asian routes. Total time and costs of the entire supply chain were analysed, including the costs related to: moving containers from/to the warehouse or port facilities, terminal handling, as well as documentary and other administrative requirements. The structure of time and cost for the compared routes is illustrated by figure 1.39.

Nine routes were analysed. For all routes, rail transport performed better than maritime in travel time. The study had showed that Euro-Asian rail transport, and an intermodal combination with maritime and road transport, was a feasible and competitive transport option provided that rail corridor management was efficient, governments were cooperative and rail companies served customer's needs in an effective manner on the whole route.

Table 1.39 presents data for six of the nine routes. The data do not always show a definite advantage for certain options.

To have a clearer outcome of the time-cost analysis, the initial comparison was 'upgraded' based on value of time data used in the World Container Model. The model considers transport times, tariffs and time sensitivity of goods. It describes yearly container flows across the world's shipping routes through 437 container ports around the world, based on trade information to and from all countries, taking more than 800 maritime container line services into account. The model distinguishes between import, export and transhipment flows of containers at ports, as well as hinterland flows (TNO, Delft University of Technology and Transport & Mobility Leuven, 2016).[27] Since the value of time can dramatically differ for different commodities, three options were used for calculations – low, average and high value (table 1.40).

Figure 1.39 Structure of time/costs considered in the EATL phase II study



Source: UNECE

Table 1.39 Selected results of the comparative analysis of maritime and inland Euro-Asian routes (EATL phase II study)

Trade lane	Maritime		Inland		Result		
	Time	Cost	Time	Cost	Time	Cost	Total[28]
Khabarovsk - Potsdam	1 093	6 533	341	6 967	+	-	0
Hangzhou - Kaluga	637	6 786	277	4 715	+	+	++
Tashkent - Varna	529	7 550	165	5 946	+	+	++
Almaty - Istanbul	672	4 970	250	5 881	+	-	0
Ussuriysk -- Kyiv	463	6 290	289	5 875	+	+	++
Shanghai - Warsaw	569	6 300	446	8 937	+	-	0

Source: UNECE

Table 1.40 Value of time options

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

Source: UNECE

Table 1.41 Comparison of routes considering 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

Source: UNECE

For the calculations, it was assumed that the average load of a FEU in cargo transportation is 15 tonnes. The values in table 1.41 were converted into United States 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 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.

The results confirm the general conclusion from phase II that under certain conditions, many commodities can be transported by EATL inland routes with a competitive advantage to maritime routes. Of the analysed routes, maritime transport performed better on one route Shanghai – Warsaw (for all types of commodities considered). This resulted from a very short inland segment to bring cargo between the points of origin or destination and the seaports.

Study 2

The transit potential of the Russian Federation in goods flows between Asia and the European Union was evaluated. The study used the information from the RETRACK project and the work on developing the World Container Model. RETRACK which is funded under the European Commission (EC) FP6 Programme aims to secure a significant modal shift of cargo from road to rail and to create an effective and scalable rail freight corridor between high demand regions in Western Europe and new high growth regions in Central and Eastern Europe. The study aimed to evaluate Euro-Asian cargo volumes that can be transported on the following routes:

- TransSib (TSR) (red line on figure 1.40): began in North-Eastern China, goes directly north 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): started in Western China, through 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): started in Western China, westward through Kazakhstan and into the south of the Russian Federation, then to the Ukraine and Slovakia.
- Maritime (Suez) route (dark blue line): started in coastal China in the east, to the Suez Canal to the Mediterranean Sea. Western Europe can be reached through the Straits of Gibraltar.
- Arctic route (green line). The potential of this route was a special point of the study. It is not part of this report.

The approach used was the total logistics cost concept, consisting of two components. The first component contains the cost 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 concept is the transit time. Goods in transit can lead to a freeze in capital, due to the costs associated to the so-called pipeline (or inventory) stock.[29] However, the frozen capital is often not the greatest time-related cost. While goods are in transit, the market situation can change leading to additional losses. Demand variability leads to capital expenditure on safety stocks that cover the uncertainty in demand during the period of transport. Transit time also reduces a company's ability to react to other market events, such as an introduction of new products by competitors. In the case of new products, goods that arrive later lose substantial 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.

Figure 1.40 Transport routes in the CEFIR study

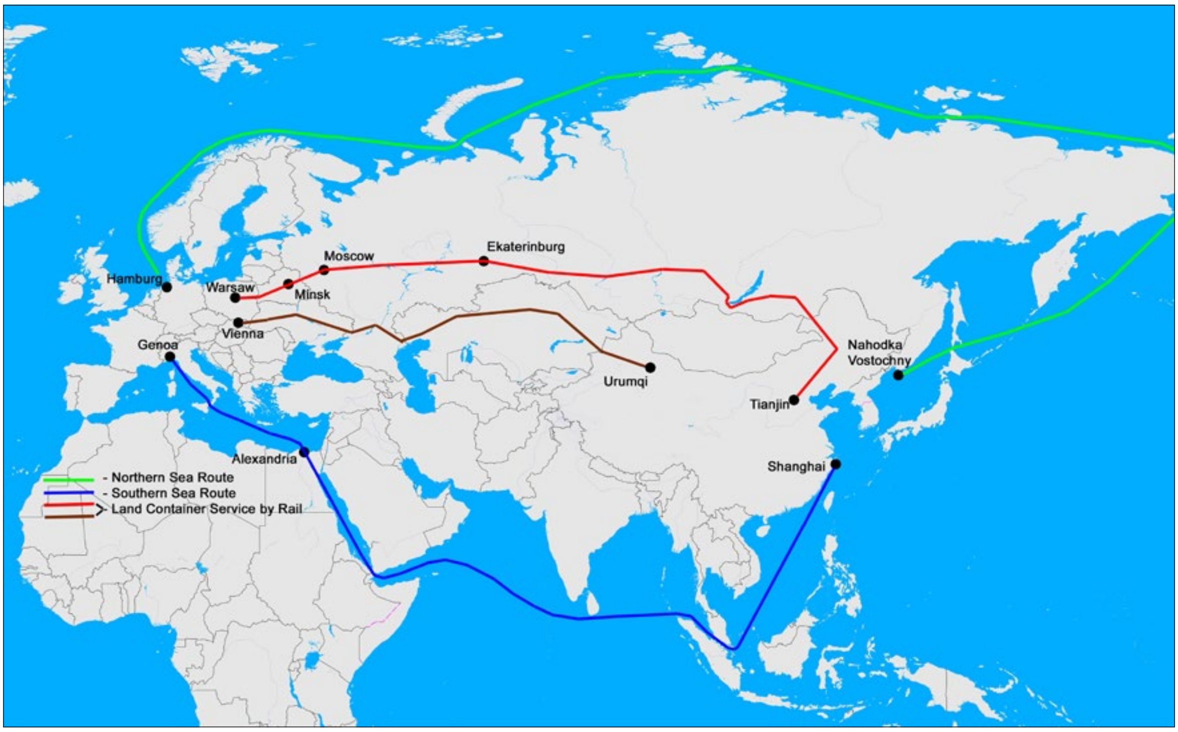


Table 1.42 Regionalization of trade between the European Union and the 'Chinese regions' percentage

Chinese Region	Share of import / export
Western China	0.05
Central China	0.05
Coastal China North	0.45
Coastal China Centre / South	0.45

The relevant estimations of time value for different goods are used in the World Container Model.[30] 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.

To allow for a comparison of maritime and rail land bridge routes the total logistics costs for three (out of four) rail and sea routes indicated above were evaluated. The assessment of the routes was based on their economic attractiveness: the corridors with lower total logistics costs would be more attractive for the cargo owners.

For the calculations, China was divided into four regions of different growth prospects, economic aspects, available infrastructure and various access costs to the Eastern seaports: Western China (CN1), Central China (CN2), Coastal China North (CN3), Coastal China Centre / South (CN4).

The model performed computations for the four Chinese regions, linking the regions to each of the 27 European Union countries (EU-27). All trade and transport volumes went to or came from the 'centres' of the four regions (table 1.42).

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 four Chinese regions and the starting point of the routes. These distances were used to determine the total logistics costs of transport to and from the rail routes.

The scenario 2020 was based on estimated trade growth projections between China and the EU-27, expected improvements in rail infrastructure, spatial and organizational change in the Chinese economy.

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. The commodity groups and corresponding VoT are in table 1.43.

The main model parameters are in table 1.44.

For the basic model (year 2010), the transit time was calculated from interviews with stakeholders and the opinion of experts (RETRACK project[31]). Transhipment and shadow costs (reflecting a 'resistance' for the goods flow, in particular, the non-physical barriers) were based on expert opinions and calibration runs of the model.

For 2020 transit time of the rail corridors between Europe and China was assumed to improve. In addition, the tonne-kilometre tariff and shadow costs were expected to decrease. These assumptions were based on proposed investments in railway 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. Maritime shadow costs were kept constant.

Table 1.43 NSTR/1 commodity classification and value of time for commodity groups

NSTR/1 code	Commodity type	Value of time (Euro/day/tonne)
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	70
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

Source: UNECE

Table 1.44 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

Source: UNECE

Table 1.45 Estimated 2010 and 2020 rail corridor and maritime volumes between China and the European Union

Volumes distribution, China – European Union, percentage 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

Table 1.45 shows the model cargo distribution on the corridors.

An interesting aspect was the assessment of internal competition on the inland routes. In the basic 2010 scenario, the low volumes imply that inter-inland route competition does not exist. In 2020, competition would affect rail volumes with less attractive inland routes losing markets to more attractive ones.

According to the study, in 2010 the lead corridor was the Kazakh route which was slightly more attractive than TSR. The central corridor was not a viable option in the model.

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 viable transport option, just behind the leading corridors.

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 lowest shadow costs. Even assuming favourable developments of infrastructure and an alleviation of institutional barriers, border crossings and transhipment would still add extra transit time and costs.

Generally, the model demonstrated that the total share of inland Euro-Asian transport could increase from 1.9 to 18.5 per cent. For this, (a) transit time should decrease by 25-30 per cent, (b) transport costs should be 50 per cent of the 2010 costs and (c) transhipment and shadow costs should decrease significantly.

Study 3

The time and costs of cargo transportation on EATL rail routes Nos. 1, 2 and 7, and of the sea route from China were compared. The origin points were located near the sea (Shanghai) and inland (Beijing). The destination was Warsaw (Poland).

The 40'container of motors for household sewing machines (cargo that requires no additional control measures), net weight 20 tonnes, was chosen for the transport study.

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

Seven routes were chosen for the analysis: two connect Shanghai and Warsaw and five connect Beijing and Warsaw:

1a. Shanghai seaport – containership by seaport 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] – Russian Federation – [BCP Gukovo/Krasnaya Mogila] – Ukraine-[BCP Mostiska/Pshemyshl] – Poland), **Warsaw**.

2a. Beijing - railway container train – Shanghai seaport - containership by seaport 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] – Russian Federation – [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**.

3b. Beijing - railway container train route No. 1 EATL (China -[BCP Mančžouli/Zabaykalsk] – Russian Federation – 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**.

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

Case 1. Comparison of routes 1a and 1b (tables 1.46-1.47, figures 1.42-1.43) shows that rail traffic between China and Poland through Central Asia will be competitive for the carriage of containers on container trains only (average speed of 1,000 km/day). The difference in delivery times in favour of railways in this case is 28 days.

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

At the same time, the cost difference was the largest of all the scenarios in the study: the inland route was more expensive than sea by $8,500 United States Dollars. The railroad crosses the territory of seven countries (Kazakhstan, twice), and the total length of the route is 11,653 km.

Table 1.46 Route 1a components

Route section	Length, km	Price, United States Dollars (Commercial offer)	Price, United States Dollars (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	2 189	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

Source: UNECE

Table 1.47 Route 1b components

Route section	Length, km	Price, United States Dollars (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

Source: UNECE

Figure 1.41 Time – distance diagram for routes 1a and 1b

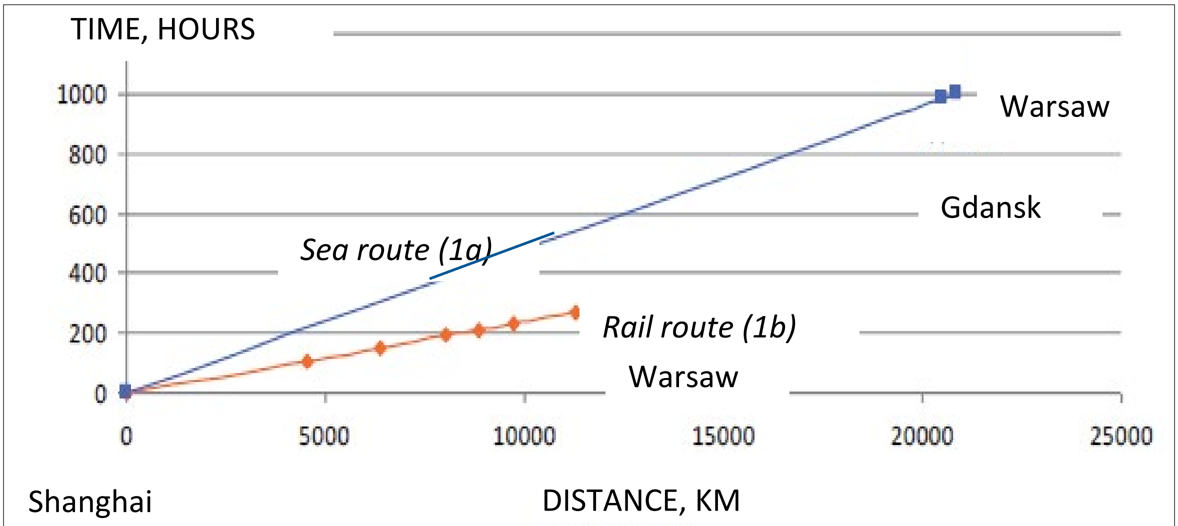


Figure 1.42 Cost – distance diagram for routes 1a and 1b

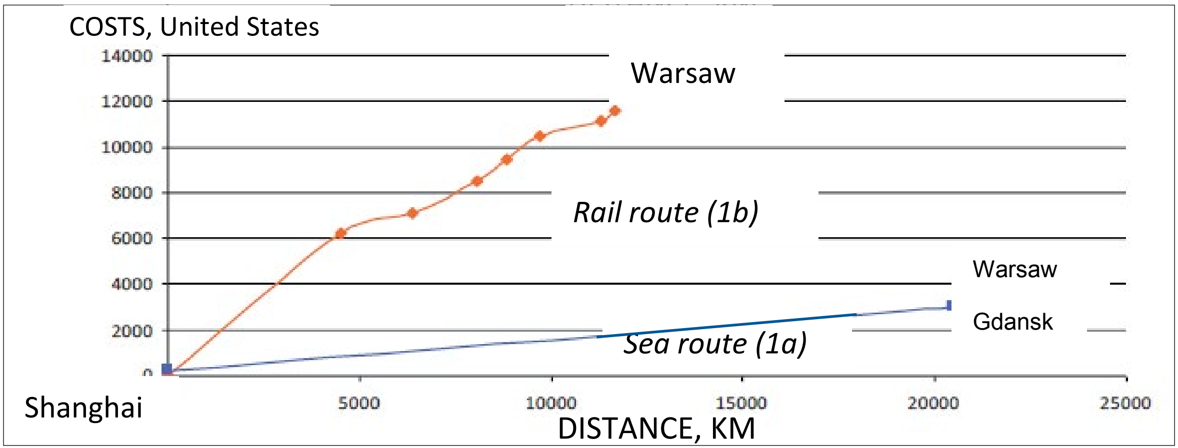


Table 1.48 Route 2a components

Route section	Length, km	Price, United States Dollars (Commercial offer)	Price, United States Dollars (Internet data)	Time, hours
Beijing – Shanghai seaport (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

Source: UNECE

Table 1.49 Route 2b components

Route section	Length, km	Price, United States Dollars (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

Source: UNECE

Figure 1.43 Time – distance diagram for routes 2a and 2b

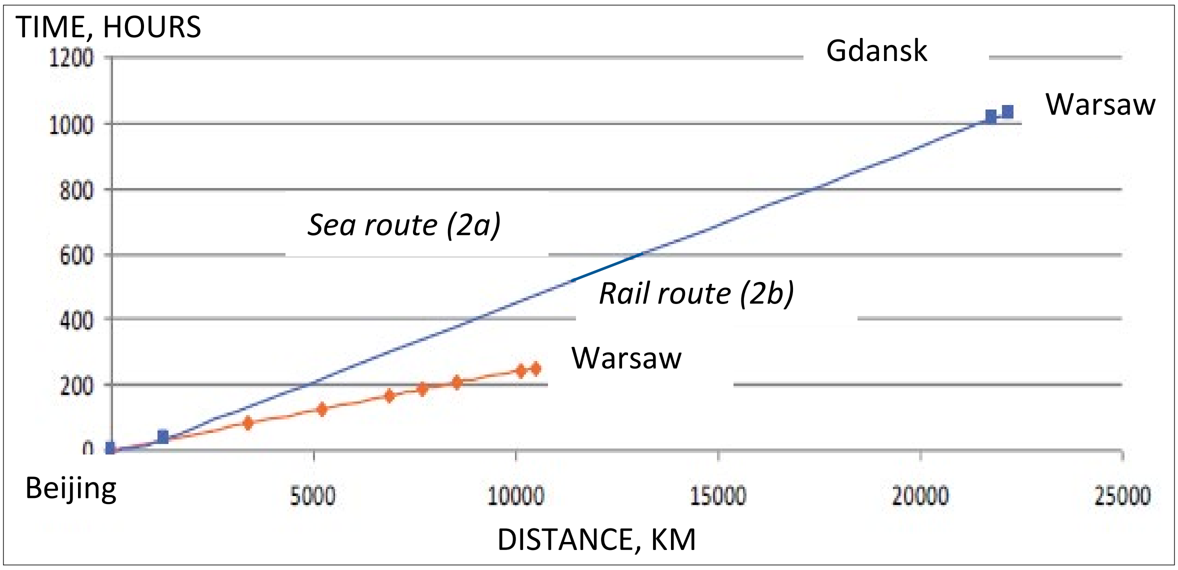


Figure 1.44 Cost – distance diagram for routes 2a and 2b

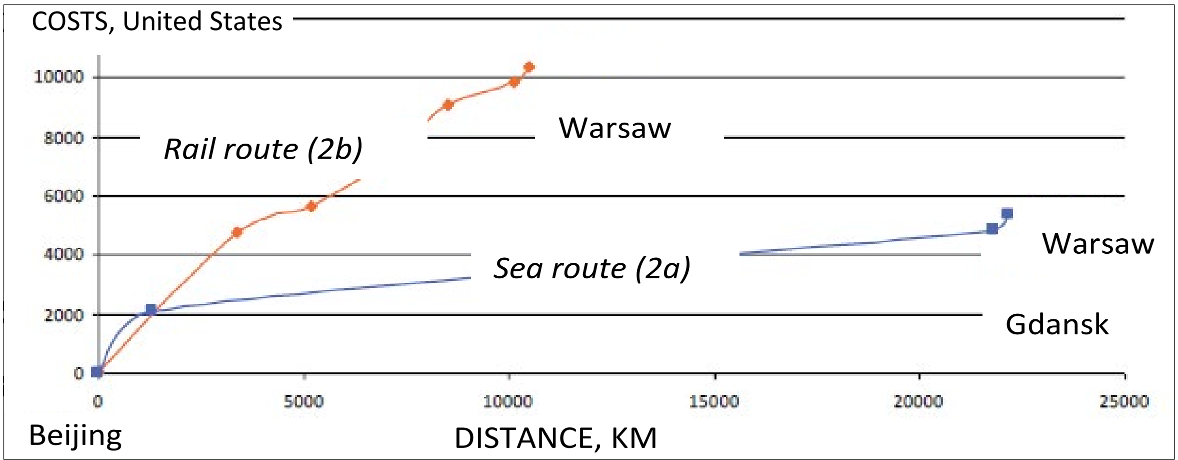
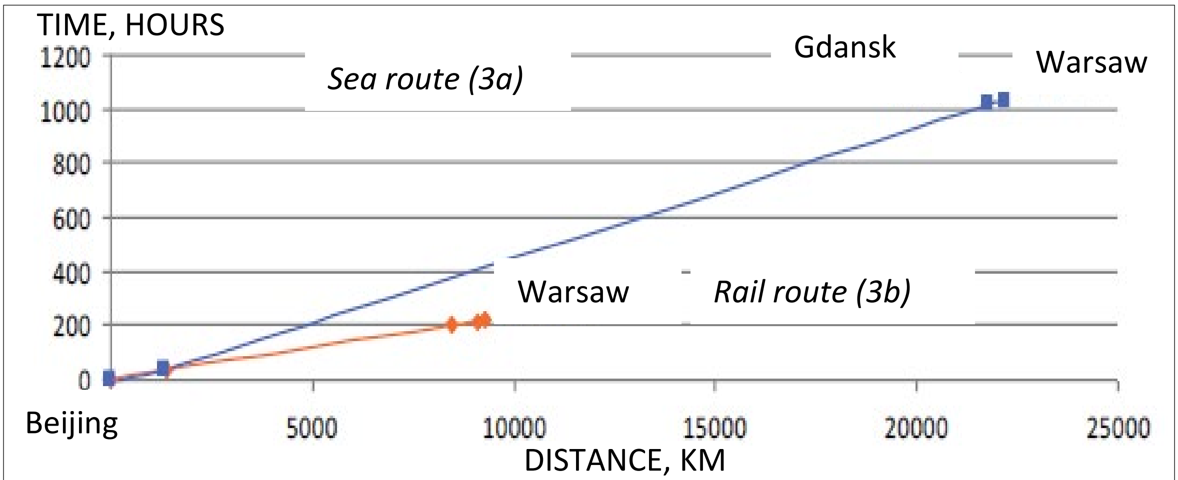


Table 1.50 Route 3b components

Route section	Length, km	Price, United States Dollars (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

Source: UNECE

Figure 1.45 Time – distance diagram for routes 3a and 3b



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 1.50.

Figure 1.46 Cost – distance diagram for routes 3a and 3b

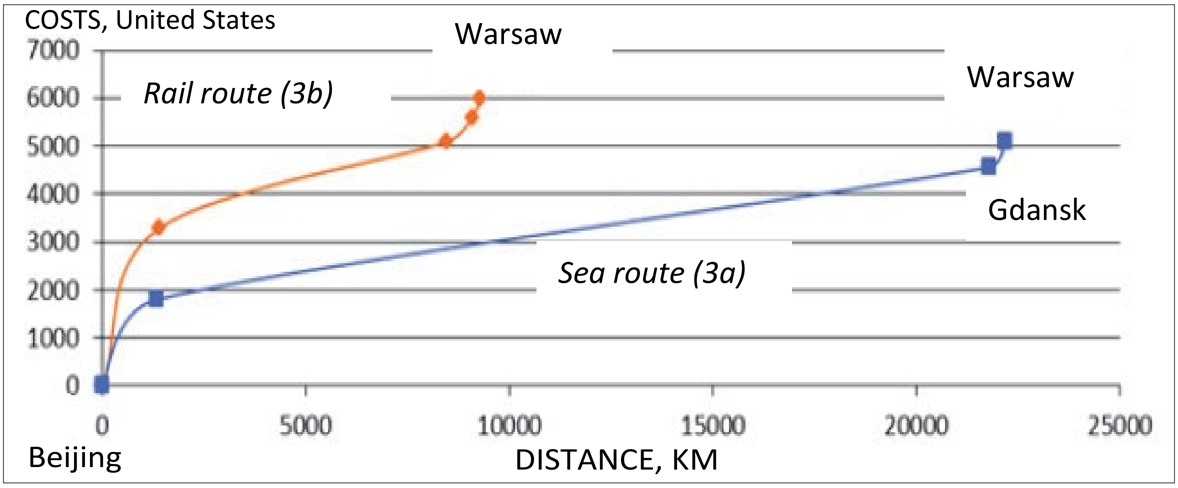


Table 1.51 Route 4b components

Route section	Length, km	Price, United States Dollars (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

Source: UNECE

The difference in delivery time of 31 days obviously favours rail transport. Due to this and given the cost difference that accounts for only $1,065 United States Dollars, the railway route would be competitive with sea according to the study.

Case 4. Data for route 4b is shown in table 1.51.

The difference on the two routes of the cost of a shipping container was $2,953 United States Dollars. This clearly shows the impact of the generally higher costs of rail transport. The railroad crosses 8,922 km through the territory of five countries, which is shorter than the Trans-Siberian Railway, but crossing the territory of Belarus significantly increased the price of rail transportation. 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 public open sources: official public statistics of EATL countries and international organizations; analytical, statistical and empirical publications in specialized media; websites of State and private companies and web sources on the exchange of trade information.

Figure 1.47 Time – distance diagram for routes 4a and 4b

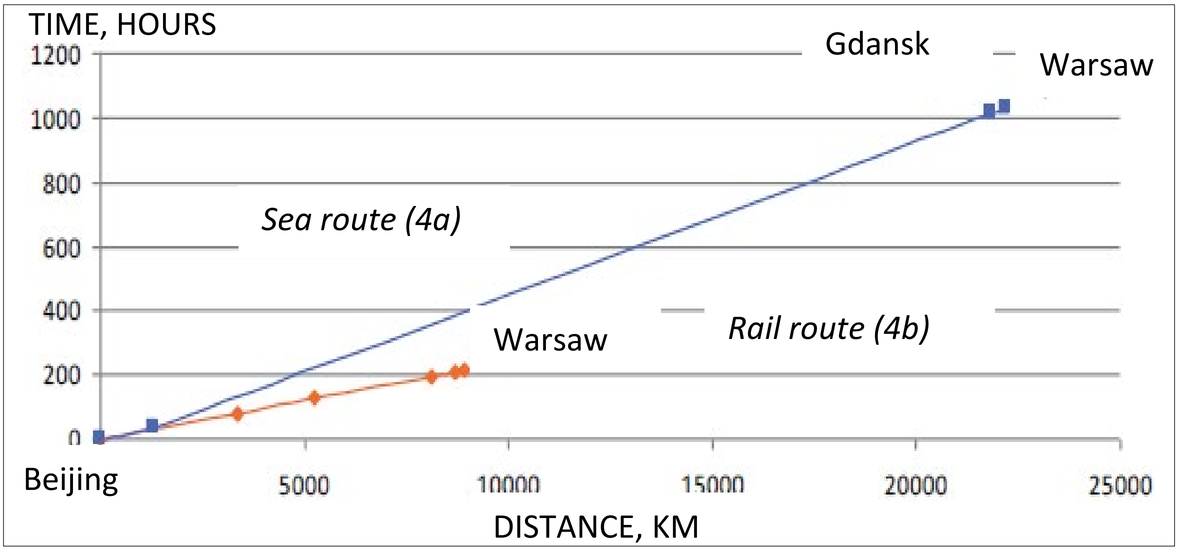
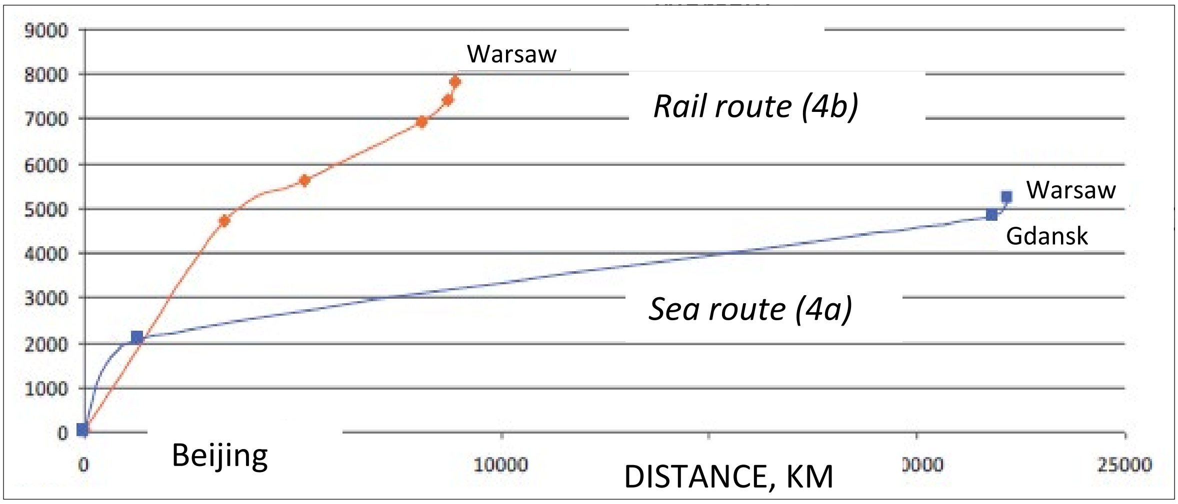


Figure 1.48 Cost – distance diagram for routes 4a and 4b



Also, for each case, the price of transport is subject to negotiation between shippers, carriers and other parties. This leads to an accepted price for all parties, which can differ significantly from the average, indicative figures obtained in this and other studies.

Study 4

In 2016, the Eurasian Development Bank published the research on preliminary estimates of the potential transport capacity and investment needs of the Silk Road Economic Belt routes across Eurasian Economic Union countries.

The study argued that the huge potential of inland routes from China through Central Asia to Europe was not being utilized. Only two inland routes were in operation:

- Urumqi (XUAR) – Kazakhstan – Omsk – Moscow – European Union (an estimated 20 per cent of transit capacity is used).
- Shanghai – Trans-Siberian Railway – Brest (100 per cent capacity).

The inland routes were considerably more expensive than the marine routes. The study estimated the cost of marine transportation on the Shanghai – Rotterdam route to be 10 cents per tonne per mile, while the cost of railroad transportation was as high as 30 cents per tonne per mile. The study argued that meaningful trade volumes can be generated on inland routes only for origin flows from the central and western China.

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

- Export goods originating from the western provinces of China (e.g. Xinjiang Uyghur Autonomous Region, the Tibet Autonomous Region, and the Qinghai Province). The alternative for these provinces was maritime transport, which would require a 3,000 km transfer to the sea.
- Limited selection of goods originating from the central and eastern provinces of China, e.g. high unit added-value products (electronic devices, automotive parts, pharmaceuticals, standard and costume jewellery, etc.) or goods with critical delivery times (some food products, premium textiles).

The study suggested six transit corridors which could be used to deliver cargo on the China – Europe route. The conditions of the corridors were analysed in the study for potential from infrastructure upgrade.

Route 1: Urumqi (XUAR) – Kazakhstan – Omsk – Moscow – European Union. The cost of cargo delivery on this route depended on the mode of transport: about $1,300 United States Dollars per 1 TEU for rail. The design capacity of this route was the highest of the SREB routes at 300,000 TEUs. Utilization did not exceed 20 per cent of maximum capacity. The Urumqi – European Union route that was most frequently used was Lianyungang – Zhengzhou – Lanzhou – Urumqi – Khorgos – Almaty – Kyzylorda – Aktobe – Orenburg – Kazan – Nizhny Novgorod – Moscow – St. Petersburg – Baltic Sea ports. The bulk of transit cargo used this route or the Trans-Siberian Railway. One key advantage was that there was only one customs border, i.e. between China and Kazakhstan. The 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.

An estimated $6 billion United States Dollars was required to modernize and improve railroads, and to build or modernise six major logistical centres (including those already in operation) in the Russian Federation and Kazakhstan for the Urumqi – Omsk – Moscow – European Union route. This would boost cargo turnover and bring railroad transportation tariffs from $1,300 to $1,000 United States Dollars per TEU.

Route 2: Shanghai – Trans-Siberian Railway – Brest; cargoes were delivered from China through Russian Far East Maritime Province (PrimorskyKrai). The cost of cargo delivery from Vladivostok to Moscow on the Trans-Siberian Railway was about $1,100 United States Dollars per TEU, and $1,400 United States Dollars for two TEU 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 TEU, and $3,000 United States Dollars for two TEU. The overall throughput capacity of the routes was 250,000 TEUs, and it was already fully utilized. The key problem of the route was that it used the busiest section of the Trans-Siberian Railway: Omsk – Novosibirsk. This route was also longer than the Kazakhstan route. Improvement of this route would require the construction of a number of new railroads, sometimes in mountainous areas. Subject to these factors, the study argued that this route would hardly be attractive for China.

Estimates of needed investments to modernise the Trans-Siberian Railway varied. The cost of new sorting stations and container logistical terminals was estimated at $2 billion United States Dollars. Modernization of the existing private terminals and Russian Railways terminals, and the construction of only the new logistical centres would be $1.2 billion to $1.4 billion United States Dollars. This would make it possible to increase cargo turnover, reduce transport tariffs to less than $1,100 United States Dollars per TEU for the Trans-Siberian Railway, and to about $1,000 United States Dollars per TEU for the Urumqi – Omsk – Brest route.

Route 3: Urumqi – Aktau – Makhachkala – Novorossiysk – Constanta. The cost of transport (including transhipment to container carriers) was about $4,000 United States Dollars per TEU for deliveries to the European Union, and $3,200 United States Dollars per TEU for deliveries to the south of the Russian Federation. The study suggests that this route could transport about 100,000 TEUs per year, subject to port capacity and availability of 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 TEU. The route's throughput capacity at the time of the study did not exceed 50,000 TEUs per year, subject to port capacity and availability of fleet.

The first issue for developing trans-Caspian routes was that none of the existing Caspian ports was ready to process large cargo flows at the time of the study. All port facilities required serious modernization. To use trans-Caspian routes, it would be necessary to modernize the ports, and to build new container logistical centres. Another problem was the need to use additional maritime transport.

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

It would require the most significant investment, e.g completion 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 to be not less than $8 billion. This and the need to tranship cargo at several ports made the route not very competitive.

Route 6: Urumqi – Kazakhstan – Teheran was much cheaper, and with a much higher throughput capacity. The cost of railroad cargo delivery was up to $1,700 United States Dollars per TEU. The potential capacity of this route was one the highest among all routes described above at 300,000 TEUs. Minimum target investments required to develop this route were estimated at $2 billion United States Dollars.[32] The route development programme was still to be finalized.

Table 1.52 contains the main characteristics of these routes.

The study concluded that transport corridors through Central Asia and the Russian Federation could attract about 4 per cent of the total China – European Union maritime cargo flows. Target export products were mostly manufactured in the western provinces of China (i.e. the Xinjiang Uyghur Autonomous Region, the Tibet Autonomous Region and the Qinghai Province), with a limited selection originating from the central and eastern provinces.

Table 1.52 Silk Road Economic Belt Transport corridors and their potential

Route	Estimated route capacity, thousands of TEU	Railroad Transportation Cost, US$/TEU	Potential Capacity from Post-Modernisation, thousands of TEU	Railroad Transportation Cost Post-Modernisation, US$/TEU
Urumqi (XUAR) – Kazakhstan – Omsk – Moscow – European Union	300	1 300	1 000	1 000
Shanghai – Trans-Siberian Railway – Brest	250	2 200	1 000	1 000
Urumqi (XUAR) – Aktau – Makhachkala – Novorossiysk – Constanta	100	4 000	1 000	1 600
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) – Kazakhstan – Iran (Islamic Republic of) – European Union	300	1 700	1 000	

Source: UNECE

Implementation of development programmes and satellite investment projects could increase the capacity of SREB transport corridors to 3 million TEUs (about 13 per cent of the 2017 Euro-Asian container flow).

According to the study, the optimal outcome would be 1 million TEUs transiting Kazakhstan to the Russian Federation with subsequent partial delivery to the European Union (up to 30 per cent), and another 1 million TEUs transiting Aktau towards Novorossiysk via Makhachkala, to be evenly divided between the Russian and South-European markets.

The study also pointed out that an important restriction: attaining maximum cargo capacity on the SREB routes would require the transport system of Kazakhstan to absorb 3 million TEUs.

Kazakhstan has the basic railroad, motorway and port infrastructure, but also has a major shortage of technological structures, e.g. modern container processing centres, customs terminals, related logistical services, and a shortage of qualified staff. Together, these factors were a critical barrier that prevented any major increase in cargo flows across Central Asia.

Part II.

Projects and Studies in the Euro-Asian Transport Links Region

PART II. Projects and Studies in the Euro-Asian Tranport Links Region

II.1. Overview

II.1.1. The United Nations Economic Commission for Europe

The Sustainable Transport Division managed several projects on EATL and provided the secretariat for phase III. The Division is custodian of and manages several international agreements on the international framework to develop coherent road, rail, inland waterways, combined road and rail networks, and on improving transport connectivity:

(a) The 1975 European Agreement on Main International Traffic Arteries (AGR)

(b) The 1985 European Agreement on Main International Railway Lines (AGC)

(c) The 1991 European Agreement on Important International Combined Transport Lines and Related Installations (AGTC)

(d) The 1996 European Agreement on Main Inland Waterways of International Importance (AGN)

(e) The 1968 Convention on Road Traffic

(f) The 1968 Convention on Road Signs and Signals

(g) The 1956 Convention on the Contract for the International Carriage of Goods by Road (CMR)

(h) The 2008 Additional Protocol to the CMR Concerning the Electronic Consignment Note (e-CMR)

(i) The 1975 Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention)

(j) The 1982 International Convention on the Harmonization of Frontier Controls of Goods

(k) The 1972 Customs Convention on Containers

(l) The 1968 European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)

(m) The 1970 Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be Used for such Carriage (ATP)

The first four agreements define the E transport networks for different modes and the minimum technical requirements for the relevant infrastructures. AGTC also includes operational parameters for combined transport services.

They are the only pan-European agreements that provide 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.

The E road and E rail networks represent the most useful basis for identifying priority Euro-Asian transport corridors.

The 1968 Conventions on Road Traffic and on Road Signs and Signals are international treaties 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 among their contracting parties.

The Convention on the Contract for the International Carriage of Goods by Road (CMR) is concerned with the international transportation of cargo by road, and the requirements for a consignment note. The Additional Protocol to the CMR Concerning the Electronic Consignment Note provides a framework for an electronic consignment note.

The Customs Convention on the International Transport of Goods under cover of TIR Carnets (TIR Convention, 1975) establishes a global customs transit system by allowing goods in customs-sealed vehicles and freight containers to transit countries without border checks, by use of a single internationally recognized 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 common requirements for coordinated border management, for reducing border formalities and 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 facilitation of visa procedures for professional drivers, standardized weighing operations and international vehicle weight certificates, 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 (1972) allows for containers to be carried from one ratifying State to another during a duty- and tax-free period of three months.

The European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) establishes the conditions for the international transport of dangerous goods in road vehicles, such as packaging and labelling, and conditions 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, 1970) mandates that certain types of equipment be used to transport perishable food across borders and that such equipment be regularly inspected. ATP applies to transport by road and rail.

At the time of preparations of this report, ECE was coordinating work on Trans-European Motorways (TEM) and Trans-European Railways (TER) projects.

The TEM Project, accepted in 1977 as a subregional cooperation programme 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 and of the Transport Infrastructure Needs Assessment (TINA) exercise.

The TER Project was established in 1990 as a subregional 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.

The TEM and TER Projects were based on a Master Plan which sets 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 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.

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

The Transport Division of ESCAP and its member States strengthen connectivity, optimize the use of the existing infrastructure and increase integration between the different transport modes.

ESCAP is custodian to the following agreements of relevance to EATL:

(a) Intergovernmental Agreement on the Asian Highway Network (of 2003)

(b) Intergovernmental Agreement on the Trans-Asian Railway Network (of 2006)

(c) Intergovernmental Agreement on Dry Ports (of 2013)

To finance transport infrastructure and systems according to the agreements, ESCAP provides advise on financial options, advocates for public-private partnerships including network coordination, and provides diagnostic workshops and online training material and courses.

ESCAP, in 2016 began developing seamless rail-based intermodal transport services in North-Eastern and Central Asia for enhancing Euro-Asian transport. The goals were to:

(i) Review transport documentation, conventions and procedures in intermodal cargo transport across maritime and land borders in the region.

(ii) Identify issues in border crossing efficiency which may be resolved by streamlining and harmonizing the existing documentation and procedures.

(iii) Recommend improved documentation and procedures to eliminate delays at seaports and land borders, and to contribute to seamless transport flows across borders.

ESCAP organized fact-finding missions to China, Kazakhstan, Mongolia, the Russian Federation and South Korea.

ESCAP issued a study to analyse the situation and develop recommendations for the harmonization and improvement of transport documents and procedures in North-Eastern and Central Asia. The study, which was prepared based on a desk research and data made available by freight forwarders and governments, recommended the adoption of a new multi-modal transport document for international shipments.

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

OHRLLS continued to support efficient transit cooperation during phase III. Most importantly, the second United Nations Conference on Landlocked Developing Countries (Vienna, 2014), adopted the “Vienna Programme of Action for Landlocked Developing Countries for the Decade 2014–2024”.

The VPoA was developed on the basis of the Almaty Programme of Action and addressed the challenges faced by LLDCs. It aimed to contribute to eradicating poverty stemming from the countries being landlocked, by implementing 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, 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 the review of the initial implementation of the Vienna Programme of Action developed by OHRLLS for the High-Level Meeting on Sustainable Transport of Landlocked Developing Countries (13-14 October 2016, Santa Cruz, Bolivia), and the Global Sustainable Transport Conference (26-27 November 2016, Ashgabat, Turkmenistan) highlighted progress in: transit corridor performance; infrastructure development and maintenance; international trade facilitation, and bi- and multi-lateral cooperation between LLDCs and transit neighbours.

The report provided several recommendations on policy options and some practical suggestions for possible collaboration projects, in areas such as:

- 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

UNCTAD, in phase III of the EATL project, supported LLDCs with persistant and emerging challenges by providing advisory services and organizing high-level expert group meetings, i.e. policy-focused studies at the request of LLDCs, and supported LLDCs to attract foreign direct investments.

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

SPECA is an ECE-ESCAP programme. The SPECA Thematic Working Group on Sustainable Transport, Transit and Connectivity (TWG-STTC)[33] focused on inland transport infrastructure development, facilitation of border-crossing procedures, railway and intermodal transport development and improved road safety in the region.

Box 1. Priorities for the SPECA region

Member States:	Afghanistan, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan
Priorities for EATL development	• Implement international transport conventions and agreements • Coordinate the development of inland transport infrastructure • Establish and operate national coordinating mechanisms for transport facilitation • Identify and eliminate major bottlenecks on international transport routes • Develop an inland transport database • Establish and strengthen public-private partnership in transport • Improve road safety • Assist in achieving Sustainable Development Goals in sustainable transport and connectivity

Source: SPECA

The TWG-STTC regularly recommended SPECA countries to:

- Continue acceding to and implementing the United Nations legal instruments in the field of transport.
- Harmonize transport infrastructure development plans relying on established frameworks (EATL, IGA AH, IGA TAR, and the IGA on Dry Ports).
- Further facilitate international road and rail transport.
- Take actions to implement the United Nations Decade of Action for Road Safety, 2011–2020.
- Take actions to improve the 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 (11 November 2015) to add activities to the TWG-STTC Programme of Work for 2018-2019 to:

- Support the efforts of participating countries to implement the 2030 development agenda by enhancing the sustainability of transport.
- Ensure more focus on efforts which would result in strengthening regional cooperation aimed at achieving transport-related Sustainable Development Goals.
- Serve as a forum for inland transport stakeholders to discuss strategic issues, exchange 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 the Sustainable Development Goals.
- Develop and implement transport projects, when possible, in line with the relevant Sustainable Development Goals and targets to contribute to the 2030 Agenda for Sustainable Development.

II.1.6. European Union

The European Union worked on improving transport connectivity in the European Union region, its Eastern and Southern neighbours and in countries in Central and East Asia. This work contributed to developing EATL.

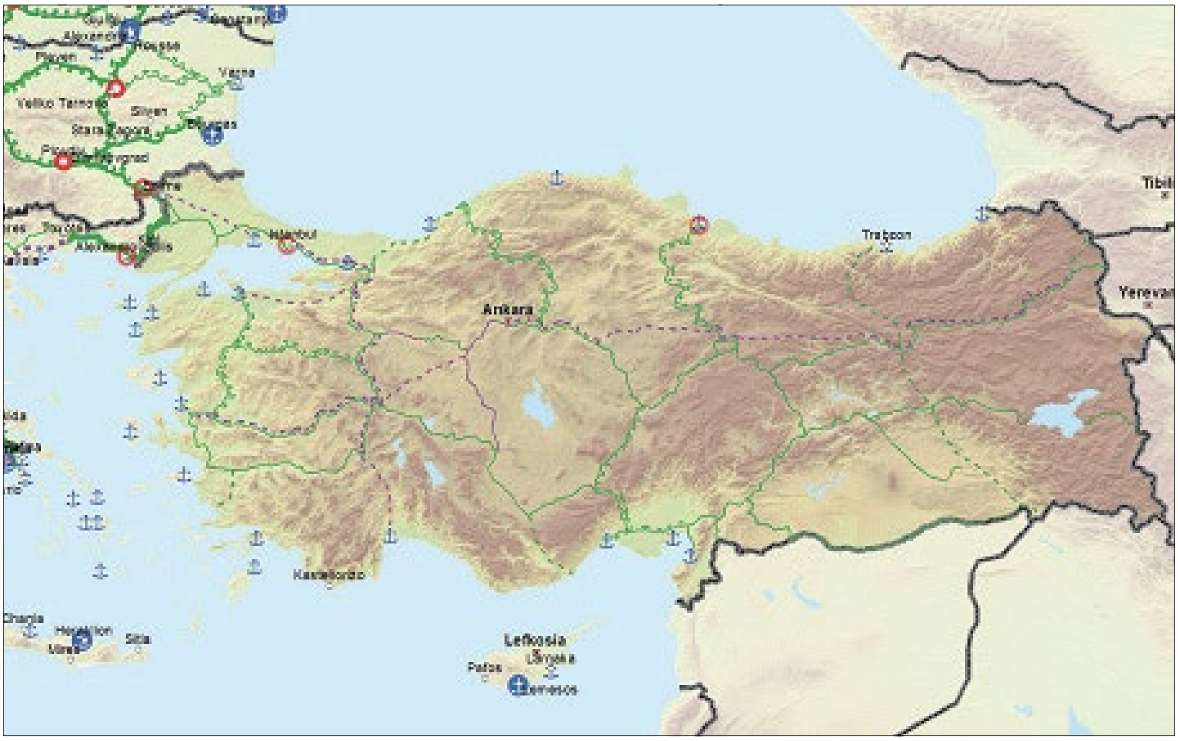
The European Union introduced in January 2014 a new transport infrastructure policy which would strengthen connectivity in the member States by building the core network corridors of the trans-European transport network and its extension to neighbouring countries (figure 2.5 shows the TEN-T and the rail networks[34] of Turkey).

Transport Corridor Europe-Caucasus-Asia (TRACECA) the Eastern Partnership (EaP) Transport Panel dealt with countries outside of the European Union region (Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine.

In phase III, the TRACECA countries implemented an IGC TRACECA strategy for developing the international transport corridor Europe-Caucasus-Asia, which should result in a sustainable infrastructure chain to ensure multi-modal transport, with step-by-step integration into the Trans-European transport networks (TEN-T).

The Eastern Partnership Transport Panel[35] aimed to strengthen transport connections in the European Union, and between the European Union and partner countries, i.e. through capacity-building activities. It approved a regional transport network in 2013. It addressed reforms underpinning regulatory convergence across transport modes, especially for Eastern Partnership Transport Panel countries that signed association agreements with the European Union.

Figure 2.1 Map of TEN-T network extension to Turkey



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

II.1.7. EurAsian Economic Union

EAEU was established in 2014 by Armenia, Belarus, Kazakhstan, Kyrgyzstan and the Russian Federation for greater regional economic integration. The Eurasian Economic Commission (EEC) was a permanent executive body of the EAEU. Integration was expected to result in the free movement of goods, services, capital and labour on the territory of its member States. Transport was one of the key priorities in the integration process.

The Supreme Eurasian Economic Council (SEEC), the highest supranational body of the EAEU, in December 2016, approved guidelines for coordinated transport policy, which should remove transport barriers for all modes and create a single transport space and a common market of transport services up to 2025. The main objectives were integration of transport systems of the member States into the global transport system, the efficient use of the transit potential of member States, improved transport safety and transport service quality, and attracting foreign investment.

Implementation of the policy should establish and develop Eurasian transport corridors, increase transit potential, coordinate transport infrastructure development, establish logistics centres and set up transport organizations to ensure optimisation of freight transport.

The EEC started to work with the Silk Road Economic Belt (SREB) project with the approval of the presidents of the EAEU members States and China. It 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, over 40 projects of transport infrastructure development were identified in the framework of this partnership. The partnership was expected to help create modern systems of international logistics centres and hubs on major international transport corridors crossing Europe and Asia, including vital transport links passing Kazakhstan and Mongolia, and connecting Siberia with the central and western regions of China and countries of Central and South Asia. EAEU member States expected the partnership to provide an inflow of investment in transport infrastructure modernisation, and strengthen mutual trade between the member countries and increase their investment attractiveness. In the long-term it was expected to drive growth in other economic sectors.

Box 2. EAEU priorities in EATL

Status	Intergovernmental organization
Activity's geographical coverage	Five countries from Europe and Asia (Armenia, Belarus, Kazakhstan, Kyrgyzstan and the Russian Federation)
Focus	Create a single transport space and a common market of transport services. Establish and develop Eurasian Transport Corridors. Capacity-building of the EAEU transit potential. Establish logistics centres and transport organizations to ensure optimisation of transport of goods, etc.
Main projects, programmes and initiatives aimed to develop EATL	Reinforce interaction and joint projects in logistics and intermodal transport infrastructure development to expand and develop more integrated regional supply and value chains.
Web	www.eurasiancommission.org/en/

II.1.8. Silk Road Economic Belt

The 'Silk Road Economic Belt and 21st Century Maritime Silk Road' (or Belt and Road Initiative) was launched in March 2016 by the Government of China to promote economic cooperation among countries on the proposed routes. The initiative was designed to enhance efficient allocation of resources, achieve greater market integration and create a regional economic cooperation framework for the benefit of all.

The Belt and Road Initiative was developed based on existing bilateral and multilateral cooperation mechanisms. The signing of memoranda of understanding or cooperation aimed at developing and implementing bilateral pilot projects were foreseen as next steps. It was also foreseen to develop a common strategy and action plan for advancing the Belt and Road Initiative in the region.

A United States Dollars Silk Road Fund of $40 billion was established to finance the Belt and Road Initiative, particularly, in infrastructure projects, and in industrial and financial cooperation. The fund was set up as a limited liability company in December 2014. The founding shareholders include the 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 set up to complement and cooperate with the existing multilateral development banks to address infrastructure needs in Asia. AIIB was expected to focus on developing transport infrastructure and logistics, and telecommunications and urban development.

The Belt and Road Initiative would connect Asia, Europe and Africa with five routes:

The Silk Road Economic Belt:

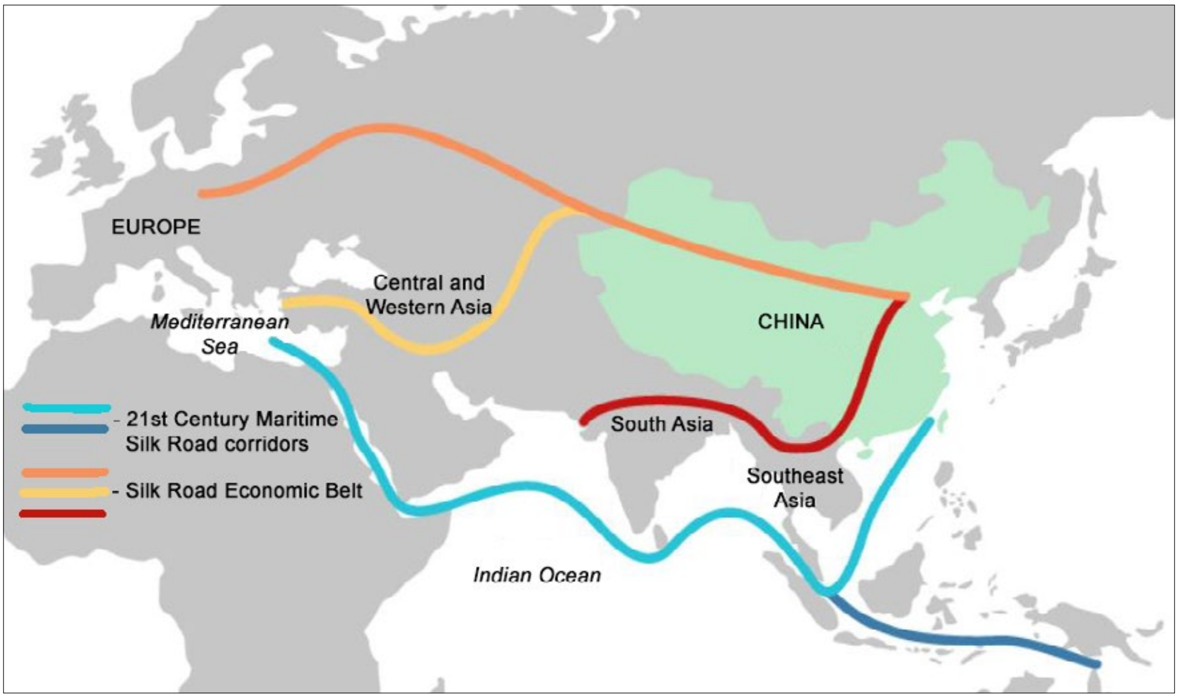
- China to Europe through Central Asia and the Russian Federation
- China to the Middle-East through Central Asia
- China through Southeast Asia, South Asia to the Indian Ocean

The 21st Century Maritime Silk Road:

- Chinese coastal ports with the South China Sea and the Indian Ocean to Europe
- China coastal ports with countries in the South Pacific Ocean to the South China Sea

The routes were developed from existing international transport routes, core cities and key ports to further strengthen collaboration in international economic areas: the New Eurasia Land Bridge, China – Mongolia – Russian Federation, China – Central Asia, Western Asia – China, Indochina Peninsula – China – Pakistan and Bangladesh – China – India – Myanmar.

Figure 2.2 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

II.1.9. Organization for Security and Co-operation in Europe

Transport-related issues were high on the agenda of OSCE during phase III of EATL. The Office of the Co-ordinator of OSCE Economic and Environmental Activities (OCEEA) with OSCE field operations continued to implement OSCE Ministerial Council (MC) decisions adopted between 2006-2016 in the field of transport.

Based on these decisions, OCEEA and, for example, ECE or the World Customs Organization (WCO) cooperated on:

(a) Security in inland transport – considered to be the weakest element in the global supply chain, the partners responded by promoting a comprehensive, integrated approach towards inland transport security considering the views and concerns of various stakeholders.

(b) Good governance and anti-corruption – OCEEA and partners assisted participating States with training on combating corruption in customs and other border services. The objective was to raise awareness of the existing tools to fight corruption and to work with participating States to identify concrete national follow-up activities.

(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 LLDC member States in addressing the challenges of dependency on the transit services of non-landlocked neighbouring States. OSCE helped 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-ECE 'Handbook of Best Practices at Border Crossings: A Trade and Transport Facilitation Perspective' – jointly released in February 2012, the handbook aimed to particularly assist OSCE and ECE LLDC member States which have limited access to world markets, in developing more efficient border, transport and customs policies. The handbook 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 cooperation, balancing security and facilitation measures, freight processing, risk management, border crossing point design, Information and Communications Technology use, human resource management and benchmarking.

II.1.10. Organisation for Co-operation between Railways

The Organization for Cooperation between Railways (OSJD) continued working with its member States to improve the coordination of international rail transport during phase III of the EATL project.

OSJD continued its annual analysis of technical and operational indicators and technical equipment on 13 OSJD corridors between Europe and Asia that were established in 1996. The analysis of infrastructure and border crossings data looked for ways to improve rail freight transport and to offer comprehensive measures for improving management of international rail transport operations along the transport corridors between Europe and Asia.

Box 3. OSJD priorities related to the EATL development

Member States:	Afghanistan, Albania, Azerbaijan, Belarus, Bulgaria, China, Cuba, Czechia, Democratic People's Republic of Korea, Estonia, Georgia, Hungary, Iran (Islamic Republic of), Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Mongolia, Poland, Republic of Moldova, Romania, Russian Federation, Slovakia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, Viet Nam. OSJD also incorporates 7 railway companies in observer status countries: Austrian-Hungarian company «GySEV», France (SNCF), Finland (VR), Germany (DB AG), Greece (OSE), Russian Federation Federal Passenger Company (FPC JSC), Serbia (ZS)
OSJD priorities that are the most important for the EATL development	• Develop and improve international railway transport between Europe and Asia, including combined transportation. • Contribute to the harmonization of transport policiesconcerning international railway traffic. • Improve international transport law, administrate the convention on international goods traffic by rail 'SMGS' and other legal documents on international railway traffic. • Cooperate on solving the economic, information, scientific, technological and ecological problems in railway transport. • Develop measures to increase railway transport competitiveness. • Cooperate in railway inter-operability and technical standards and regulatory eimed at further facilitatinginternational railway traffic. • Collaborate with other international organizations, engaged in railway transportation matters, including those of combined transport.

Source: OSJD

The forty-third OSJD Ministerial Conference (2-5 June 2015, Ulaanbaatar) approved comprehensive plans for carriage improvement, for developing OSJD railway transport corridors Nos. 4, 6 and 11 up to 2020 and reported on the related comprehensive plans for transport corridors Nos. 9, 12 and 13.

The interested countries signed memoranda of understanding for developing these corridors, which served as a basis for coordinated actions by these countries to reorganize and modernize pertinent railway lines.

One of the projects initiated by OSJD to improve the conditions of Euro-Asian railway transport was the CIM/SMGS consignment note. It combines the required CIM and SMGS contracts of carriage into one single transport document.

The customs authorities from the European Free Trade Association (EFTA) customs area officially recognized it for use as transit declaration T as well as in SMGS regimes as a national customs (transit) document. The CIM/SMGS consignment note may be used for wagonload services and for combined transport.

OSJD continued developing an action plan for implementing the memorandum on cooperation in technical, operational and commercial development of corridors 1 to 13. OSJD experts studied the possibility to connect new lines to the OSJD railway transport corridors:

- Extending OSJD railway transport corridor 12 through the territory of the Republic of Moldova from Ocnița station to Vălcineț station and then through the territory of Ukraine to Zhmerinka station with the condition to preserve the existing transit capacity on the territory of Ukraine (these changes were approved at the annual meeting of the OSJD Commission on Transport Policy and Development Strategy (6-9 October 2015).

- 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.
  - 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 improving the railway operations and developing OSJD railway transport corridors 2, 5, 8, 10 and 12 up to 2020. The latter also implies reviewing their levels of inter-operability and the degree of harmonization of operational, engineering and procedural standards and regulations on the corridors.

The extension of OSJD railway transport corridor 9 to connect the ports of Odessa and Ilyichyevsk (Ukraine), through the territory of Belarus, with the port of Klaipeda (Lithuania) was under discussion at the time this report was prepared.

In addition, the OSJD Commission on Freight Traffic continued to:

- Update the existing international agreements and contracts in combined transportation between Europe and Asia.
- Implement harmonized tariffs for freight transit.
- Update the existing rules on the common use of freight wagons in international traffic to harmonize these rules internationally.

- Harmonize the system of cargo classification and coding.
- Plan and organize container block trains between Europe and Asia, also in combined transport.
- Implement uniform CIM/SMGS consignments note in the rail transport between Europe a Asia.
- 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 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 (Memorandum of Understanding on Facilitation of Road Transport of Goods in the BSEC region), including implementation of a 'BSEC permit system' in 2013–2017 and a BSEC pilot project on the international vehicle weight certificate.
- Create an integrated road and sea transport infrastructure network in the BSEC region (i.e. 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 including 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, such as:

    (1) Promote sustainable transport systems, which meet the economic, social and environmental needs of the people of the Black Sea region, to reduce regional disparities and to link the BSEC region's transport infrastructure to the European and Asian networks.

    (2) Accelerate efforts at the national level and within the BSEC framework 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) Elaborate 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 European Union 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.

    (6) Improvement of 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).

Under the project, a cargo train from China should reach Europe in less than 14 days, which would have been the most competitive transport time. Cargo trains departing from China took 15-19 days to pass through the Russian Federation to reach Europe, and the maritime route required a month from Eastern China to arrive in Europe.

The agreement on establishing a Coordination Committee to develop the Trans-Caspian International Transport Route was signed by representatives of the national railway companies from Azerbaijan, Kazakhstan and Georgia, and the representatives of the ports of Aktau and Baku during the second international transport and logistics business forum "New Silk Way" in November 2013. At the fifth meeting of the Coordination Committee in October 2014 participants accepted the Turkish State Railways to the Coordinating Committee.

Under 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 province of Xinjiang in China, on 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, each weighing 20 tonnes: 4,000 kilometres were travelled in six days, 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 to provide a competitive route from Asia to Europe.

The second test of a container train on the Trans-Caspian International Transport Route arrived in Georgia on 3 October 2015. The train of 44 containers, departed from Xinjiang, on the Alashankou-Dostyk-Aktau-Alyat-Tbilisi route and arrived in Georgia in eight days. The test showed that organizing container services on the China-Kazakhstan-Azerbaijan-Georgia-Turkey route could meet the expectations of the TITR members.

It was expected that approximately 300,000 – 400,000 containers would be transported via the TITR by 2020 ensuring 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 tonnes of cargo annually, increasing to 13.5 million tonnes per year by 2020.

The Coordination Committee reached an agreement (Baku, January 2015) on adopting measures for utilizing the new Zhezkazgan - Beineurailway lines and on the capacity of the Aktau (Kazakhstan) and Baku (Azerbaijan) seaports to create favourable tariff conditions.

In January 2016, Azerbaijan, Kazakhstan, Georgia and Ukraine applied the competitive feed-in tariffs for cargo transportation on the TITR. New competitive tariffs were introduced on 1 June 2016 to reduce the cost of international cargo transportation.

In October 2016, railways and port administrations of Azerbaijan, Kazakhstan and Georgia signed an agreement on establishing the "Trans-Caspian International Transport Route" (TITR) association with offices 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, the composition of a working group on developing 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 on the 826 kilometer Baku-Tbilisi-Kars (BTK) railway section, expected to be open by the end of 2017 and have an annual carrying capacity of 6.5 million tonnes in the short term.
- Full integration of TITR with the "Marmaray" rail project in the Bosphorus (Turkey).
- Expansion of the Aktau port (Kazakhstan) for a new grain terminal with a capacity of 1.5 million tonnes and two additional dry-cargo terminals with a total capacity of 1.5 million tonnes expected to be finished in 2017 and to increase the port capacity from 16.8 million tonnes to 21 million tonnes per year.
- The Purchasing of two universal ferries, and expansion of the Alyat port complex to increase its annual capacity to 25 million tonnes.

II.1.13. Economic Cooperation Organization

The Directorate of Transport and Communications of ECO continued to facilitate agreements and declarations in transport and communications to foster economic cooperation, integration and cohesiveness in the ECO region during phase III of the EATL project: 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.

ECO played an important role in ensuring progress in interconnecting road and railway networks between Central Asian countries and Iran (Islamic Republic of), Pakistan and Turkey, and in improving international road transport in all ECO countries, especially assisting in the construction of missing links in the ECO region.

The following projects were implemented by ECO:

- TIR system test on the road transport corridor Islamabad -Tehran – Istanbul.
- Establishment of Kyrgyzstan – Tajikistan – Afghanistan – Iran (Islamic Republic of) (KTAI) Rail and Road Corridors.
- Development of Iran (Islamic Republic of) – Turkmenistan – Kazakhstan Railway Project with a total length of 900 km (ECO Rail Corridor IV) coordinated by the 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 to implement its 2013 programme of GUAM transport corridor development in the following areas:

- Transit operationalisation via South Caucasus, Black and Caspian Seas.
- Efficiency improvement of the GUAM 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.

The GUAM Trade and Transport Facilitation (TTF) project in 2013-2017 carried out pre-declaration development and digitalization of transport and transit procedures along GUAM corridor. The results of these activities were considered during the meeting of GUAM Trade and Transport Facilitation Steering Committee (31 May – 2 June 2017, Nakhichivan, Azerbaijan).

II.1.15. World Bank

The transport sector constituted a significant part of the World Bank's portfolio during phase III of the EATL project. The 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 that covers the period from 2016 to 2018 aimed to facilitate the movement of goods in developing countries by focusing on mobility solutions that provide greater access, efficiency and safety in a climate-friendly way.

The following projects related to Euro-Asian transport links were implemented by the World Bank or with active participation of theWorld Bank:

- Three Gorges Modern Logistics Centre Infrastructure Project (China, from 2017-2023, $200 million United States Dollars committed by World Bank).
- Corridor X Highway (between Nis and Dimitrovgrad and Grabonica and Donji Neradovac) (Serbia, from 2016 onwards, $38.9 million United States Dollars additional financing committed by World Bank).
- Centre West Regional Development Corridor (Kazakhstan, from 2016-2021, $977.9 million United States Dollars committed by World Bank).
- CN-Hubei Xiaogan Logistics Infrastructure (China, from 2016-2021, $100 million United States Dollars committed by World Bank).
- Azerbaijan Highway 3 (M4 road from Baku to Shamakhi) (Azerbaijan, from 2016 onwards, $ 140 million United States 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 United States Dollars committed by World Bank).

- East-West Highway Corridor Improvement (Georgia, from 2015-2020, $140 million United States 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, from 2015-2021, $560 million United States Dollars committed by World Bank).
- Trans-Hindukush Road Connectivity Project (Afghanistan, from 2015-2022, $250 million United States Dollars committed by World Bank).
- Pap-Angren Railway (Uzbekistan, from 2015-2019, $195 million United States Dollars committed by World Bank).
- Transit Corridor (M6 Minsk – Grodno) Improvement Project (Belarus, from 2014-2020, $250 million United States Dollars committed by World Bank).
- National and Regional Roads Rehabilitation (the former Yugoslav Republic of Macedonia, from 2014-2019, $71 million United States Dollars committed by World Bank).
- Central Asia Road Links with the aim to increase transport connectivity between Kyrgyzstan and Tajikistan (Kyrgyzstan, 2014-2019, $45 million United States Dollars committed by World Bank).
- Third East West Highway Improvement Additional Financing (Georgia, from 2012 onwards, $43 million United States Dollars committed by World Bank).
- East-West Roads Project (Almaty-Korgos Section): Western Europe - Western China International Transit Corridor (Kazakhstan, from 2011-2016, $106.8 million United States Dollars committed by World Bank).
- National Road Rehabilitation (Osh-Batken-Isfana) Project (Kyrgyzstan, from 2011-2016, $16 million United States Dollars additional financing committed by World Bank).

II.1.16. Central Asia Regional Economic Cooperation

The CAREC programme continued a strategic framework for 2011-2020.

Since the start of the CAREC programme, transport and trade facilitation had formed its backbone. The CAREC Transport and Trade Facilitation Strategy (TTFS) was initially for 2008-2017. It was subsequently refined and extended up to 2020 (TTFS 2020). The operational priorities of TTFS 2020 included:

(i) Multimodal corridor network development, consisting of support to corridor extensions; railway network and multimodal logistics hub development; and border crossing point improvements along the six CAREC (Central Asia Regional Economic Cooperation) 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 reform and modernization.

(iii) Operational and institutional improvements in planning, financing and management of road and railway assets, road safety management, and in participation of private sector.

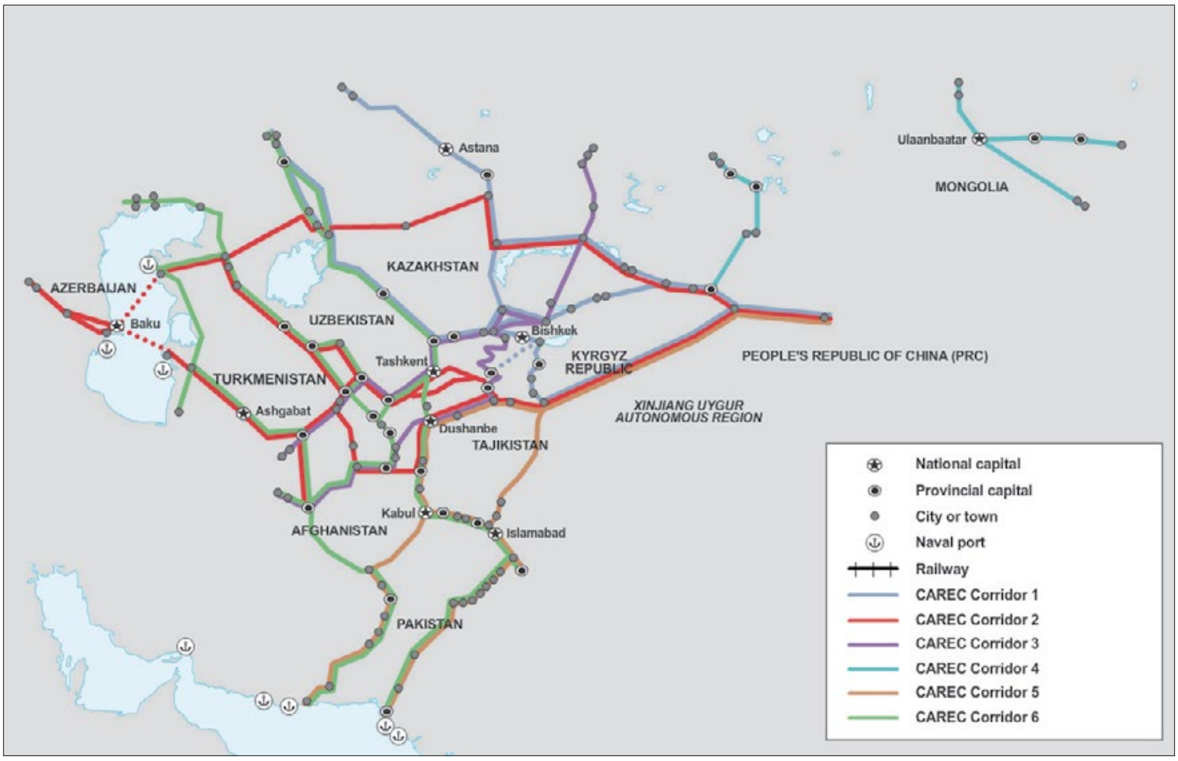
By the end of 2016, the investment programme under TTFS 2020 included 108 investment projects with an estimated budget of $43.7 billion United States Dollars, and 49 technical assistance projects with an estimated budget of $76.2 million United States Dollars.[36]

The six CAREC corridors link the region's key economic hubs,and connect the landlocked CAREC countries to other Euro-Asian and global markets. Each corridor improves access of CAREC countries to at least two large Euro-Asian markets; and the warm-water ports of Karachi and Gwadar in Pakistan opened up truly global trade opportunities.

The CAREC countries made a significant progress towards developing multimodal corridors. In TTFS 2020, the six corridors were extended, the routes of the corridors were more precisely defined, and the results were modified. The CAREC road corridor network was expected to reach 29,350 km by 2020 rather than 24,000 km by 2017.

The TTFS result framework identified three physical infrastructure targets for 2020, the completion of: 7,800 km of road construction or rehabilitation, 1,800 km of new railway track, and 2,000 km of renovated, electrified, or signalized railway track. In addition, CAREC plans five new multimodal logistics centres and improvement of at least five border crossing points (BCPs) .

Figure 2.3 CAREC corridors



Source: www.carecprogram.org

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 per cent of the total 7,800 km for 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 centres, three BCPs) were completed or implemented in 2017 (e.g. BCPs in Tajikistan and Kyrgyzstan, three in Pakistan).

In 2015, CAREC decided to further prioritize four key areas of immediate importance:

- A railway working group would prepare a railway strategy.
- A high-level Commitment to Road Safety was endorsed by the CAREC member States in 2015.
- A CAREC Road Safety Strategy was under preparation.
- For road asset management, member States 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, China, Kazakhstan, Kyrgyzstan and Pakistan were working under CAREC to revive the dormant Quadrilateral Traffic in Transit Agreement.

II.1.17. Islamic Development Bank

The IDB 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 2013–2017 of almost 1,300 km of motorways and more than 300 km of railways that were part of the CAREC road corridors.

IDB participated in the following projects:

- Road development of regional importance in Azerbaijan and Kyrgyzstan with support of $471 million United States Dollars.
- Development of an alternative road on the North-South corridor in Kyrgyzstan.
- Road reconstruction in Uzbekistan from Guzar to Beyneu, which was a part of the national highway project of Uzbekistan.
- Construction of a new road to China, from Kulyab to Khalaikum in Tajikistan.
- In 2016 transport sector-related projects accounted for 30 per cent of the cumulative operations portfolio of IDB. IDB approved nine operations in the transport sector in 11 member States for $1.53 billion United States 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 programmes and workshops to encourage its member countries to adopt good practices for international trade.

II.1.18. 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 in the transport sector included:

- Promoting a market-based transport sector, 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 emissions from transport operations.

During phase III of the EATL 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 Azerbaijan, Kazakhstan, Kzrgzystan, Tajikstan, Turkmenistan and Uzbekistan. 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 the 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 United States Dollars loan was to complement the US$ 1.4 billion United States Dollars financing. The Eurasia Tunnel was designed to improve traffic management in this highly congested city. It connects Istanbul's European and Anatolian sides – and, provides better connections with the European and Asian road networks of Turkey.

II.1.19. International Road Transport Union

In phase III of the EATL project the International Road Transport Union (IRU) implemented 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.
- 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.

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 and 2017 IRU worked closely with Chinese authorities to implement the provisions of the TIR Convention which led to China ratifying the legal instrument.

Implementation the TIR Convention in China was an important step in improving land and multimodal transport between Asia and Europe. The TIR system was expected to underpin the One Belt, One Road (OBOR) initiative of China and boost trade and development with neighbouring countries, in particular, Kazakhstan, Kyrgyzstan, Mongolia, the Russian Federation and Tajikistan.

During phase III of the EATL project, the first TIR fully paperless digital transit service, or e-TIR, was successfully conducted between Iran (Islamic Republic of) and Turkey. The tests were run by IRU, ECE, the customs authorities of Iran (Islamic Republic of) and Turkey, pioneering volunteer transport operators, as well as IRU members and TIR guaranteeing associations from the two countries, the Iran Chamber of Commerce, Industries, Mines and Agriculture (ICCIMA) and the Union of Chambers and Commodity of Exchanges of Turkey (TOBB) respectively. The pilot tests demonstrated that the system worked in a live transit situation, and 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 organizing eTIR pilots, including Kazakhstan, Republic of Moldova and Ukraine, the latter for an intermodal pilot across the Black Sea.[37]

II.1.20. International Union of Railways

The International Union of Railways (UIC) pursued the promotion of 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. 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.
- 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

CCTT continued to cooperate with governments and international organizations to create new technologies for facilitating border crossing by block-trains, to help harmonize transport and transit law and to reduce barriers on rail routes between Europe and Asia.

CCTT led or contributed to several projects during EATL phase III:

- The "Digital train" project aimed at increasing Trans-Siberian rail route competitiveness through implementation of end-to-end IT technologies in the area of international rail transport and border crossing. Pilot block train operations under this project ran from Wuhan, China to Pardubice, Czechia in November 2012 and from Chengdu, China to Łódź, Poland in December 2012.
- The "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.
- The "Trans-Siberian route: a multimodal Euro-Asian transport network" promoted rail transport of goods between Europe and Asia by publishing an annual Trans-Siberian route review.
- The "Security train" promoted armed protection of containers and block trains in transit.
- The "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

GPST was established in November 2015 to contribute to international, national and regional implementation of the United Nations transport-related declarations, resolutions and other recommendations through advocacy, awareness-raising, cooperation, technical work and analysis. As a global, business and industry led, multi-modal, strategic, action-oriented, multi-stakeholder platform, the GPST recognised that public-private partnerships would be vital in helping United Nations Member States implement their decisions, to achieve the maximum positive economic, environmental and social impacts.

GPST members and partners also acknowledged that given the resources, expertise and competence they possess, they could be effective in translating commitments of United Nations Member States into actionable, result-oriented recommendations that can be implemented by governments and businesses.

GPST continues to lead in supporting governments in actions to strengthen the international legal framework for sustainable transport to achieve progress in promoting more conducive environments for trade, transport and transit facilitation. 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 to widely disseminate these practices.

Recognizing big potential of EATL and their contribution to social and economic development of large number of countries in Europe and Asia, including LLDCs, 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 projects of international organizations

Unified legal railway 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 were members of the OSJD and party to its legal agreements, such as the SMGS. Others were members of the OTIF and its 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 across countries using different regimes was used, two different consignment notes for rail freight, each based on the respective legal regime, were to be completed. Railway operators or freight forwarders therefore had to re-write a consignment note when crossing into the territory where the different legal regime applied.

The legal regimes also differed in other important aspects such as liabilities, and therefore increased uncertainty for crossborder rail freight transport in the EATL region.

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 could 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 could also be issued as an electronic document so that it could be exchanged electronically in advance with authorities and other transport parties.

The benefits called for 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 Geneva. Armenia, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Estonia, Finland, France, Germany, Greece, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Malta, Mongolia, Netherlands, Pakistan, Poland, Portugal, Romania, Republic of Moldova, Russian Federation, Serbia, Spain, Sweden, Switzerland, Tajikistan, the former Yugoslav Republic of Macedonia, Turkey, Ukraine and Uzbekistan.

During the seventy-eighth session of the Inland Transport Committee, a resolution on unified railway law was adopted.[38] By adopting this resolution, the Committee welcomed the work and the report of the Group of Experts towards Unified Railway Law, which, in three years, prepared legal provisions on 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.

From 15-17 May 2017 a meeting of railway experts - German DB AG (Germany), PKP Cargo (Poland) and JSC Russian Railways (Russian Federation) on “virtual verification” of legal provisions was held in Berlin in accordance with the “road map” agreed upon by experts. Virtual tests (without physically carrying of cargo) aimed to develop possible scenarios that may occur 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 the legal provisions in their territories.

In addition, 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 programmes and projects

Azerbaijan

Azerbaijan in phase III of the EATL project, started a number of national projects aimed at renovatiing railways infrastructure. By 2017, 383 km of railway sections and their catenary system had been renewed or rebuilt. Construction works were completed in substations for transforming electrical supply system from DC to AC in Baku-Boyuk Kesik section (East-West Corridor).

Another 271 km were under renovation in 2017 including renewal of catenary system and upgrade of communication and signalling systems. Purchase of new locomotives and different types of wagons was also planned. 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.

A missing link of 8.3 km single-track extension of the railway network to the border with Iran (Islamic Republic of) was completed in 2016. It was expected that with it a direct railway transit between Iran (Islamic Republic of) and the Russian Federation would be established.

Azerbaijan also developed feasibility studies in 2016 for modernisation of the Baku-Yalama railway section and for the Yalama-Astara route (North-South Corridor).

Belarus

During phase III of the EATL project, Belarus improved train handling procedures at the Brest border crossing which reduced train stops from 36 to 10 hours with transhipment, and to 6 hours without transhipment.

Belarus also adopted the use of the CIM/SMGS consignment note. Only in 2015 more than 29,000 TEU ran 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.
- Development of the second stage of the Project on electrification of the 86 km of Gomel – Zhlobin section. The railway company of Belarus 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 Organization of Rail Infrastructure Managers. TIS enabled Bulgarian and foreign operators to monitor the movement of their trains in real-time. Besides, the train information system made it possible to monitor train delays at the border crossing points and causes thereof.

China

From 2013 to 2015 China began operating 912 km of new railway lines.

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

Iran (Islamic Republic of)

Iran (Islamic Republic of) implemented several projects during phase III of the EATL project. In particular the following infrastructure projects were completed:

- Missing link of Khaf – Sangan – Harat railway.
- Railway North-South corridor between Iran (Islamic Republic of), Turkmenistan, Kazakhstan with completion of 940 km of new railways.
- Iran (Islamic Republic of) – Azerbaijan railway connection through completion of the railway link and bridge Astara (IR) – Astara (AZ).

Iran (Islamic Republic of) also signed the Ashgabat Agreement with Oman, Turkmenistan and Uzbekistan on the creation of an international transport and transit corridor. Negotiations were held on a transit agreement for the Persian Gulf – Black Sea corridor Armenia, Azerbaijan, Bulgaria and Georgia. Signature was expected by the end of 2017. Iran (Islamic Republic of) further ratified the ESCAP Intergovernmental Agreement on Dry Ports.

A 'Road Safety Action Plan' for 2015–2020 was being implemented.

Kazakhstan

By 2017 reconstruction work was completed on the Western Europe – Western China corridor (section of EATL 3 and EATL 4 Road routes) and the Astana-Kostanay-Chelyabinsk (EATL 2d Road route), Astana-Petropavlovsk (section of EATL 2 Road route), Pavlodar-Omsk (section of EATL 2b Road route), and Beyneu-Shetpe (section of EATL 4 Road route) highways as well as Astana-Temirtau and Almaty-Kapchagay road sections.

Kyrgyzstan

Kyrgyz Railway from 2011 to 2015 modernized 150 km of railway lines in the northern and southern sections with new reinforced concrete and timber sleepers. Six new generation diesel locomotives entered service. Two car repair plants were built to modernize and repair freight wagons and passenger coaches that should extend the life of wagons.

Fibre-optic communication lines were installed on the Lugovaya – Bishkek – Rybachye section.

The North – South trunk railways were under construction as part of the Russian Federation–Kazakhstan – Kyrgyzstan – Tajikistan project and China – Kyrgyzstan project.

Kyrgyzstan also implemented road projects under CAREC and other international programmes during phase III of the EATL project implementation:

- Bishkek – Osh Road improvement project (EATL 4p route) implemented from 2013 by reconstructing and rehabilitating 120 km of crucial road sections between Bishkek and Osh. (Project funded by ADB – $100 million United States Dollars, Kyrgyz Government – $31.8 million United States Dollars, Eurasian Development Bank - $60 million United States Dollars.
- Bishkek – Torugart Road improvement project (EATL 4g route) implemented from 2014 by improving the last 60 kilometres bottleneck section of the CAREC Corridor 1. The project would contribute to fostering regional trade between China and Kyrgyzstan and higher mobility for people in the Naryn Province. (Project funded by ADB – $15.1 million United States Dollars and Kyrgyz Government – $2.9 million United States Dollars).

Latvia

During phase III of the EATL 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 four bridges and of 53.7 km of new of 1,500 mm 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 made yet more precise.

Republic of Moldova

In 2015, Moldova Railway spent more than 1.5 million United States Dollars for an 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.

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.

The Republic of Moldova also adopted the CIM/SMGS common consignment note resulting in approximately 25,000 consignments carried over its territory under this regime in 2015 only.

Mongolia

During phase III of the EATL project, Mongolia became part to the new container services taking place along the routes Chengdu (China) – UBZD – RZD – Łódź (Poland) and Zhengzhou (China) – UBZD – RZD – Duisburg (Germany) (Figure 2.4).

Also, a new 24,5 km railway line for iron ore transportation was put in operation. Mongolia installed and put into operation three new remote-controlled crossing loops.

The country implemented annex 9 to the International Convention on Harmonization of Frontier Controls of Goods, which reduced border control of freight trains between Mongolia and the Russian Federation by 45 minutes.

Time of railway transit via territory of Mongolia (figure 2.5) in 2015 was:

- 30 hours from Sukhbaatar to Zamiin-Uudd
- 36 hours from Zamiin-Uud to Sukhbaatar

Figure 2.4 Transit rail corridor in Mongolia

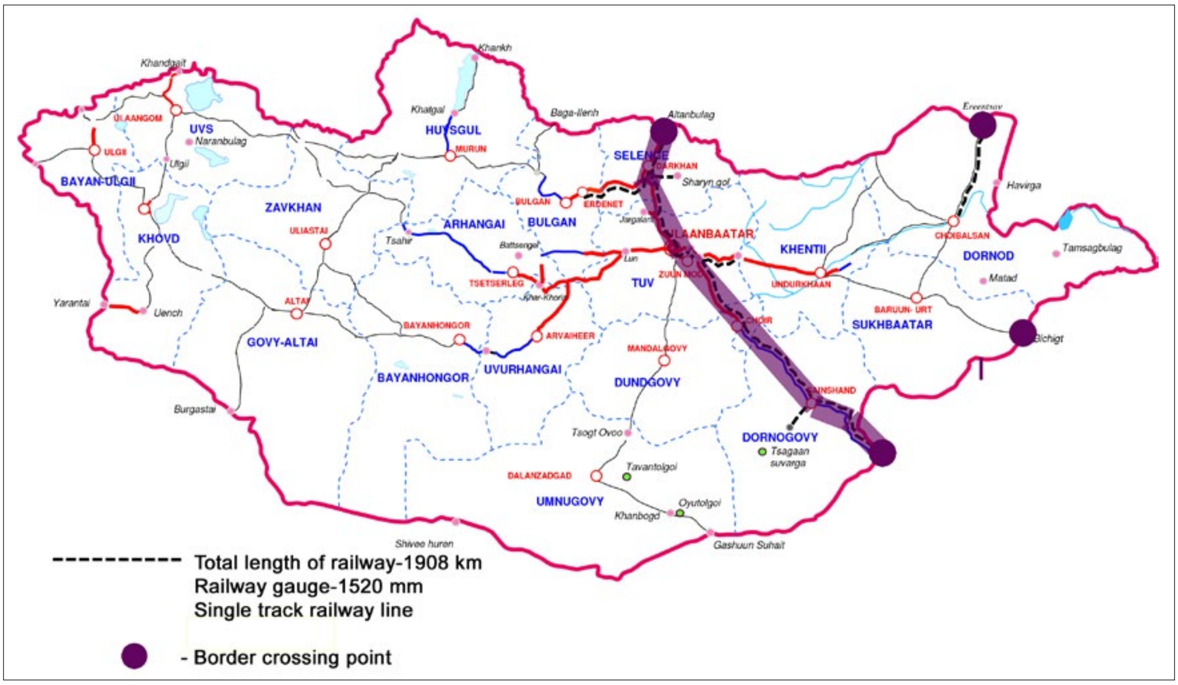
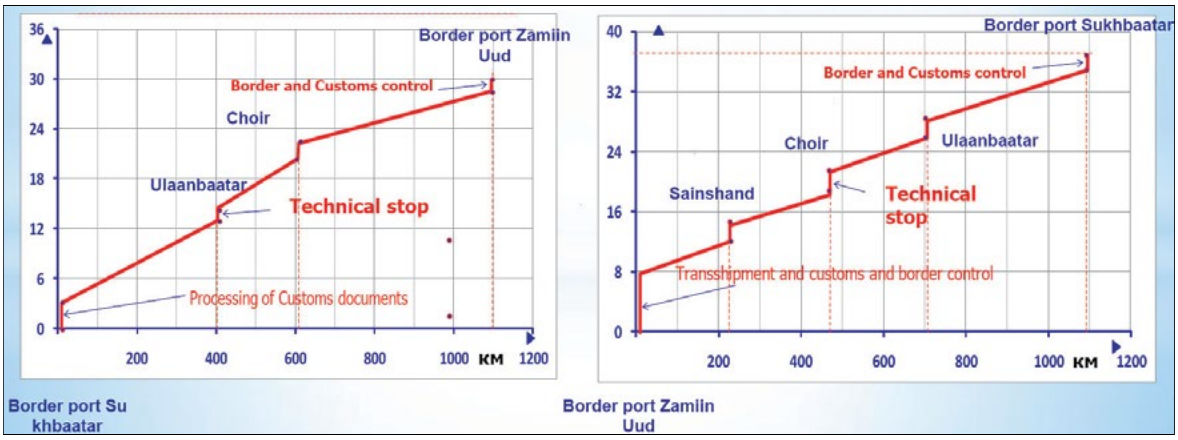


Figure 2.5 Time of railway transit via territory of Mongolia in 2015, hours



Source: ESCAP (2015) Railway transport facilitation in Mongolia. Presentation of joint ESCAP – 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 and significantly reduced the time en routes Trójmiasto – Wroclaw, Poznan – Krakow, Warsaw – Bielsko-Biala, Olsztyn – Bydgoszcz.

The PKP Cargo JSC further developed the container terminals at Poznan-Franovo 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 the transborder lines.

Poland also improved security and train monitoring with the service of unmanned aerial vehicles. This reduced losses due to theft 60 per cent.

The Government of Poland recently revealed new and extensive plans for road infrastructure development along the new "Via Carpatia" transport corridor. It runs through Lithuania-Poland-Slovakia - Hungary - Romania - Bulgaria - Greece. The potential of Via Carpatia may benefit EATL transport routes that are inside and outside the European Union, and those leading to the Balkans. The road is designed to branch out to Ukraine and Belarus, and to the Baltic harbours Gdynia, Sopot and Gdańsk (Poland).

The Council of Ministers at its meeting on 20 June 2017 decided to raise the financial limit for the road construction programme by PLN 28 billion Polish Zloty. Out of this amount, PLN 21 billion Polish Zloty would be allocated to the construction of Via Carpatia. The additional funds would enable the contractors to build all the missing sections of the road between Rzeszów and Lublin on time. Via Carpatia in Poland would have nearly 700 kilometres.

In 2025, Via Carpatia shall be ready for use at its entire length.

Figure 2.6 Via Carpatia Transport Corridor Project

Source: www.sejm.gov.pl/Sejm8.nsf/v4Komunikat.xsp?documentId=CBCE79C441AF78DAC125814D003D8B93&lang=EN

Romania

CFR-Marfa – Romanian Freight Operator - carried almost 20,000 operations with the common 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, Bistrița Nord, Botoşani and Vaslui.

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 Russian 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 neighbouring countries to improve tariff policy.
- Simplifying the procedures for processing freight transit.
- Developing technological schemes for interaction between various modes of transport.

Russian Railways successfully completed reconstruction of the Babaevo station (Oktyabrskaya Railway) and construction of a new Chernyshevskoye border station (Kaliningradskaya Railway).

Several other infrastructure projects continued in 2017: e.g. technical upgrade of the Petushki – Nizhni Novgorod section of the Gorkovskaya Railway; reconstruction of the Tonnelnaya station / Northern Caucasian Railway; of the Cherepovets-II station/Northern Railway; of the Volkhovstroy-I station/Oktyabrskaya Railway, of the Kinel stations/Kuybyshevskaya Railway, and of the Ekaterinburg-Sortirovochnaya station/Sverdlovskaya Railway.

In 2016 Russian Railways 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 billion United States 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 April 2017.

During a special workshop in Ulan-Ude, Russian Federation (30-31 August 2017), leaders of transport ministries of the Russian Federation, Mongolia and China expressed their readiness to speed up the work on the operationalisation of the Asian Highway road route 4: Russian Federation − Mongolia − China (Novosibirsk – Biysk – Urumqi). The Russian Federation confirmed its plans for the reconstruction of roads, including the M-52 “Chuyskiy tract” (Novosibirsk − Biysk − Mongolian border) road sections.

The Parties noted the importance of the legal harmonization of international road transport along new road routes based on United Nations agreements and conventions. During the meeting, special focus was on the harmonization of the transport of dangerous and perishable goods and drivers’ rest and working times. China confirmed that it was in the process of accession to the ADR Agreement.

Furthermore, a milestone trilateral agreement between China, the Russian Federation and Mongolia has been signed to establish a new trade corridor Ulan-Ude – Ulan-Bator – Tianjin, while providing additional access to sea for landlocked Mongolia.

The trilateral intergovernmental agreement was signed by the transport ministries of China, Mongolia and the Russian Federation at ESCAP Ministerial Conference on Transport in Moscow (December 2016). Eliminating transit barriers and significantly reducing delivery times, the agreement was expected to facilitate international road transport along the Asian Highway network.

A China-Russian Federation pilot trade caravan successfully tested the 2,200 km inland trade route connecting China, the Russian Federation and Mongolia in August 2016.

Once in force, the agreement would be open for accession by other AH member countries to further enhance regional connectivity, international trade and ultimately economic growth for those communities along the route and beyond.

During the special workshop in Ulan-Ude, Russian Federation (30-31 August 2017) the Parties noted the importance of agreement for bilateral and multilateral cooperation between three countries and stated the need for further strengthening of the work within the framework of the OBOR strategy. The Parties confirmed their purpose to launch traffic along the AH3 road route Russian Federation-Mongolia-China as early as 2018.

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.

Tajikistan implemented road projects under CAREC and other international programmes during phase III of the EATL project, as follows:

- Dushanbe – Kurgan-Tube Road improvement project (EATL 5I route) implemented from 2016. Project funded by ADB – 65.2 Million United States Dollars, Government of Tajikistan – 17.2 Million United States Dollars, Clean Energy Fund - 2 Million United States Dollars, OPEC – 12 Million United States Dollars.
- Sayron-Karamik Road improvement project (EATL 5g route) implemented from 2013 by improving 88 kilometres section and rehabilitating 87 km Vose-Hovaling section. (Project funded by ADB – 0.5 Million United States Dollars and Kyrgyz Government – 0.15 Million United States Dollars.

Turkey

During phase III of the EATL project Turkey focused on the following projects:

- **Marmaray**

The Marmaray Project provided an uninterrupted railway connection between Asia and Europe with a 13.6 km Istanbul Straits (Bosporus) crossing and a 76 km high-capacity line between Gebze and Halkalı. The project was completed on 29 October 2013. Cargo transportation was expected to be operational following the completion of integration works of Marmaray by 31 December 2018.

In conjunction with the Baku – Tbilisi – Kars rail line, Marmaray would enable virtually uninterrupted intermodal services between all European countries via Turkey to Central Asian countries and China.

Additionally, it would offer market actors an alternative to the Trans-Siberian route.

- **Eurasia Tunnel**

The Istanbul Straits (Bosporus) Road Tube Crossing Project connects the Asian and European sides of Istanbul via a two-floored highway tunnel of 5.4 km beneath the seabed. The Eurasia Tunnel Project reduced the period of local transport in an area of intensive traffic. Travel time between the Asian and European sides decreased from 100 minutes to 15 minutes. 24 hours continuous operation was commenced as of January 2017.

- **Baku-Tbilisi-Kars Railway Project (BTK)**

With the increase of the freights coming from China on the east-west axis, there was an emerging need to connect Turkey to the region via railway.

The BTK project was foreseen to give acceleration to the development of the transportation on the Caspian Sea and was expected to bring railway as an alternative transport modal additional to highway and airway. With this project, railway was expected be used both for freight and passenger transportation in Azerbaijan, Georgia and Turkey.

The BTK project was a joint initiative of Azerbaijan, Georgia and Turkey. The project included construction of 79 km railways in Turkey, 29 km in Georgia and rehabilitation and reconstruction of existing railway route in Azerbaijan and Georgia. The second test run of the Railway Line was held on 26 September 2017. The railway route is composed of two lines from Kars to Aktalkalaki, single line from Aktalkalaki to Tbilisi, two lines from Tbilisi to Baku. Newly constructed sections in Turkey and Georgia have the track gauge of 1,435 mm. The BTK Railway came in operation on 30 October 2017 and was planned to carry 6,5 million tonnes of cargo annually in the first stage of operation between Asia and Europe.

- **Karaman-Ulukışla Second Line Infrastructure and Superstructure Construction Project**

It was planned to turn the Konya-Karaman-Ulukışla-Yenice Section into double line compatible with 160–200 km/h with the purpose of increasing the freight and passenger potential on the Ankara-Konya-Adana and İstanbul-Eskişehir-Afyon-Konya-Adana corridor. The delivery of the site was made on 22 September 2016 and the duration of work is 1,200 days. The project was planned to be completed in 2020.

- **Osmangazi Bridge**

The Gebze – Orhangazi – İzmir Motorway (including Osmangazi Bridge and the Connecting Roads) was being constructed at the time this report was prepared through the Build-Operate-Transfer financing model. Osmangazi Bridge was completed as part of the motorway project and was opened to traffic on 30 June 2016. Osmangazi Bridge was at the time of its opening listed number four among the largest main span suspension bridges in the world.

It was projected that the travel time between İstanbul and İzmir which took 8–9 hours would reduce to 3–3.5 hours and the traffic load on the axis of İstanbul–Bursa–İzmir would decrease by 30 per cent when the motorway project would finish.

- **Yavuz Sultan Selim Bridge**

The North Marmara Motorway / Odayeri–Kurtköy Section (Including Istanbul Straits (Bosporus) Third Bridge) Project includes İstanbul Third Strait Bridge (Yavuz Sultan Selim Bridge) which has 2x4 lane motorway and 2x1 railway pass on the same deck. The Yavuz Sultan Selim Bridge was opened to traffic in August 2016. The Yavuz Sultan Selim Bridge was at the time of its opening the world's longest bridge with railway system with 1,408 m main span, the highest tower of the world with 320 m height, and the widest bridge of the world with 59 m deck width.

- **3-Storey Great Istanbul Tunnel Project**

The project with approximately 3.5 billion United States Dollars cost, planned to be contracted with Build-Operate-Transfer Model, would comprise a 16.15 km long 2x2 lane Highway Connection between European Side TEM Hasdal Junction - Asian Side TEM Çamlık Junction, and a 31 km long High-Speed Metro Connection between European Side (Bakırköy) İncirli - Asian Side (Kadıköy) Söğütlüçeşme.

- **Canakkale 1915 Bridge**

The Canakkale 1915 is a 3.7 km suspension bridge was under construction over the Dardanelles Straits in the Canakkale province of Turkey. The bridge was part of the Malkara-Çanakkale Motorway project and once constructed would connect the Lapseki District to the Gelibolu District (Gallipoli) of the Canakkale province.

The bridge was built with a Build Operate Transfer (BOT) model at an estimated cost of $2,8 billion United States Dollars.

Ground-breaking for this project took place in March 2017 and the construction was expected to be completed by 2023 to coincide with the centennial celebrations of Turkey.

The bridge would provide direct access from Europe to south-western Turkey, should improve the country's transportation network and would promote socioeconomic growth and tourism.

- **Ten-T Network**

The updateof the TEN-T network map was completed. All ports of Turkey that are mentioned above handling the required amount and meet criteria defined by the European Commission were included in the updated map.

- **Facilitation of Border Crossings**

e-TIR Pilot Projects

Turkey launched e-TIR Pilot Projects with Georgia and Iran (Islamic Republic of).

The first e-TIR Pilot Project was developed by ECE-IRU and conducted by the Turkish and Iranian Customs Administrations. This project aimed at Customs to Business and Business to Customs (C2B2C) electronic data exchange.

Additionally, Turkey and Georgia ran customs to Customs (C2C) electronic data exchange under the aegis of ECE.

New Computerised Transit System (NCTS)

As of January 2012, all customs offices in Turkey started to use theNCTS, which was a system of electronic declarations and processing that enables traders to submit national and common transit declarations electronically. The system reduced the costs incurred with the paper-based system of declaring goods. NCTS also reduced time spent at customs by sending declarations electronically in advance of shipments. The system significantly contributed to increased efficiency of transit operations, prevention and detection of fraud and acceleration of transit transactions.

Within the scope of the simplification and acceleration of border crossings and reduction of procedures in railway cargoes, as of April 2016, Turkish State Railways were authorized to transport cargo by railway in a simplified manner in accordance with the Common Transit Convention and the Turkish Customs Code. With this authorization, the CIM Consignment Note can be used as a transit declaration in railway transportation.

ECO ITI Road Transport Corridor

The project for establishment of a road transport corridor between Islamabad-Tehran-İstanbul (ITI) was approved by the eight Ministerial Meeting on Transport and Communications of the Economic Cooperation Organization in Ashgabat on 28 and 29 June 2011.

The main goal of the project was to contribute to the sustainable development and poverty reduction through enhancement of transit trade among the enroute member States. Hence, a significant component of the Silk Road Initiative was to be vitalized.

The Terms of Reference were approved by the relevant countries at the Road Committee of Transit Transport Coordination Council Meeting held on 11 November 2015 in Ankara.

Pursuing the internal processes conducted by Pakistani authorities, a test run of loaded trucks under TIR System was planned to be launched along ITI Corridor.

Electronic Data Exchange

In order to eliminate non-physical barriers and enhance the efficiency of customs control of goods and vehicles moved between the States, Turkey ran significant projects on electronic data exchange.

Within the frame of transit data exchange, Turkey had projects with Azerbaijan, Georgia and Iran (Islamic Republic of).

Within the frame of export data exchange, Turkey had projects with Belarus, Kazakhstan and the Russian Federation.

Simplified Customs Corridor

The project was carried out between Turkish and Russian Customs. The Protocol was signed in September 2008 in Moscow.

The aim of the "Simplified Customs Corridor Project" was to provide simplified customs procedures to exporters providing the preliminary information of the goods, including their classification and value.

The preliminary information was being sent electronically. This system is applied to the Turkish and Russian companies on a voluntary basis.

One-stop-shop

One-stop shop referred to combined performance of customs controls and other authorities controls so that the goods were controlled by related authorities at the same time and at the same point to optimize time and personnel costs.

Once the project would be accomplished, customs clearance at land border gates would be expected to be completed faster and more efficiently.

A one-stop shop pilot scheme began to be implemented on 14 January 2014 at Kapıkule (border crossing point between Bulgaria and Turkey). A customs-led feedback evaluation process was in progress by the time this report was written.

Silk Road Customs Cooperation Initiative Caravanserai Project

Turkish Customs Administration launched Silk Road Customs Initiative among the Silk Road Customs Administrations. The main purpose of the initiative was to revitalize ancient the silk road, turn it into a preferable route and to increase the trade and transportation volume between Europe and China and among the countries on this route through harmonization, facilitation and acceleration of border crossing procedures among silk road countries.

Aiming at intensified cooperation between the OBOR project of China and the Caravanserai Project, the Presidents of China and Turkey signed a Memorandum of Understanding at the G20 summit in Antalya, Turkey in 2015.

- **Other Important Projects**

Lapis Lazuli Project

Besides the technical and administrative regulations made by the Caspian region countries, it was also found necessary to create a contractual basis on combined transportation to maintain international cooperation.

Within this context, the proposed Lapis Lazuli Corridor was an international transit route (highway and railway) project that was expected to contribute to the revival of the ancient Silk Road and to the development of the transportation, transit passage, economy, commercial relationships and transportation connection between Afghanistan, Azerbaijan, Georgia, Turkey and Turkmenistan.

The negotiations on the contract regarding the aforementioned project were completed and the contract was sigend on 15 November 2017.

Silk Wind Project

Within the scope of the project “Logistics Centres and Maritime Highways II” under the scope of the TRACECA Programme, a block train project started with the initiative of Kazakhstan, named as “Silk Wind”, The route starts from the Chinese border with Kazakhstan and runs via Kazakhstan, Azerbaijan, Georgia to Turkey via TRACECA corridor.

The most important phase of the project was realized with the finalization of the Baku-Kars-Tbilisi line.

Viking Train

The "Viking Train" was a combined transportation project that connects the Baltic Sea with the Black Sea via Klaipeda, Odessa and İliçevski seaports by rail.

Belarus, Lithuania and Ukraine were participating in the project and the train was operated by the Railways of Lithuania (LG), the Nationalized Transportation Company of Ukraine (LISKI) and the National Contracting Company Belintertrans of Belarus.

An agreement was reached on 12 September 2013 that the project would be fully supported, according to the "Memorandum of Understanding on Cooperation" signed between the Lithuanian Railway Company "Lietuvos Gelezinkeliai-LG" and Turkish State Railways in Ankara.

Railway Projects

In 2017, there were 14 international and 157 block container train operations of Turkish State Railways.

These operations were between Austria, Bulgaria, France, Germany, Greece, Hungary, Iran (Islamic Repubic of), Kazakhstan, Pakistan and Slovakia. Turkey constructed and put in operation its High Speed Railway Line as follows: Ankara-Eskişehir (13 March 2009), Ankara-Konya (24 August 2011), Eskişehir-Konya (24 March 2013), Ankara-İstanbul (25 July 2014) and Konya-Istanbul High Speed Railway Line (18 December 2014).

Several other lines were under construction:

High Speed Railway Lines:

- Ankara –İzmir HSR (Completion Date: Polatlı-Afyonkarahisar-Uşak: 2019, Uşak-Manisa-İzmir: 2020)
- Ankara – Sivas HSR (Completion Date: 2018)

Conventional Lines:

- Kars-Tiflis-Baku Railway Line (Completion Date: 2018)
- Gebze-Söğütlüçeşme/Kazlıçeşme-Halkalı (Completion Date: 2018)

Uzbekistan

Uzbekistan successfully completed the electrification of 140.8 km of the Marakand – Karshi railway section. Uzbekistan Railways modernized 55 locomotives and 1,258 freight wagons and purchased 11 new freight electric locomotives and 650 freight wagons.

Ukraine

Ukrainian Railway and partner railways cooperated on 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 the common CIM/SMGS consignment and saw an increasing application of the document in carriage operation.

The national Ukrainian railways company "Ukrzaliznytsia" adopted[39] 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 Hryvna for 262 locomotives, 31 billion Hryvna for some 35,000 wagons, 9 billion Hryvna for 440 coaches and 11 billion Hryvna for 46 diesel and electric multiple-units. The remaining 22 billion Hryvna would be used for the modernisation of 403 freight, 212 passengers and 283 shunting locomotives as well as some 57,000 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.

Part III.

Main Obstacles Hampering Euro-Asian Transport Links Development

PART III. Main Obstacles Hampering Euro-Asian Transport Link Development

III.1. General overview

Globalization and the introduction of logistics principles in production, trade and distribution dramatically changed how cargo moved in the world at the time this report was prepared. According to Martin Christopher[40] (2011) – 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.

EATL inland routes had to meet the requirements of modern supply chains to be considered by supply chain managers and be used as trade lanes. 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 on EATL inland routes to articulate the barriers that existed at the time this report was prepared.

III.2. Border crossings on Euro-Asian Transport Link routes

Various studies between 2013 and 2016 showed that the time lost at border crossings on EATL routes was significant. Studies in Central Asia showed that the stopping time exceeded the ECE recommended 60 minutes for international shuttle trains and 30 minutes for combined transport.[41]

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). Figures 3.1 and 3.2 show CPMM data for various border crossing points in Central Asia.

Border crossing delays added significantly to the overall time needed to transport of goods on EATL inland routes. A route analysis by ESCAP 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,[42] doubled in time to as many as 10-13 days due to the time at border crossings.

As studies showed, 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.

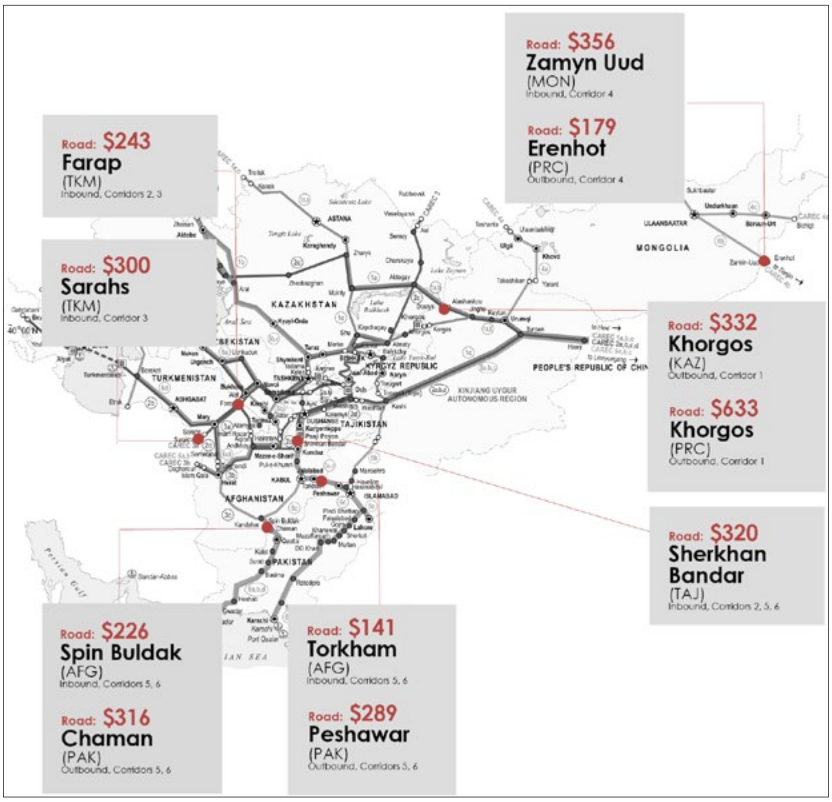
III.2.1. Border crossing infrastructure

Underdeveloped or inadequate infrastructure was recorded at many border crossing points on 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

Figure 3.1 Average border crossing times, Uzbekistan road BCP, 2013

Source: Corridor Performance Measurement and Monitoring. Annual Report 2014

Figure 3.2 Average border crossing costs for selected BCP, 2015



Source: Corridor Performance Measurement and Monitoring. Annual Report 2018

at border crossing points between countries using a 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 several 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 on 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 organization 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 was also done as customs authorities would often not trust documents cleared by custom authorities of a neighbouring country and would therefore physically inspect cargo to match the document information with the actual cargo count.

III.3. Road transport

Reviews showed that countries along the EATL inland routes had concluded more than 300 bilateral agreements on international road transport with countries in Europe and Asia, of which some 286 were transit agreements.[43]

Although these bilateral agreements should normally "facilitate trade" or "balance bilateral road transport markets", the bilateral nature and the number of these agreements complicated instead of facilitated transport, 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).
- Restrictions on the number of bilateral quotas that can be agreed and as a result the necessity to usehighly-priced occasional permits.

Assessments also showed that systems for distribution of permits to hauliers were not transparent in some countries. Cases of discrimination of hauliers had also been noted, e.g. Chinese truckers arriving at the Khorgos border crossing point needed to go to Almaty to obtain the required permit.

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 often changed without notice.

International road transport was also affected by visa procedures for truckers on 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 a 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.
- 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 discrimination in some EATL countries where truckers of some nationalities were able to receive visa with fewer formalities and shorter processing times.

Extortion and other illegal actions by officials were another barrier for road transport operations on 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.[44] Conspiracies between representatives of state bodies responsible for customs, frontier, sanitary, veterinary and plant control were reportedly not 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.

Corruption varied significantly from country to country and in general rose when moving from west to east (corruption was unknown on the borders of Belarus, Georgia, Poland, 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).[45]

Last but not least, hauliers were also complaining about several other issues impeding road haulage, among them:

- Geographical restrictions of the TIR system in some EATL countries where TIR operations are limited to a small number of border crossing points.
- 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).
- 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.4. 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 access to rail transport operation market for foreign rolling stock and transport services providers:

- 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
- Exchange of locomotives and crews
- Replacement of wagons and additional delays caused by unavailability of replacement wagons
- 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 a number of countries block trains transporting containers had to give priority to trains transporting raw commodities.

III.5. 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.

In particular trucks trying to cross the Caspian Sea by ferry face complications to use ferry services due to reasons such as:

- Unavailability of ferry schedules
- Small quotas for trucks 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 ESCAP (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.6. Public and private interests, cross-country cooperation

While public and private interests should ensure 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 trade lanes.

III.7. Conclusions

There were many barriers, especially non-physical, in EATL countries that complicated rail, road and intermodal transport. 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 trade lanes could be difficult to overcome.

Part IV.

The Future of Euro-Asian Transport Links

PART IV. The Future of Euro-Asian Transport Links

As noted in the *Joint Statement on Future Development of Euro-Asian Transport Links*[46] (Geneva, 26 February 2013) adopted 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.[47]

Development of EATL could play a significant role in achieving the Sustainable Development Goals. 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 LLDCs 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, 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 – 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).

(h) Availability of best available technological and environmental standards and best practices for planning and construction of missing links.

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.
   (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 centres 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.
   (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.
   (ii) Slowly developing markets of freight forwarders, cargo integrators, three PL providers and other market players facilitating trade and transport (and lack of legal base for their operation).

(f) Different approach to international coordination and harmonization, in particular:

   (i) Different customs transit regime on 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.
   (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.

(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.

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 United Nations 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 ESCAP 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 the "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 intermodal 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 new commercial sea and dry port Alyat (Azerbaijan), Eurasia Tunnel crossing the Istanbul Straits (Bosporus) undersea, construction of Resht - Astara railway section in Iran (Islamic Republic of), 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 on EATL railway routes (for example in China and in Iran (Islamic Republic of)).

(q) Expansion of CMR consignment note and TIR carnet on 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.

(t) Increasing efforts to advance regional cooperation and integration among EATL countries offering new opportunities to address existing challenges in a coordinated way.

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.

(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 the phase III of the EATL project 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 4.1 lists strengths, weaknesses, opportunities and threats for several issues recognized as important to the development and further operationalization of EATL inland routes such as:

(a) SDG implementation

(b) LLDCs improved access to market

(c) Inland transport and international trade between Europe and Asia

(d) EATL infrastructure

(e) Harmonization and facilitation of procedures on EATL inland routes

(f) Container block trains

(g) Road transport and Euro-Asian connectivity

(h) Universal legal regimes

(i) Railway reforms in certain EATL countries

By grouping strengths, weaknesses, opportunities and threats in such a manner, 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 seaports 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 Limited institutional and human resource capacities in many LLDCs.	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 flexibility for small and medium-sized enterprises in LLDCs to integrate in global supply chains.	Decreasing LLDCs investment potential.
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 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.	Insufficient level of investments in development of transport infrastructure in some 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.	Planned infrastructure projects; Start of the One Belt - One Road (OBOR) 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 programmes and projects by governments of the EATL countries; and Advanced development of railway and logistic infrastructure and dry ports for more efficient container transport.	Preference for raw commodity goods transport vis-à-vis containerized transport.

Table 4.1 Strengths - Weaknesses - Opportunities- Threats (SWOT) matrix for further EATL development (continued)

Issue	SWOT			
	Strengths	Weaknesses	Opportunities	Threats
Harmonization and facilitation of procedures on EATLroutes	Participation of most of EATL countries in key international agreements and United Nations conventions, such as CMR, TIR, Harmonization 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 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).	Continuing low level of implementation in some EATL countries of international programmes and initiatives related to facilitation and harmonization of transport, transit and border crossing procedures.
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 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.	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, 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.	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 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 on 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, 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 on EATLroad routes (road safety issues).	Progressing modernization and upgrade of road transport infrastructure and creation of new road corridors (such as "Europe - West China", China - Mongolia - Russian corridors, SCO routes, BSEC Ring Highway, International Transport Corridor Via-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 (e.g. the SCO Agreement, the 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 (Islamic Republic of), Turkey and European Union and between China and its neighbouring countries; and Increasing involvement of small and medium-sized enterprises in Euro-Asian trade.	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 Increasing traffic and traffic jams in vicinity of major cities along the Euro-Asian road routes.

Table 4.1 Strengths - Weaknesses - Opportunities- Threats (SWOT) matrix for further EATL development (continued)

Issue	SWOT			
	Strengths	Weaknesses	Opportunities	Threats
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 harmonized 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 on EATLrailway routes, and road transport under CMR consignment notes and TIR carnets on EATLroad 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 railway services.	Creation of competitive market of rail transport operations between Europe and Asia.	Potential complication leading to delays in implementation of railways reforms.

Part V.

Conclusions and Recommendations

PART V. Conclusions and Recommendations

In the SWOT matrix, it was relevant to identify the best options and mechanisms for further EATL development by governments, intergovernmental and non-governmental organizations and the business community. These recommendations have been prepared in recognition that the conditions in which transport systems develop differ among countries and regions on 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, intergovernmental and non-governmental organizations, and businesses could undertake 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 intergovernmental organizations

1. Continue the activities within the EATL project in coordination with other similarly focused initiatives (ECE, ESCAP, 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 intergovernmental and non-governmental organizations in the area of EATL, trade, transport and transit facilitation (ECE, ESCAP, 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 programmes.

2. Analyse and disseminate best practices and models in the sphere of international trade and transport (OSCE-UNECE Handbook of Best Practices at Border Crossings – A Trade and Transport Facilitation Perspective, WCO standards, etc.):
   - Studies on transport-logistics competitiveness based on international methodologies.
   - Promote policies that help national businesses, especially small- and medium-sized enterprises, to participate wider in international trade and transport.

- 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 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 programmes 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, programmes 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.
   - 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.

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 non-governmental organizations

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 to promote harmonization of national transport regulations with international standards and best practices along the EATL inland routes.
   - 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 higher):
   - Undertake efforts to build human capacity in the logistics sector (training, educational programmes, international knowledge and experience exchange, etc.).
   - 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 intergovernmental organizations

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 trade lanes.
   - 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.
   - 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).
    - Implement the Shanghai Cooperation Organization'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 ECE and OSCE in their joint handbook; and
    - Implement the WCO standards and best practices in accordance with the Transit Handbook 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.
    - 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.
- 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.
    - 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 non-governmental organizations

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.
    - 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 programmes 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”.
    - 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.
   - 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 trade lanes 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 intergovernmental organizations

1. Eliminate bottlenecks and missing links on the potentially most effective inland transit routes and trade lanes 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.
   - 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.
   - Promote enabling environment to attract foreign direct infrastructure investments.
   - Encourage the PPPs for development of EATL inland routes infrastructure.

3. Coordinate infrastructure programmes and projects using the "system approach" to infrastructure programmes 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 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 seaports coordinated with the development of port hinterland connections and the infrastructural objects located in the hinterland and directly linked to seaports.
   - 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.
- 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.
   - 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 programmes:
   - 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.
   - 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 non-governmental organizations

1. Engage in public-private cooperation and other market-oriented and innovative forms of financing of infrastructure projects 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.
   - 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.
    - Adopt modern and innovative transport systems, including Intelligent Transport Systems (ITS).

Notes and References

Endnotes

1. World Trade Organization (2016) World Trade Statistics Review 2016
(return to in-text reference)

2. United Nations Department of Economic and Social Affairs (2016) World Economic Situation and prospects 2016
(return to in-text reference)

3. Ibidem
(return to in-text reference)

4. ESCAP (2016) Asia-Pacific Trade and Investment Report 2016. Recent Trends and Developments
(return to in-text reference)

5. www.mfa.gov.tr/prospects-and-recent-developments-in-the-turkish-economy.en.mfa
(return to in-text reference)

6. Annual TSR Digest 2016. Coordinating Council on Trans-Siberian Transportation International Association, 2017
(return to in-text reference)

7. World Trade Organization (2015) International Trade Statistics
(return to in-text reference)

8. CCTT (2016) Annual TSR Digest
(return to in-text reference)

9. UPS (2016) Pulse of the Online Shopper
(return to in-text reference)

10. UNCTAD Maritime transport reviews:
http://ec.europa.eu/eurostat/web/transport/data/database,
www.uic.org,
www.iata.org/publications/economics/Pages/industry-performance.aspx,
www.containerstatistics.com
(return to in-text reference)

11. Danish Ship Finance (2016). Shipping market review. Available at:
www.shipfinance.dk/en/shippingresearch/~/media/PUBLIKATIONER/Shipping-Market-Review/Shipping-Market-Review---May-2016.ashx
(return to in-text reference)

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
(return to in-text reference)

13. Clarksons Research (2016). Dry Bulk Trade Outlook
(return to in-text reference)

14. Clarksons Research (2016). Dry Bulk Trade Outlook
(return to in-text reference)

15. The alliances 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.
(return to in-text reference)

16. King M. (2016). Alliances to cut port calls to reduce transit times. Lloyd’s Loading List. 7 June 2016
(return to in-text reference)

17. Davidson N. (2016) Juggling bigger ships, mega-alliances and slower growth. Presented at the Terminal Operations Conference Europe. Hamburg, Germany
(return to in-text reference)

18. Clarksons Research (2016). Container Intelligence Quarterly. First quarter
(return to in-text reference)

19. Consisting of Armenia, Belarus, Kazakhstan, Kyrgyzstan and the Russian Federation.
(return to in-text reference)

20. Capital of the Chinese province of Sichuan.
(return to in-text reference)

21. IRU (2016) An analysis of international road transport permit systems in Eurasia: current practices and prospects
(return to in-text reference)

22. World Bank (2013) Quantitative Analysis of Road Transport Agreements (QuARTA)
(return to in-text reference)

23. Boeing (2016) World Air Cargo Forecast 2016–2017
(return to in-text reference)

24. UNCTAD (2016) Review of Maritime Transport
(return to in-text reference)

25. Asian Development Bank (2017) Unlocking the Potential of railways. A Railway Strategy for CAREC, 2017-2030
(return to in-text reference)

26. https://www.unescap.org/ttdw/common/Meetings/dry_ports/Dry-ports-Busan2013/E69-7-Resolution-on%20Dry-Ports.pdf
(return to in-text reference)

27. https://www.tmleuven.be/en/navigation/world-container-model
(return to in-text reference)

28. Explanatory note: “++” implies that inland transport is both faster and cheaper while “0” means that the comparison was inconclusive.
(return to in-text reference)

29. Such stocks refer to goods that have left a company’s warehouse but have not yet been purchased and/or delivered but instead still within the firm’s distribution chain.
(return to in-text reference)

30. A strategic network choice model for global container flows: specification, estimation and application, Lóránt Tavasszy, Michiel Minderhoud, Jean-François Perrin, Theo Notteboom, Journal of Transport Geography, Volume 19, Issue 6, November 2011, Pages 1163–1172
(return to in-text reference)

31. Retrack – Reorganization of Transport Networks by advanced Rail freight Concepts: www.retrack.eu
(return to in-text reference)

32. Ministry of Transportation of Iran (Islamid Republic of)
(return to in-text reference)

33. Previously the Project Working Group on Transport and Border Crossing
(return to in-text reference)

34. http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/site/maps_upload/annexes/annex3/Annex%20III%20-%20VOL%2032.pdf
(return to in-text reference)

35. https://ec.europa.eu/transport/themes/international/european_neighbourhood_policy/eastern_partnership/transport-panel_en
(return to in-text reference)

36. ADB (2016) CAREC 2020 Midterm Review
(return to in-text reference)

37. IRU (2017) Going Global. Annual Report 2016
(return to in-text reference)

38. Draft ITC Resolution No. 263 on Unified Railway Law. ECE/TRANS/2016/17
(return to in-text reference)

39. www.railwaygazette.com/news/policy/single-view/view/ukrainian-railways-plans-five-year-investment-programme.html
(return to in-text reference)

40. http://www.icesi.edu.co/blogs/supplychain0714/files/2014/07/Martin_Christopher_Logistics_and_Supply_Chain_Management_4th_Edition____2011-1.pdf
(return to in-text reference)

41. ECE (2000) Report of the Informal Meeting on Rail Transport. TRANS/SC.2/2000/18
(return to in-text reference)

42. ECE (2015) Identification of cargo flows on the Euro-Asian transport links. Informal doc. WP.5/GE.2 (2015) No. 1
(return to in-text reference)

43. IRU (2016) An analysis of international road transport permit systems in Eurasia: current practices and prospects
(return to in-text reference)

44. UN Global Compact (2014) GLOBAL ANTI-CORRUPTION INITIATIVE. Cases of Bribery and Extortion along Major Transport Corridors and their Impact on Sustainable Transport Development
(return to in-text reference)

45. NEA (2009) NELTI Final Report. Analysis of monitoring data collected on NELTI Project Routes in 2008-2009
(return to in-text reference)

46. Available from:
https://www.unece.org/fileadmin/DAM/trans/doc/2013/itc/Joint_Declaration_on_EATL.pdf
(return to in-text reference)

47. ECE. Joint Statement on Future Development of Euro-Asian Transport Links, 26 February 2013. Available from:
www.ECE.org/fileadmin/DAM/trans/doc/2013/itc/Joint_Declaration_on_EATL.pdf
(return to in-text reference)

References

1. Asian Development Bank. Afghanistan Transport Sector Master Plan Update (2017–2036). 2017. Publication Stock No. TCS178667-2
2. Asian Development Bank. Central Asia Regional Economic Cooperation Corridor Performance Measurement and Monitoring. A Forward-Looking Retrospective. 2014. Publication Stock No. RPT146534-2
3. Asian Development Bank. From Landlocked to Linked-In. 2015
4. Boeing Corp. World Air Cargo Forecast 2016–2017. Seattle, 2016
5. Central Asia Regional Economic Cooperation Program. CAREC 2020: Midterm Review. 2016
6. Central Asia Regional Economic Cooperation Program. CAREC CPMM Corridor Performance Measurement and Monitoring Annual Report 2013. 2015
7. Central Asia Regional Economic Cooperation Program. CAREC CPMM Corridor Performance Measurement and Monitoring. Annual Report 2016. 2018
8. Central Asia Regional Economic Cooperation Program. Operationalizing Economic Corridors in Central Asia. A Case Study of the Almaty–Bishkek Corridor. 2014. Publication Stock No. RPT157061-3
9. Centre for Economic and Financial Research at the New Economic School. Evaluation of the transit potential of the Russian Federation in respect to goods flows between Asia and the European Union (CEFIR Study). Moscow, 2013
10. Coordinating Council on Trans-Siberian Transportation International Association. TSR Digest 2015
11. Coordinating Council on Trans-Siberian Transportation International Association. TSR Digest 2016
12. Eurasian Economic Commission. Transport and Infrastructure in the Eurasian Economic Union. Moscow, 2017
13. European Parliament. The Evolving Role of EU Seaports in Global Maritime Logistics – Capacities, Challenges and strategies. Study. 2009.
14. Hong Yu. Railway Sector Reform in China: controversy and problems. Journal of Contemporary China. Volume 24. Issue 96, 2015
15. Hubay Government. China-Europe (Wuhan) freight trains take the lead, 6 January 2018
16. Intergovernmental Organisation for Inter-National Carriage by Rail. Work on the unification of Euro-Asian rail freight transport law. OTIF 25th Session. Point of information, 29 April 2014
17. John Arnold. Best Practices in Corridor Management. Washington, D.C: World Bank, 2005
18. Kunaka, Charles, and Robin Carruthers. Trade and Transport Corridor Management Toolkit. Washington, D.C: World Bank, 2014
19. Linn, Johannes. Central Asian Regional Integration and Cooperation: Reality or Mirage? Eurasian Integration Yearbook 2012. Eurasian Development Bank. 2012 pp. 96–117.
20. Lóránt Tavasszy, Michiel Minderhoud, Jean-François Perrin, Theo Notteboom. A strategic network choice model for global container flows: specification, estimation and application. Journal of Transport Geography, Volume 19, Issue 6. November 2011. Pp. 1163–1172

21. Miroslav N. Jovanović, Jelena Damnjanović and Jovan Njegić. Euro-Asian overland transport links: prospects and challenges. Chapter 21 in Handbook of International Trade and Transportation. Edited by Bruce A. Blonigen and Wesley W. Wilson. Northampton, Massachusetts, 2018

22. New Eurasian Land Transport Initiative (NELTI). Final Report: Analysis of Monitoring Data Collected on NELTI Project Routes in 2008-2009. Undertaken by NEA Transport Research Institute (Netherlands) in cooperation with the IRU. Zoetermeer, 2009

23. New Eurasian Land Transport Initiative (NELTI). Final Report: Road Map. Undertaken by NEA Transport Research Institute (Netherlands) in cooperation with the IRU. Zoetermeer, 2011

24. Organisation for Cooperation between Railways. OSJD Report on the activities in 2015. Warsaw, 2016

25. Organisation for Cooperation between Railways. OSJD Report on the activities in 2016. Warsaw, 2017

26. Rastogi, Cordula, and Jean-François Arvis. The Eurasian Connection: Supply-Chain Efficiency along the Modern Silk Route through Central Asia. Directions in Development. Washington, D.C: World Bank, 2014

27. Saroj Kumar Jha, Regional Country Director for Central Asia, Word Bank. Maximizing the Benefits of WTO Membership and Global Economic Integration. Presentation at Third China Round Table on WTO Accession. Dushanbe, Tajikistan, June 2-4, 2015

28. TRACECA Project. Harmonization of Border Crossing Procedures, Recommendation of Border Harmonization Evaluation Workshop, cited in UNESCAP Transit Transport Issues in Landlocked and Developing Transit Countries. Landlocked Developing Countries Series No1. New York, 2003. p. 35

29. United Nations Conference on Trade and Development. *Review of Maritime Transport 2017*. Sales No. E.17.II.D.10.

30. United Nations Conference on Trade and Development. *Trade and Development Report 2017*: Beyond austerity: Towards a global new deal. Sales No. E.17.II.D.5.

31. United Nations Conference on Trade and Development. *Transport and Trade Facilitation. Series 8*. UNCTAD/DTL/TLB/2017/3

32. United Nations Economic and Social Commission for Asia and Pacific. Asia-Pacific. Trade and Investment Report 2017: Channeling Trade and Investment into Sustainable Development. Sales No. E.17.II.F.22

33. United Nations Economic and Social Commission for Asia and Pacific. Asia-Pacific. Unlocking the Potential for East and North-East Asian Regional Economic Cooperation and Integration. 2016. Sales No. E.16.II.F.3

34. United Nations Economic and Social Commission for Asia and Pacific. Asia-Pacific. Review of Developments in Transport in Asia And the Pacific 2015: Transport for Sustainable Development and Regional Connectivity. ST/ESCAP/2746

35. United Nations Economic and Social Commission for Asia and Pacific. Asia-Pacific. Studies in Trade and Investment 84. Reducing trade costs in Asia-Pacific developing countries. 2015. ST/ESCAP/2741

36. United Nations Economic and Social Commission for Asia and Pacific. *Statistical Yearbook for Asia and the Pacific 2017: Measuring SDG progress in Asia and the Pacific: Is there enough data?* Sales No. E.18.II.F.6

37. United Nations *Economic and Social Commission for Asia and Pacific. Economic and Social Survey of Asia and the Pacific 2017: Governance and Fiscal Management*. Sales No. E.17.II.F.8

38. United Nations Economic and Social Commission for Asia and Pacific. *Review of Developments in Transport in Asia and the Pacific 2017: Transport for Sustainable Development and Regional Connectivity*. Sales No. E.18.II.F.6

39. United Nations Economic Commission for Europe. 2017 Inland Transport Statistics for Europe and North America. Volume LIX. ECE/TRANS/260

40. United Nations Economic Commission for Europe. 2018 Inland Transport Statistics for Europe and North America. Volume LIX. ECE/TRANS/280

41. United Nations Economic Commission for Europe. Euro-Asian Transport Linkages: Paving the Way for a More Efficient Euro-Asian Transport. Expert Group Report 2012. Phase II. ECE/TRANS/230

42. United Nations Economic Commission for Europe. Euro-Asian transport: maritime ports - challenges and opportunities. Note by the secretariat of the Working Party on Transport Trends and Economics. 30 January 2015. Informal document WP.5/GE.2 (2015) No. 1

43. United Nations Economic Commission for Europe. Identification of cargo flows on the Euro-Asian transport links. Transmitted by the Organization for Security and Co-operation in Europe (OSCE). 4 June 2015. Informal document WP.5/GE.2 (2015) No. 1

44. United Nations Economic Commission for Europe. Information from participants on recent developments in transport infrastructure priority projects on EATL routes. Submitted by the Hellenic Institute of Transport. 2 February 2015. Informal document WP.5/GE.2 (2015) No. 2

45. United Nations Economic Commission for Europe. Information on container trains operating with regular itineraries between Europe and Asia. Transmitted by the Organization for Cooperation between Railways (OSJD). 17 May 2016. Informal document WP.5/GE.2 (2015) No. 3/Rev.1

46. United Nations Economic Commission for Europe. Intermodal Transport and Logistics activities contributing to the Sustainable Development Agenda. Note by the Secretariat. 8 December 2016. ECE/TRANS/2017/19

47. United Nations Economic Commission for Europe. Joint Declaration on the promotion of Euro-Asian rail transport and activities towards unified railway law. Signed in Geneva, on 26 February 2013

48. United Nations Economic Commission for Europe. Joint Statement on Future Development of Euro-Asian Transport Links. Signed in Geneva, on 26 February 2013

49. United Nations Economic Commission for Europe. Railway Reform in the ECE region. ECE/TRANS/261

50. United Nations Economic Commission for Europe. Report on Phase III of the Euro-Asian Transport Links Project. Note by the Secretariat. 7 December 2017. ECE/TRANS/2018/9

51. United Nations Economic Commission for Europe. TEM Project Strategic Plan 2017 – 2021. ECE/TRANS/NONE/2017/7

52. United Nations Economic Commission for Europe. Towards unified railway law in the pan-European region and along Euro-Asian transport: Identification of an appropriate management system for unified railway law. Note by the Secretariat. 15 December 2015. ECE/TRANS/2016/16

53. United Nations Economic Commission for Europe. Transport for Sustainable Development. The Case of Inland Transport. Sales No. E.15.II.E.12

54. United Nations Economic Commission for Europe. Work Plan and Terms of Reference of the UNECE Group of Experts on Euro-Asian Transport Linkages (EATL). Note by the secretariat of the Working Party on Transport Trends and Economics. 1 July 2013. ECE/TRANS/WP.5/GE.2/2013/1

55. United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States. The Development Economics of Landlockedness: Understanding the development costs of being landlocked. New York. 2013

56. Vinokurov E. Corridors of the Silk Road Economic Belt across the Eurasian Economic Union: Preliminary Estimates for Transportation Capacity and Investment Needs. Working paper of Centre for Integration Studies, Eurasian Development Bank. 28 April 2016

57. Vinokurov E. Eurasian Economic Union: Current State and Preliminary Results. Russian Journal of Economics, 3 (1), 2017. pp. 54–70.

58. World Bank. Quantitative Analysis of Road Transport Agreements (QuARTA). A World Bank Study. Washington. 2013

59. World Bank. Railway Reform in South East Europe and Turkey: On the Right Track. March 2011. Report No. 60223-ECA

60. Zaboev A., Baybikova E. Development Prospects for the Rail Market of the Single Economic Space. Review No. 20 of the Eurasian Development Bank. Almaty, 2013

Annex

Trade Flows Between Europe and Asia

HS 01. Live animals

Figure A01 - Volume of trade 2011–2015, Billions United States Dollars

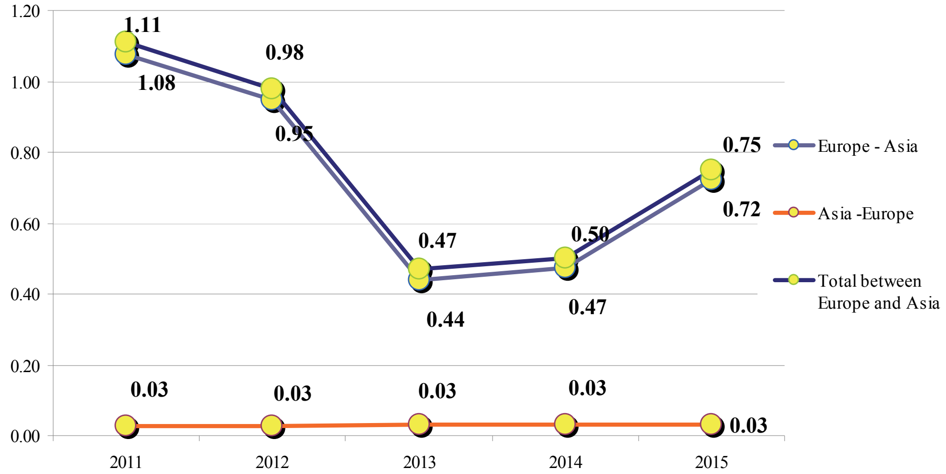


Figure A02 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

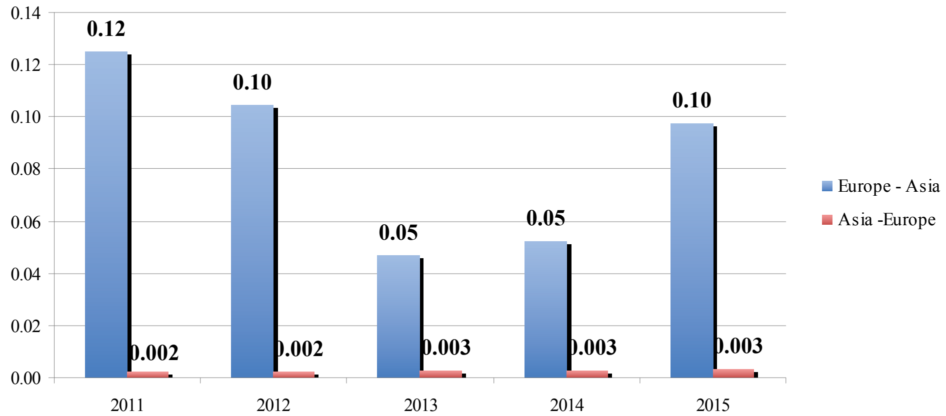
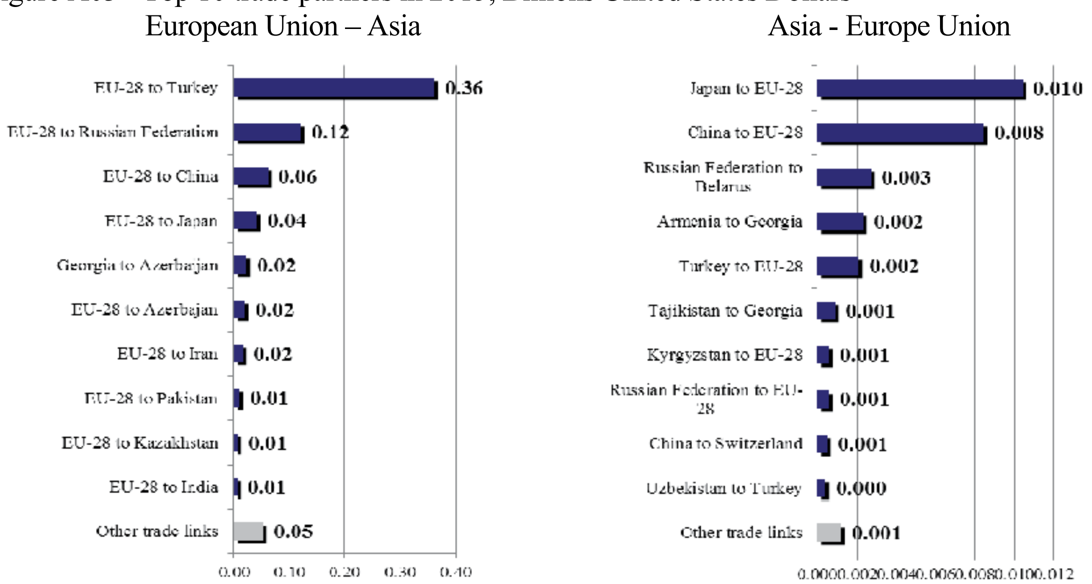


Figure A03 - Top 10 trade partners in 2015, Billions United States Dollars



HS 02. Meat and edible meat offal

Figure A04 - Volume of trade 2011–2015, Billions United States Dollars

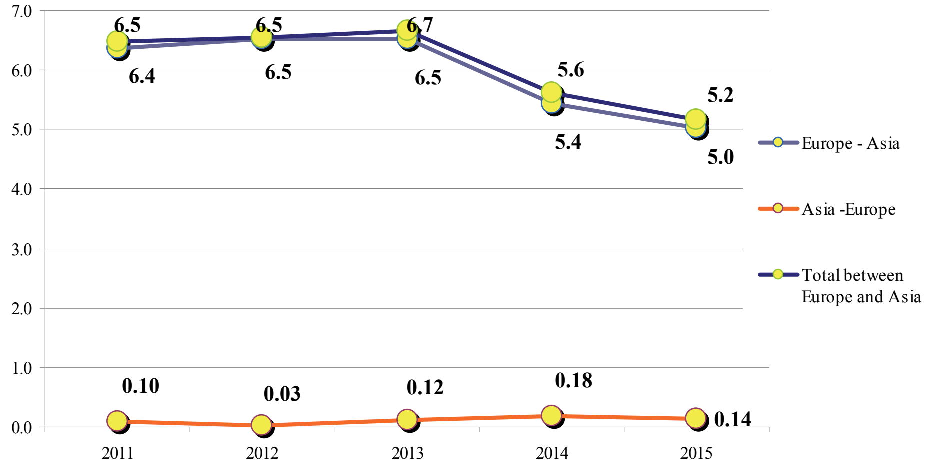


Figure A05 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

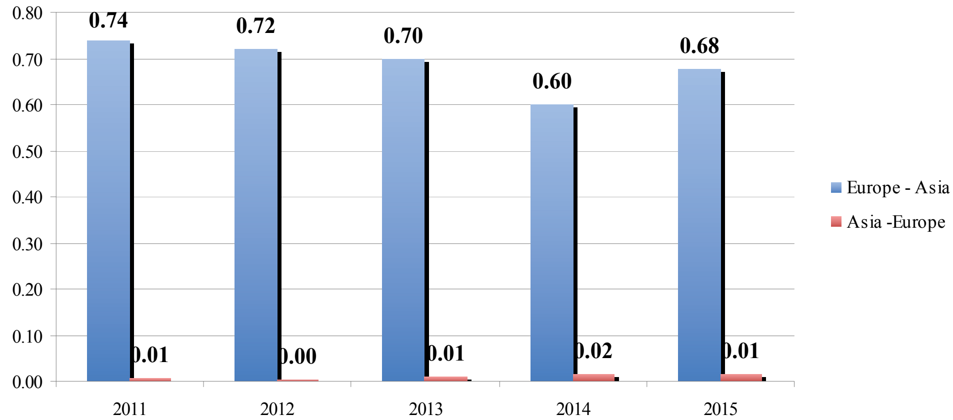
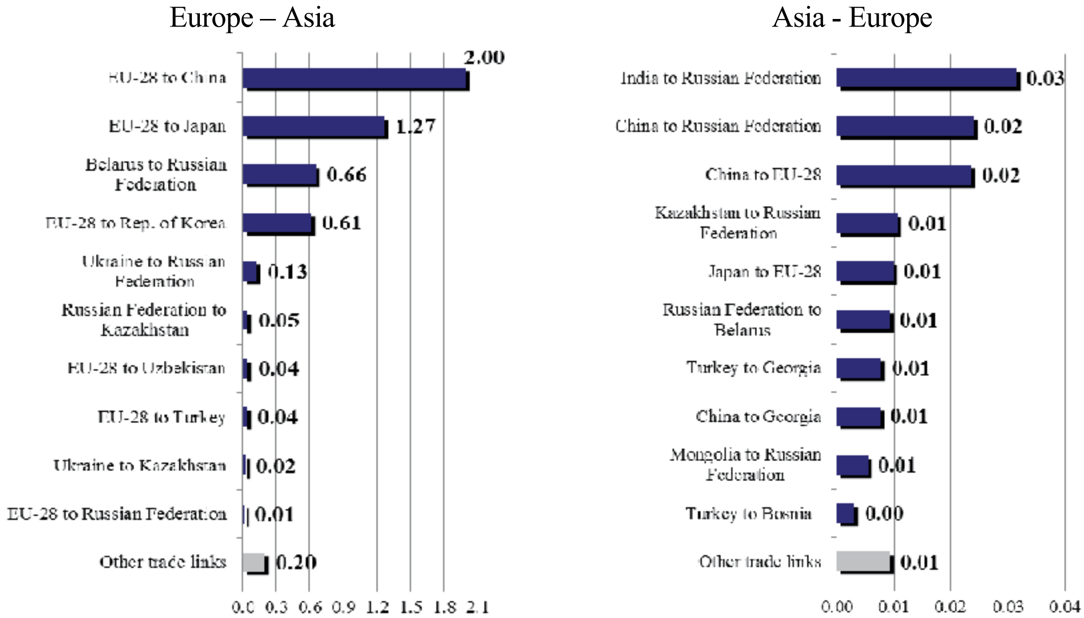


Figure A06 - Top 10 trade partners in 2015, Billions United States Dollars



HS 03. Fish and crustaceans, molluscs and other aquatic invertebrates

Figure A07 - Volume of trade 2011–2015, Billions United States Dollars

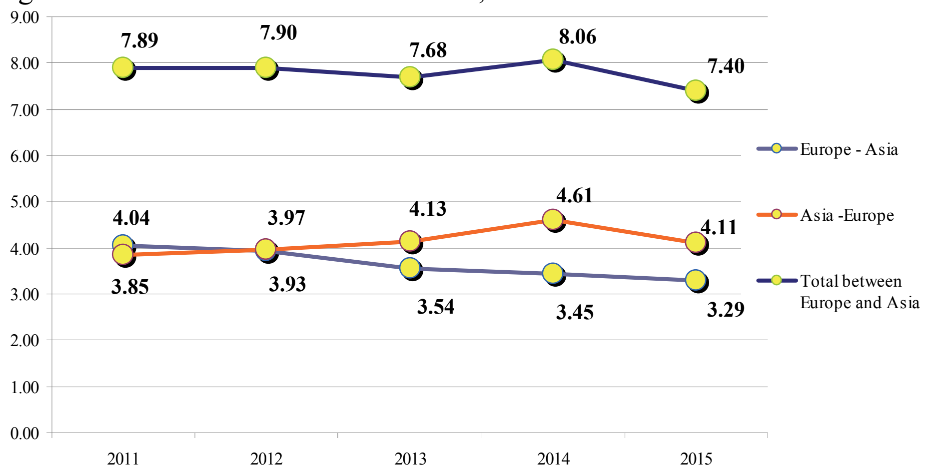


Figure A08 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

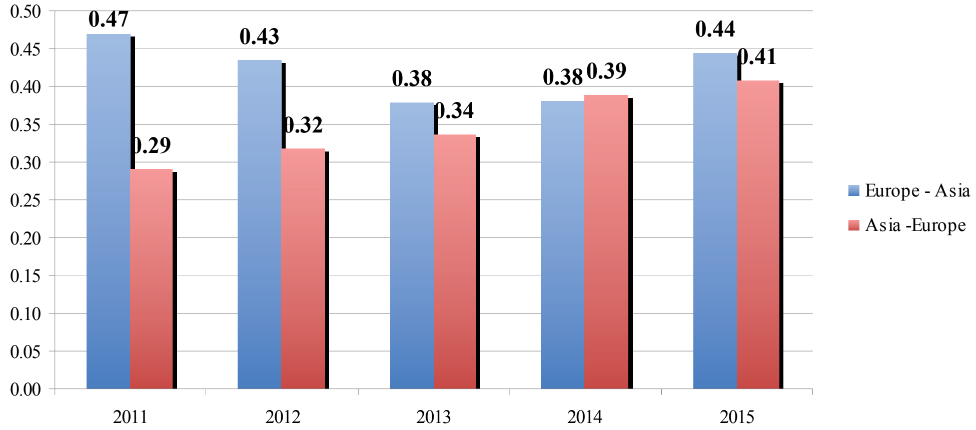
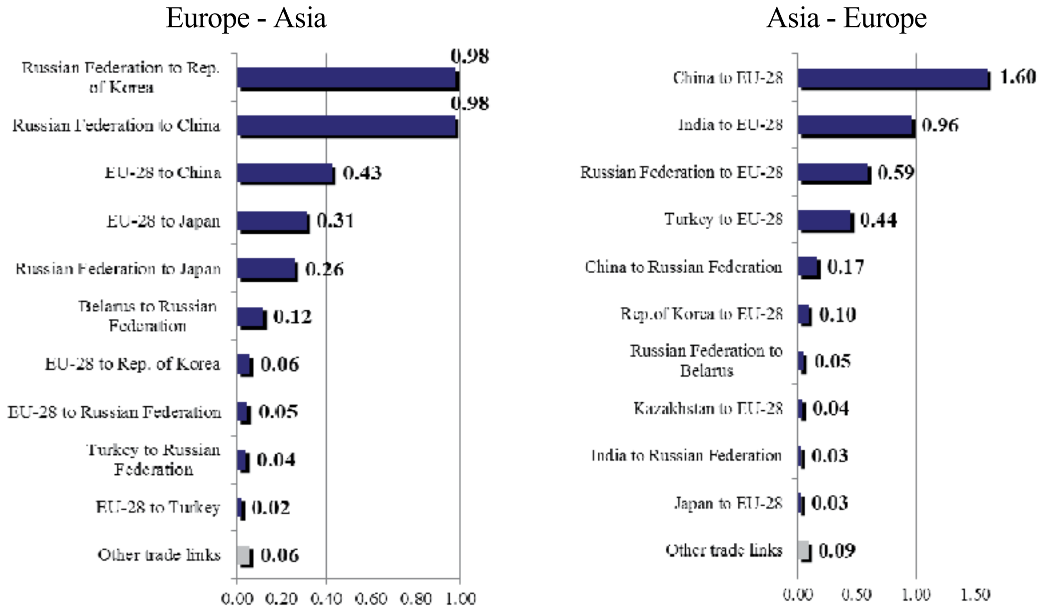


Figure A09 - Top 10 trade partners in 2015, Billions United States Dollars



HS 04. Dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere specified or included

Figure A10 - Volume of trade 2011–2015, Billions United States Dollars

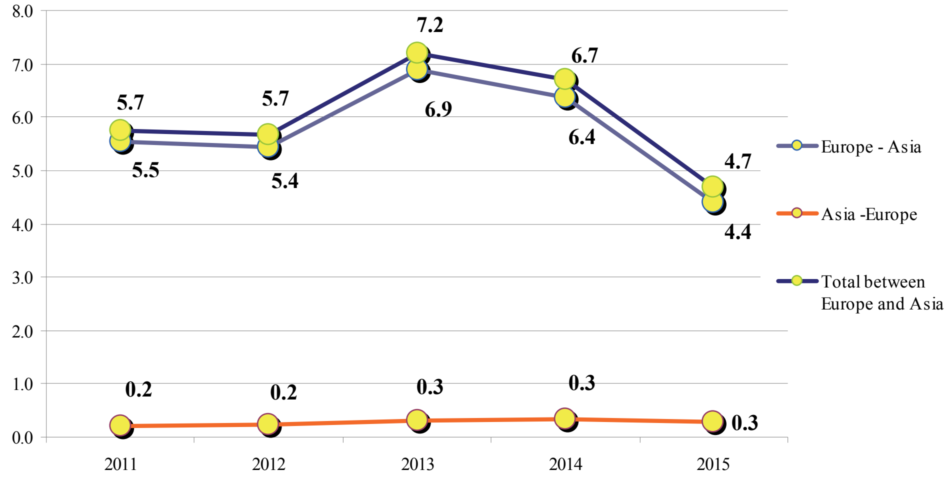


Figure A11 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

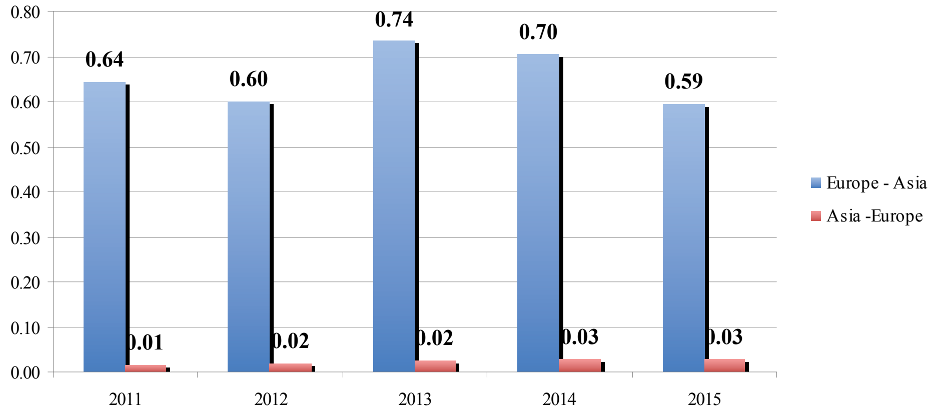
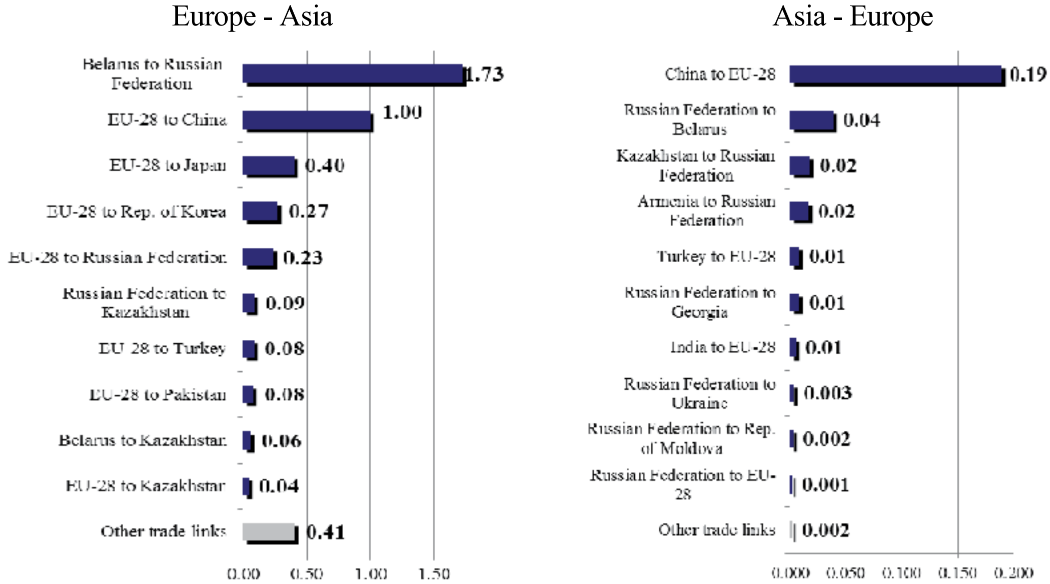


Figure A12 - Top 10 trade partners in 2015, Billions United States Dollars



HS 05. Animal originated products; not elsewhere specified or included

Figure A13 - Volume of trade 2011–2015, Billions United States Dollars

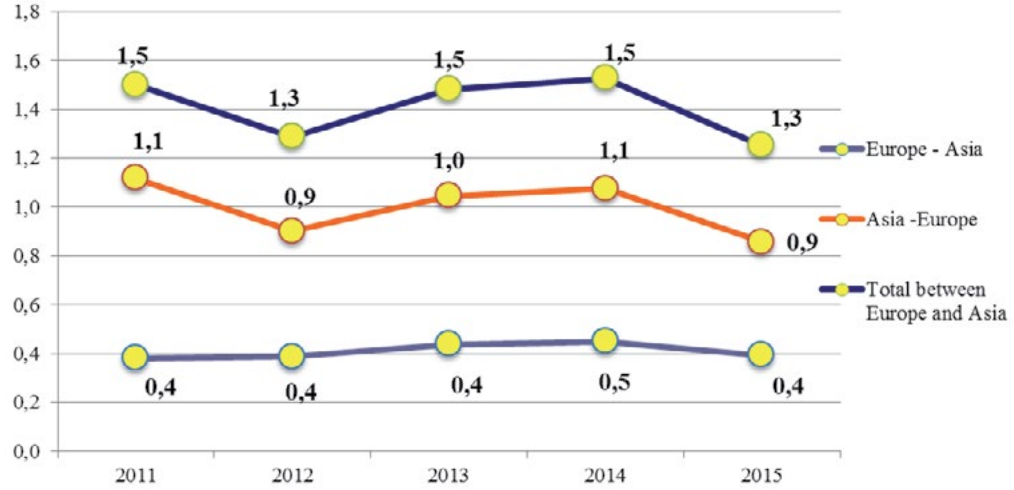


Figure A14 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

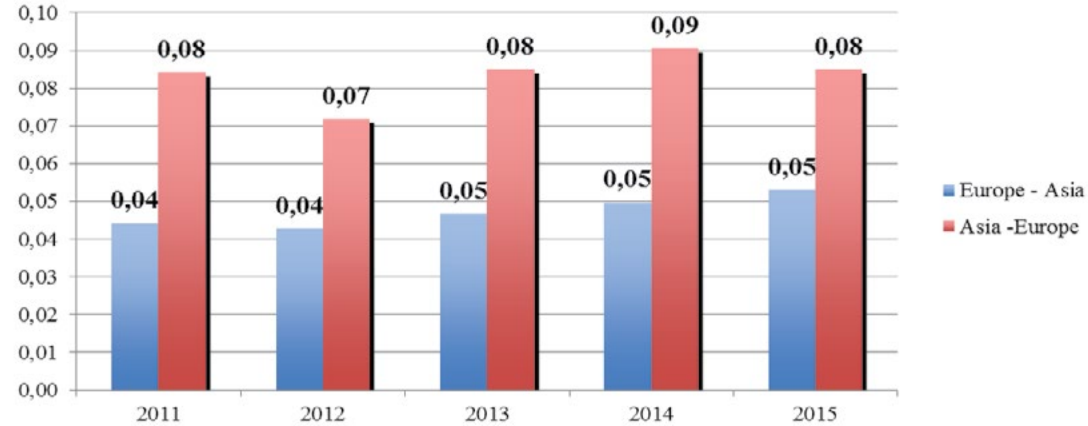
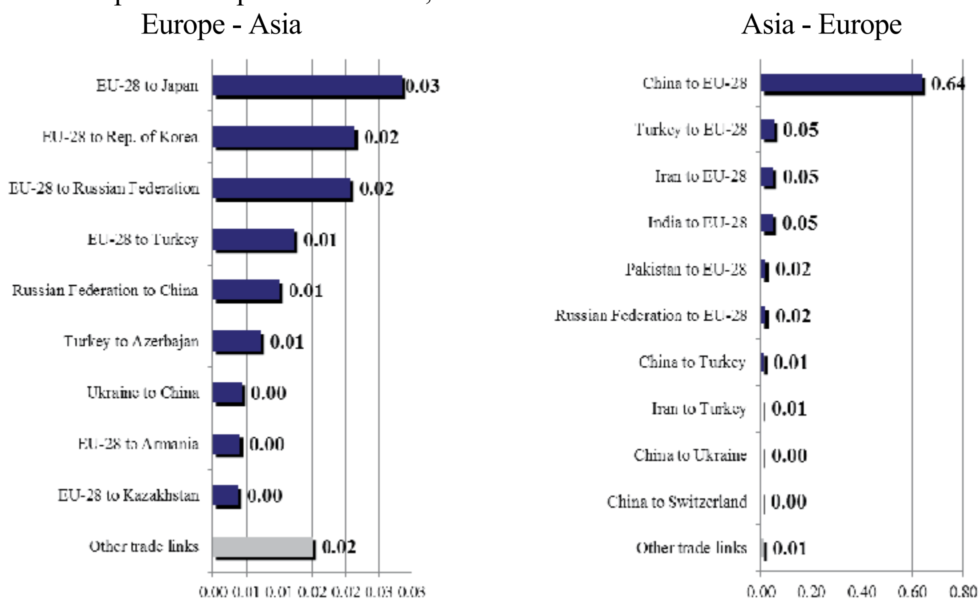


Figure A15 - Top 10 trade partners in 2015, Billions United States Dollars



HS 06. Trees and other plants, live; bulbs, roots and the like; cut flowers and ornamental foliage

Figure A16 - Volume of trade 2011–2015, Billions United States Dollars

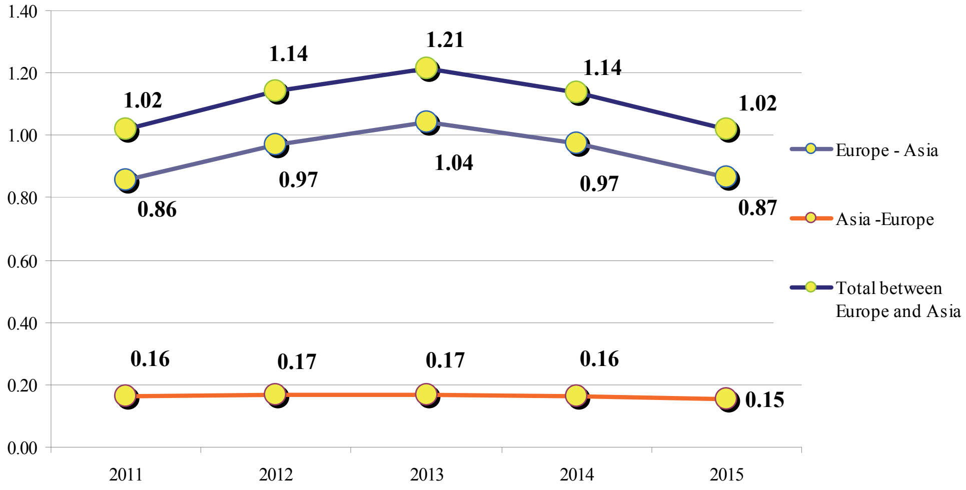


Figure A17 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

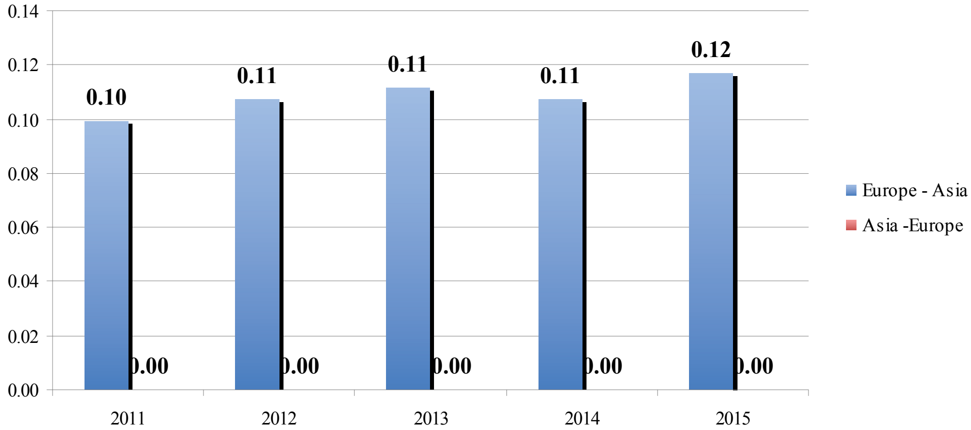
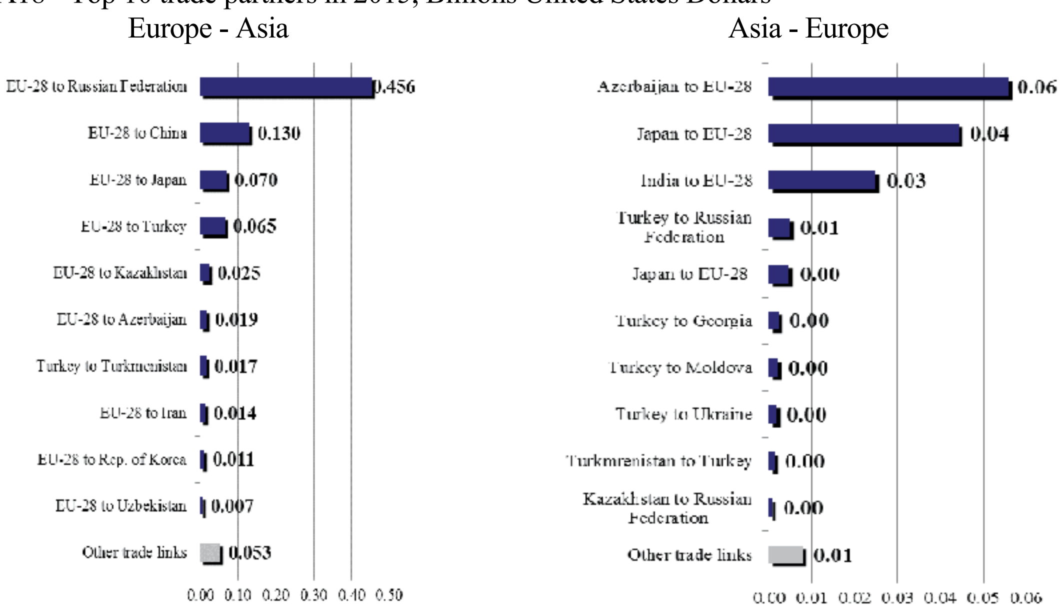


Figure A18 - Top 10 trade partners in 2015, Billions United States Dollars



HS 07. Vegetables and certain roots and tubers; edible

Figure A19 - Volume of trade 2011–2015, Billions United States Dollars

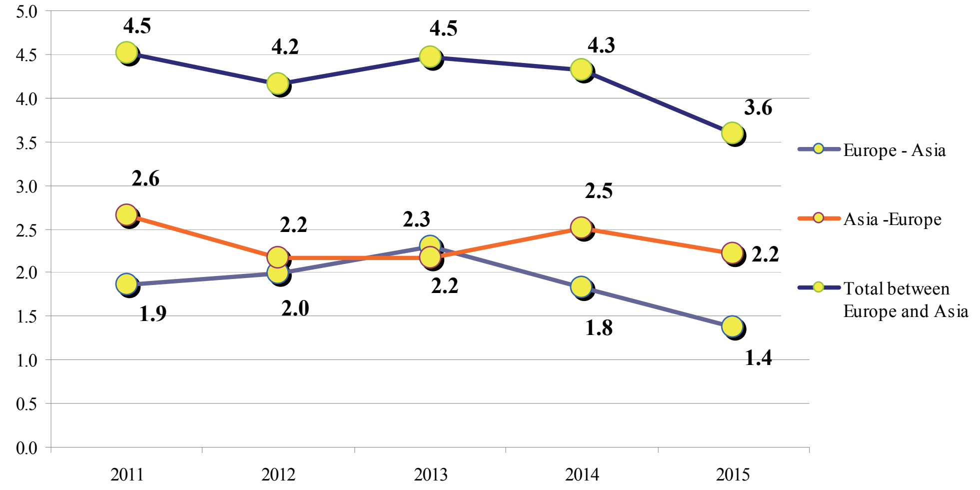


Figure A20 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

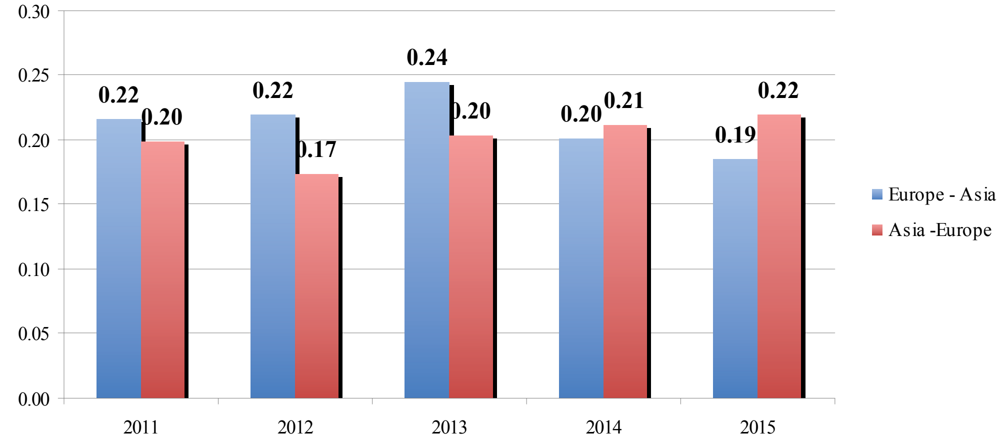
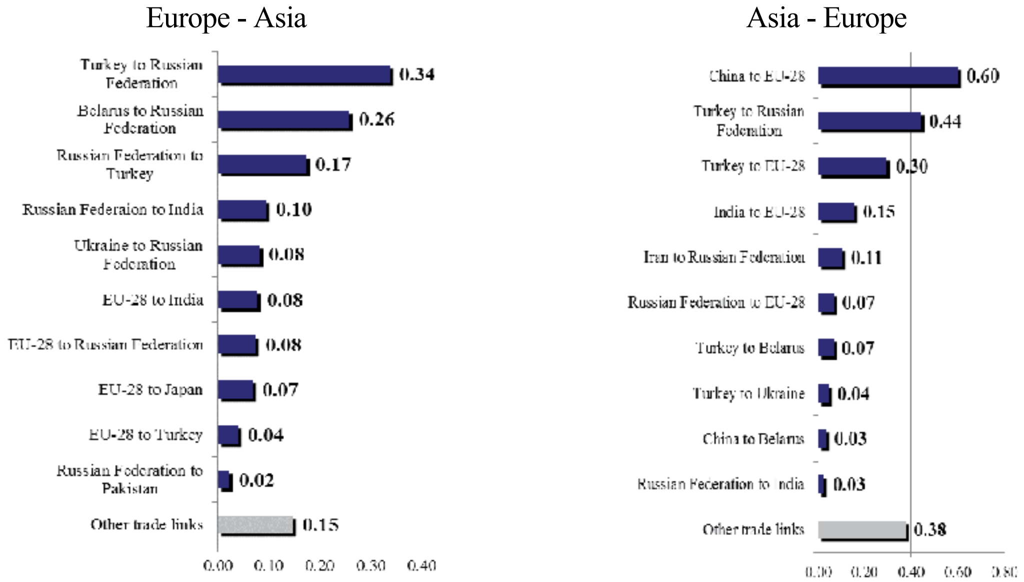


Figure A21 - Top 10 trade partners in 2015, Billions United States Dollars



HS 08. Fruit and nuts, edible; peel of citrus fruit or melons

Figure A22 - Volume of trade 2011–2015, Billions United States Dollars

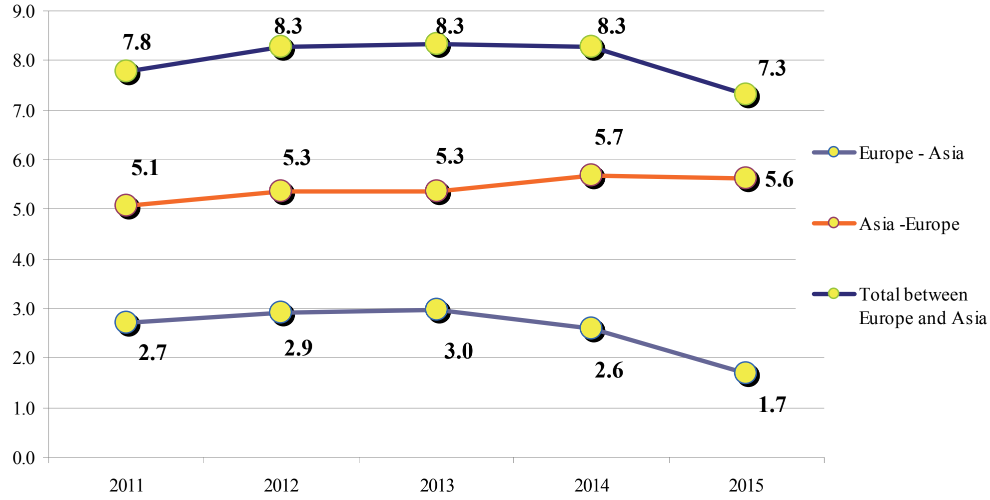


Figure A23 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

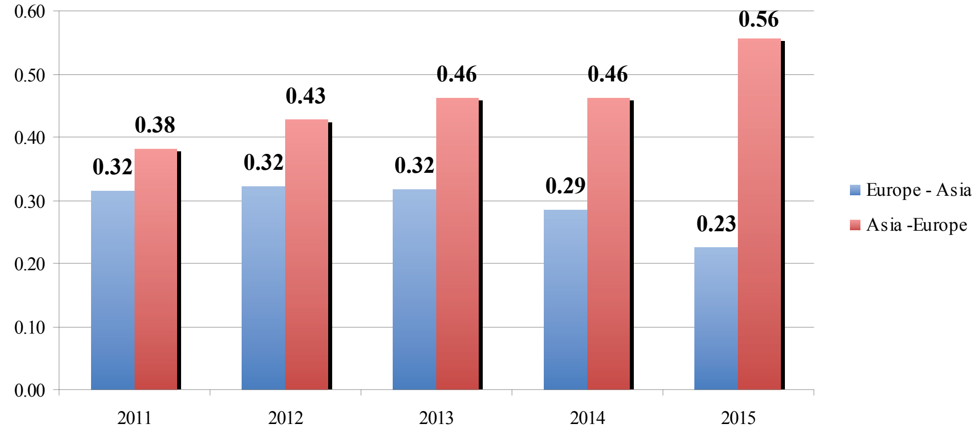
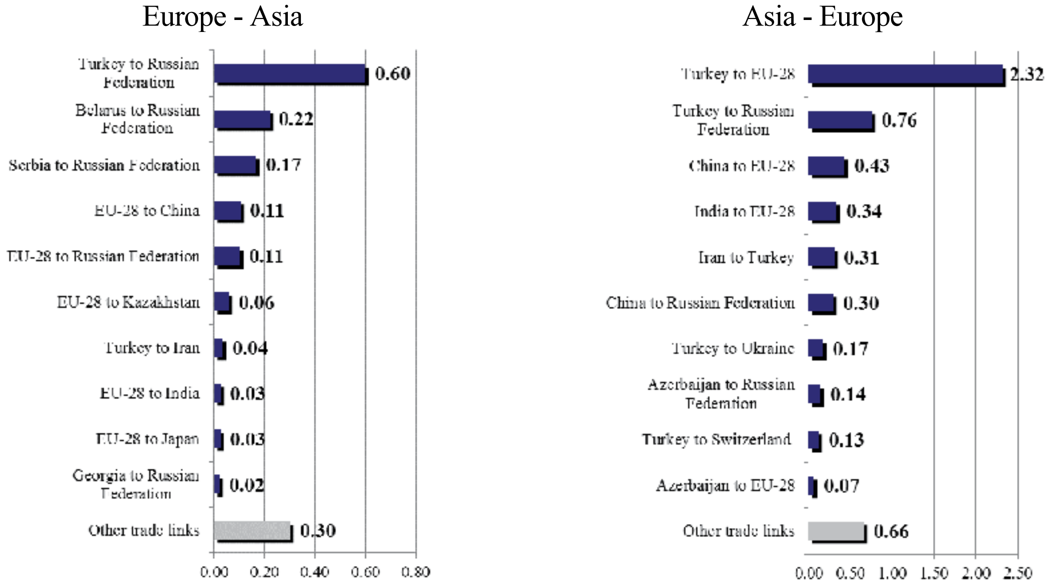


Figure A24 - Top 10 trade partners in 2015, Billions United States Dollars



HS 09. Coffee, tea, mate and spices

Figure A25 - Volume of trade 2011–2015, Billions United States Dollars

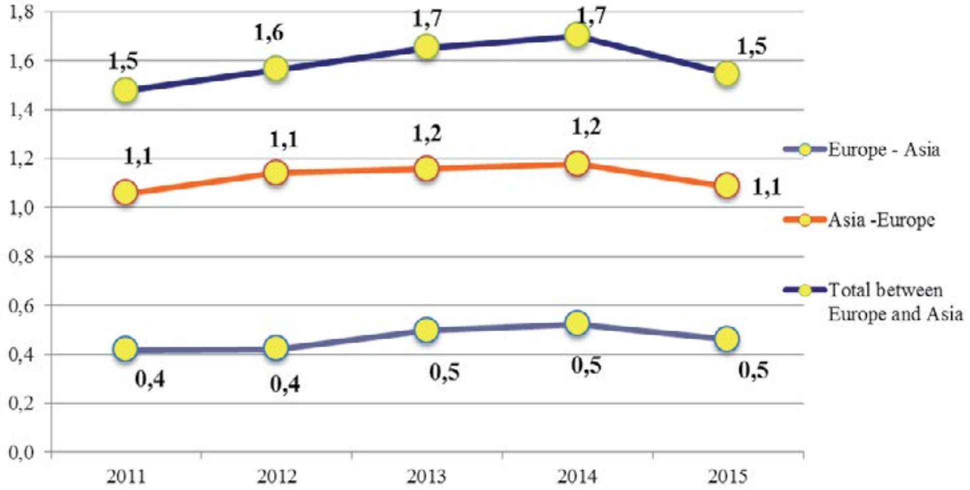


Figure A26 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

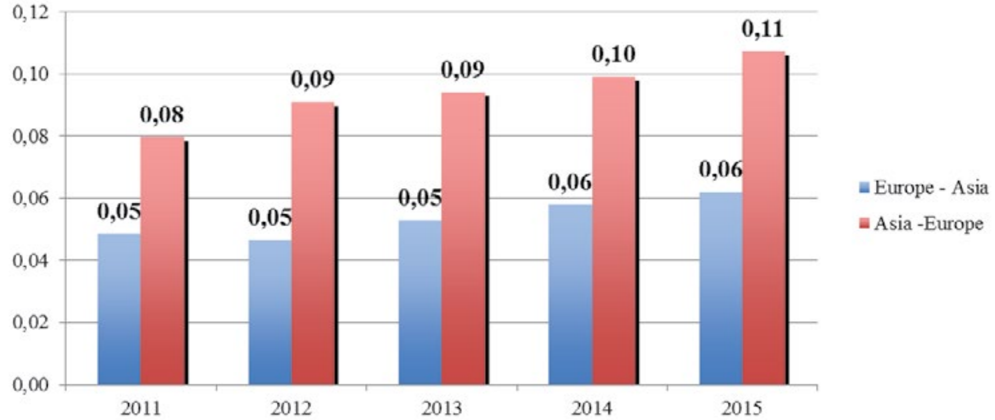
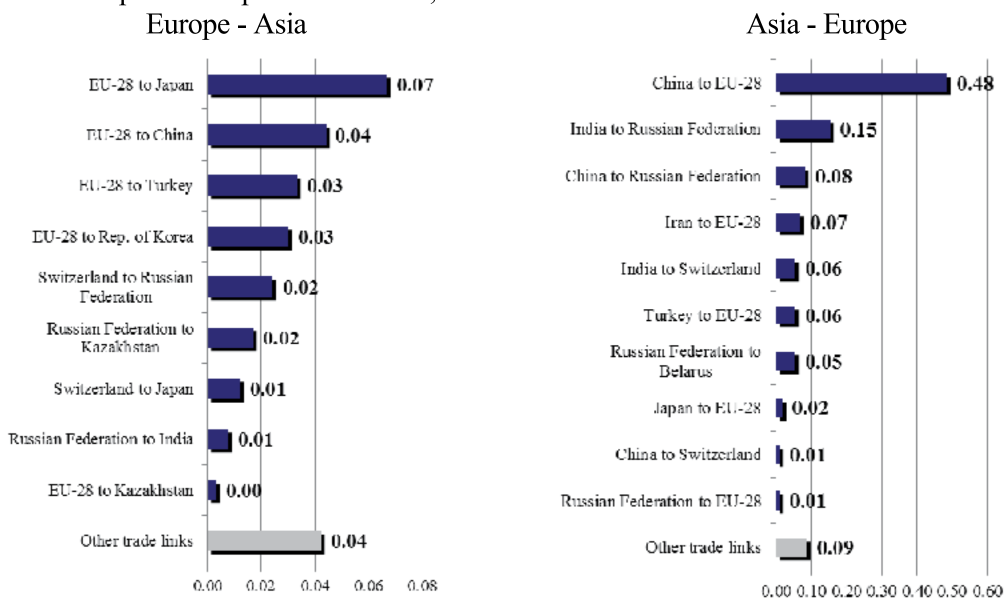


Figure A27 - Top 10 trade partners in 2015, Billions United States Dollars



HS 10. Cereals

Figure A28 - Volume of trade 2011–2015, Billions United States Dollars

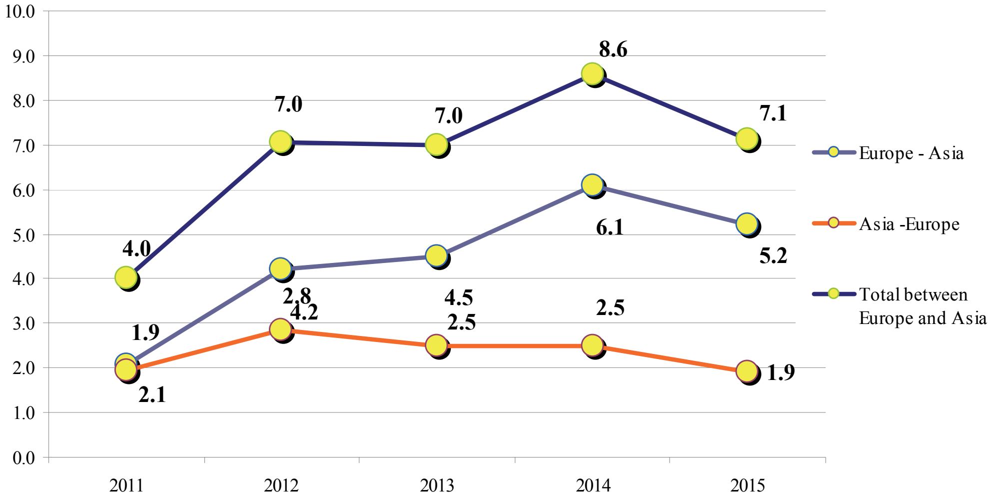


Figure A29 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

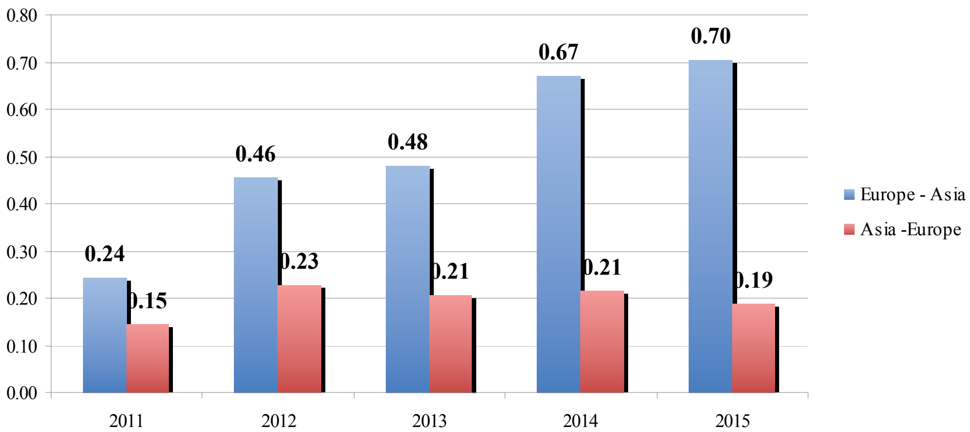
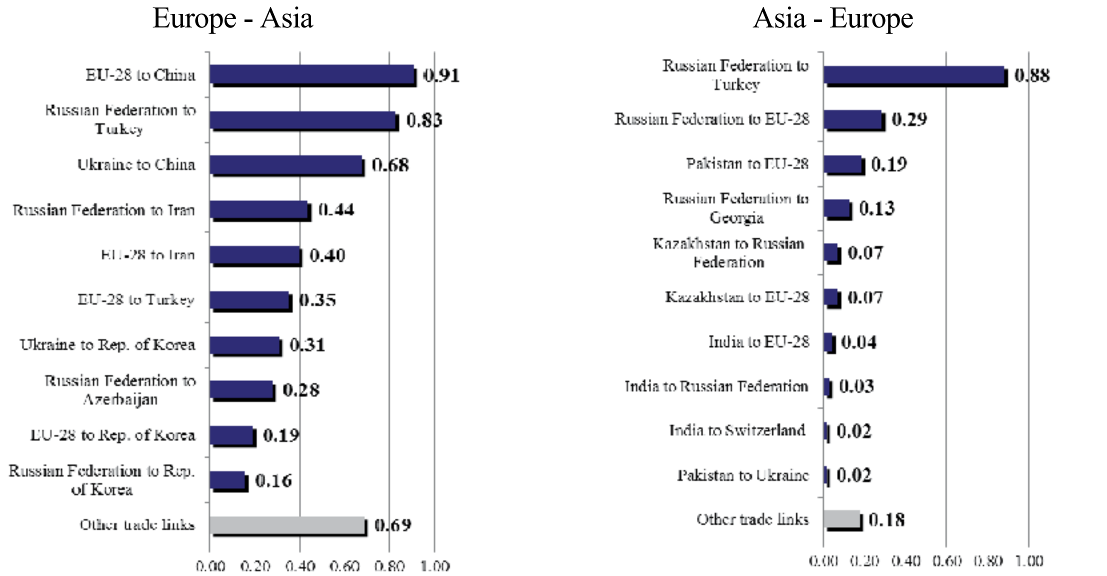


Figure A30 - Top 10 trade partners in 2015, Billions United States Dollars



HS 11. Products of the milling industry; malt, starches, inulin, wheat gluten

Figure A31 - Volume of trade 2011–2015, Billions United States Dollars

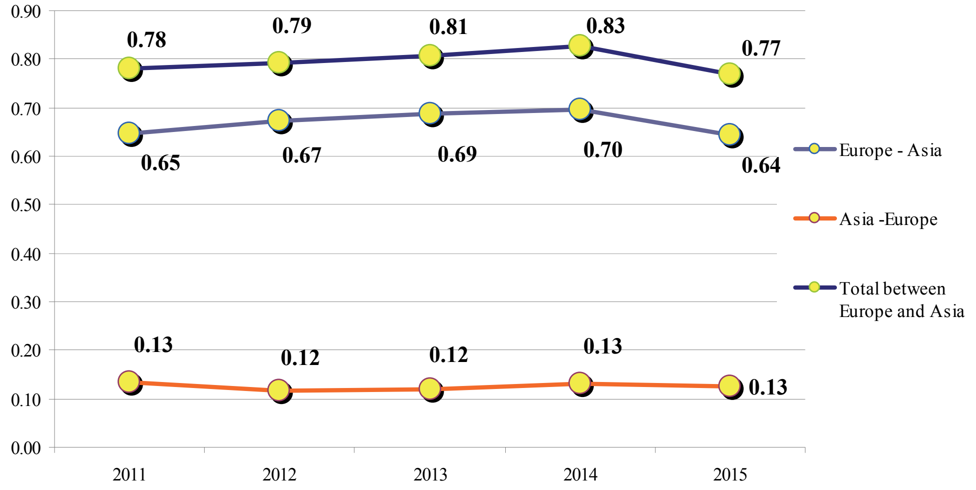


Figure A32 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

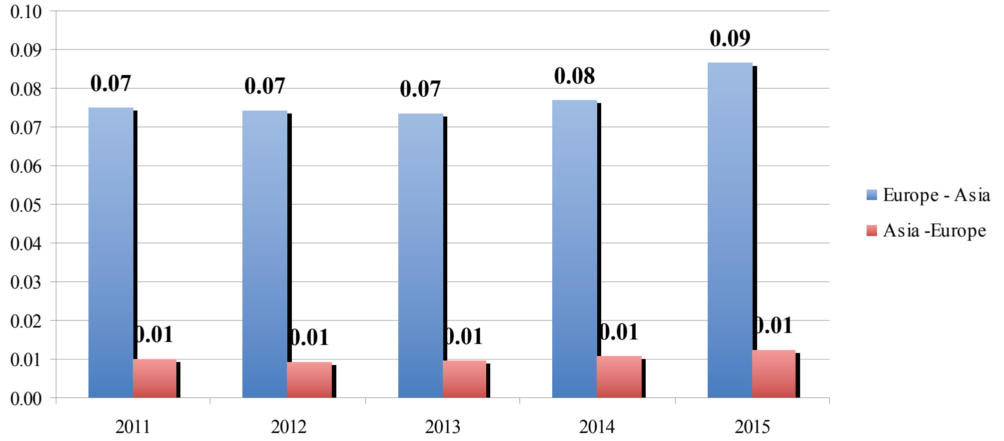
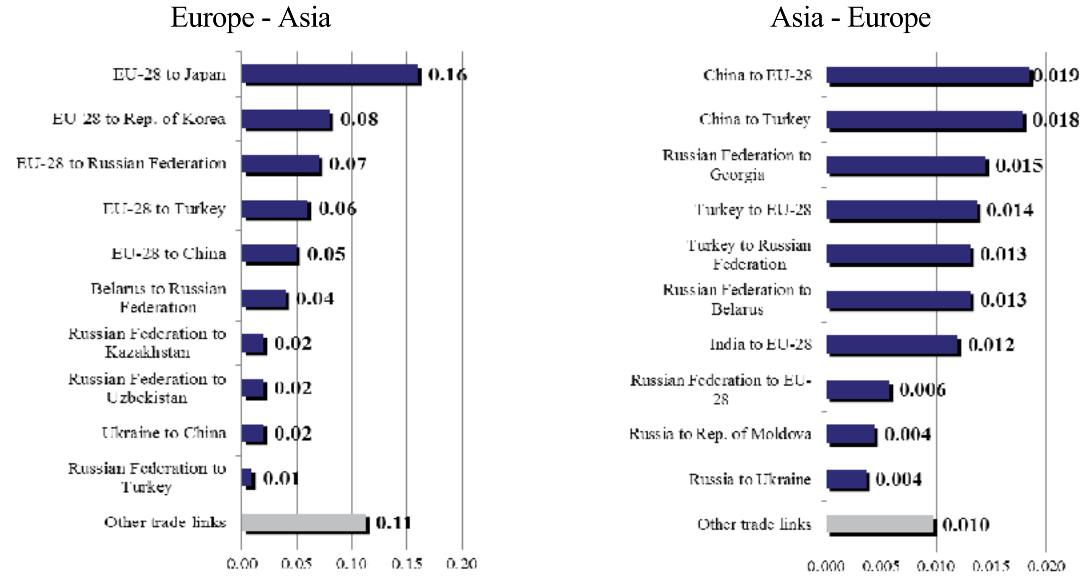


Figure A33 - Top 10 trade partners in 2015, Billions United States Dollars



HS 12. Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit, industrial or medicinal plants; straw and fodder

Figure A34 - Volume of trade 2011–2015, Billions United States Dollars

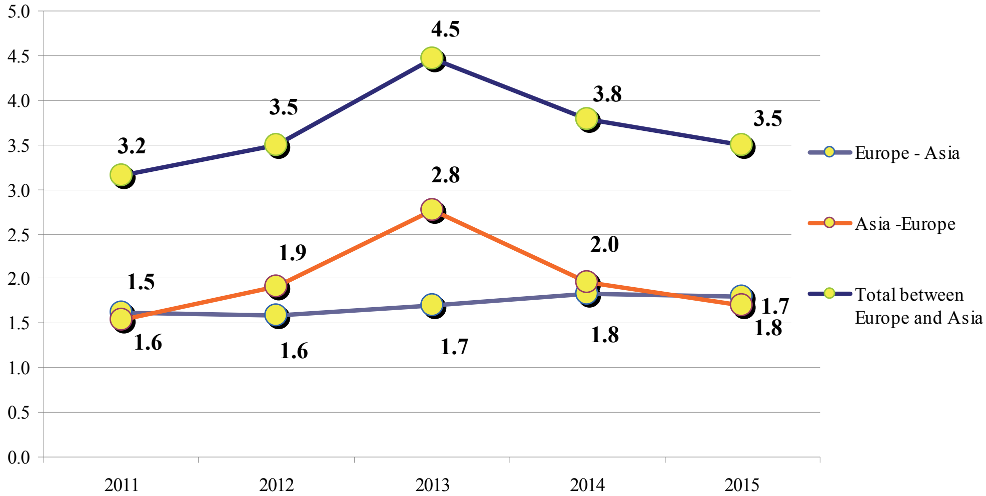


Figure A35 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

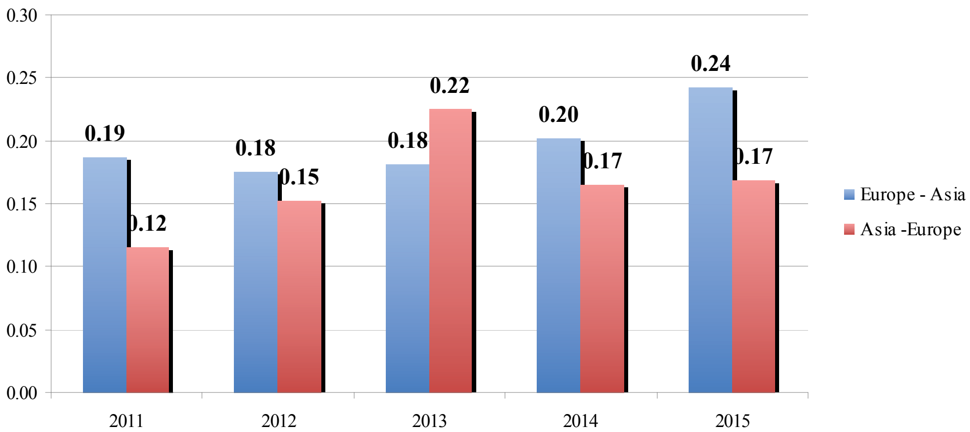
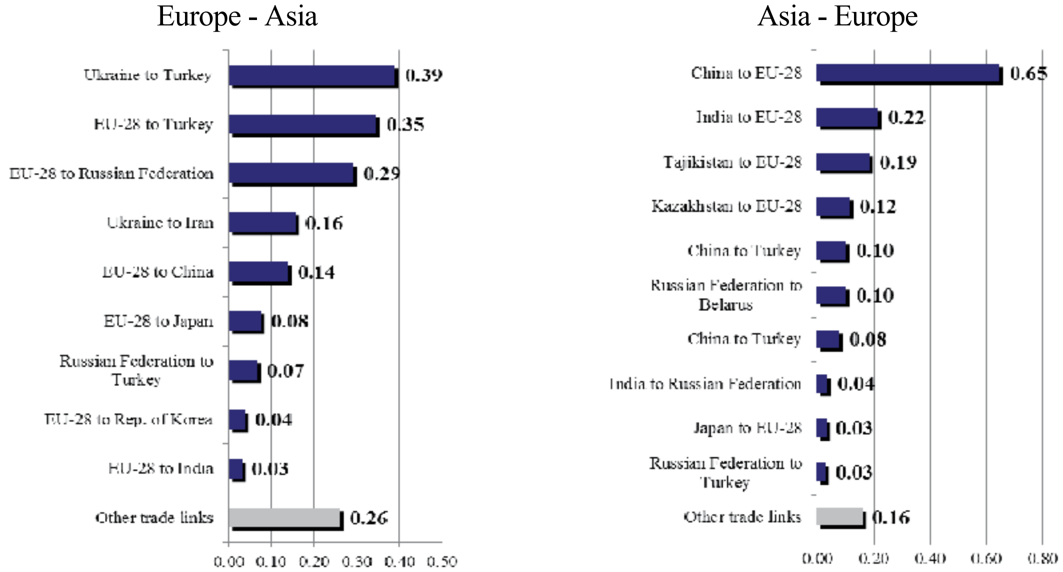


Figure A36 - Top 10 trade partners in 2015, Billions United States Dollars



HS 13. Lac; gums, resins and other vegetable saps and extracts

Figure A37 - Volume of trade 2011–2015, Billions United States Dollars

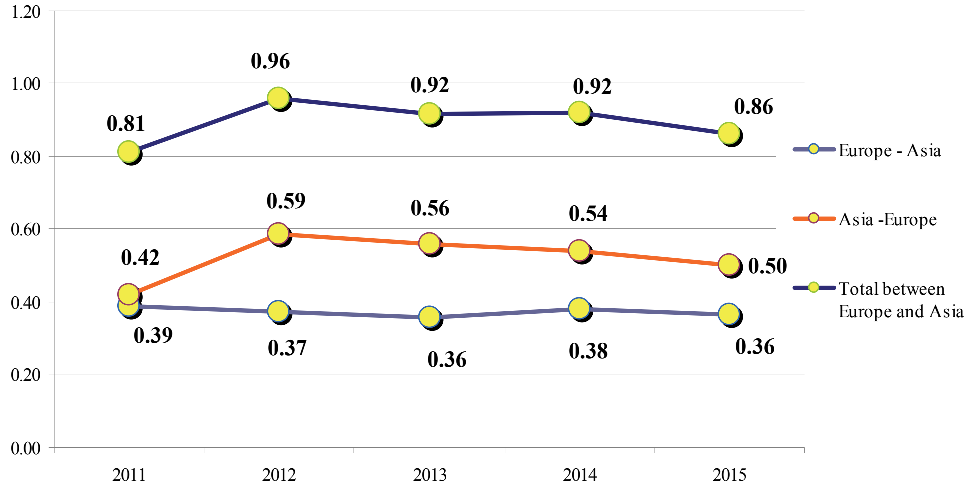


Figure A38 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

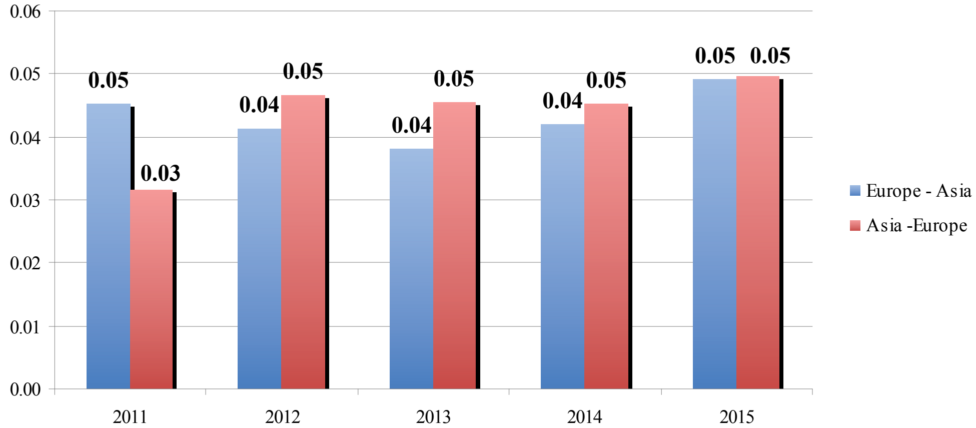
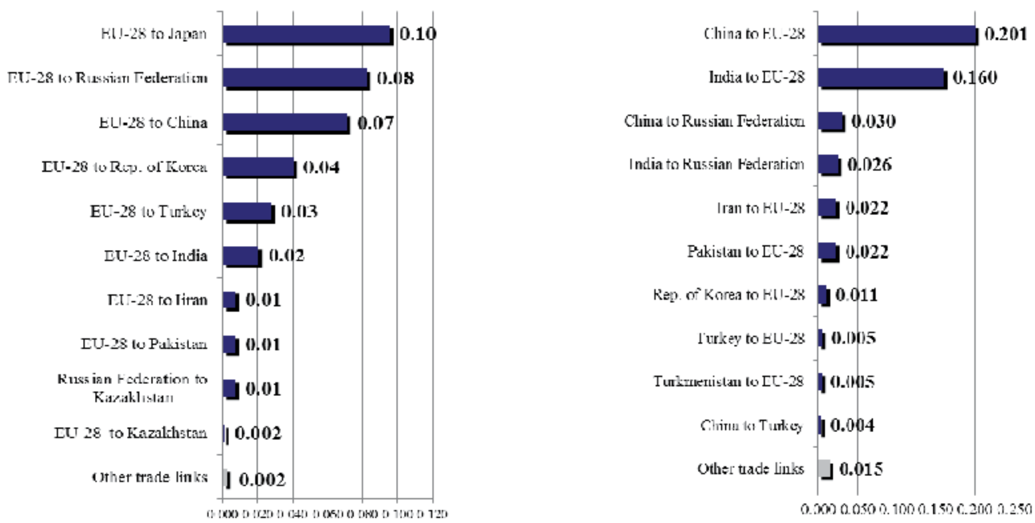


Figure A39 - Top 10 trade partners in 2015, Billions United States Dollars

Europe - Asia

Asia - Europe



HS 14. Vegetable plaiting materials; vegetable products not elsewhere specified or included

Figure A40 - Volume of trade 2011–2015, Billions United States Dollars

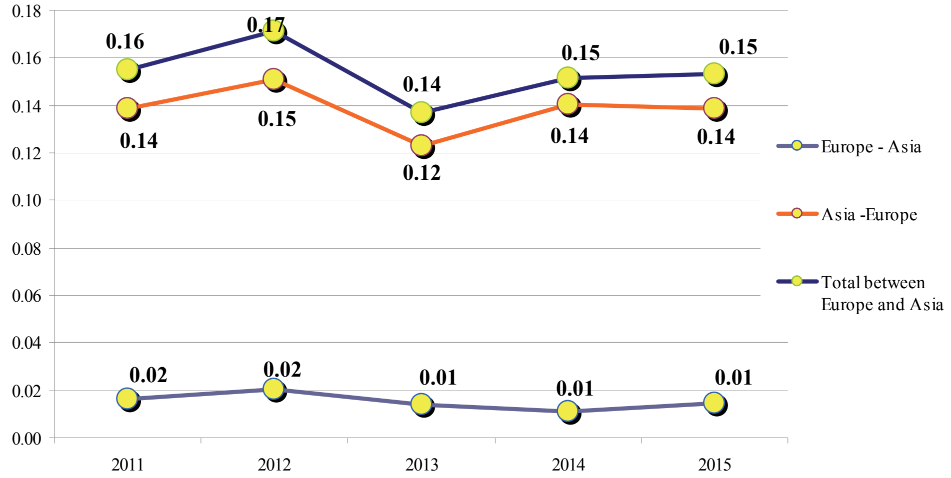


Figure A41 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

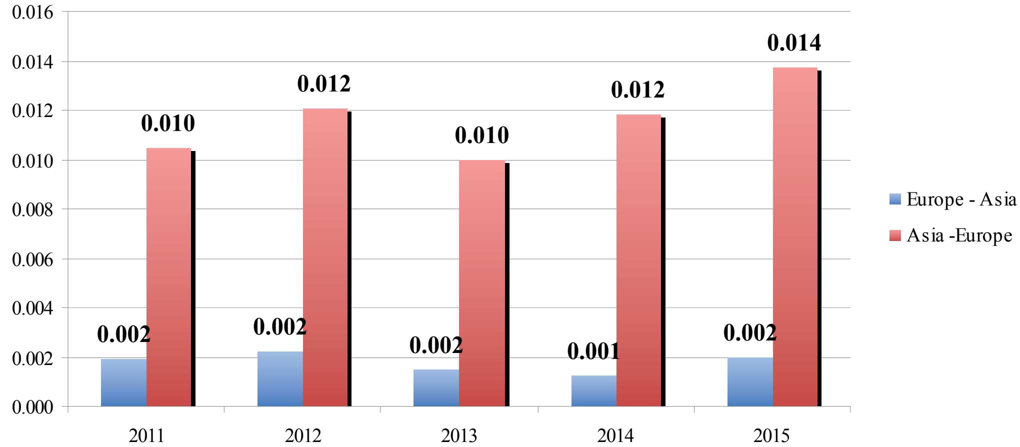
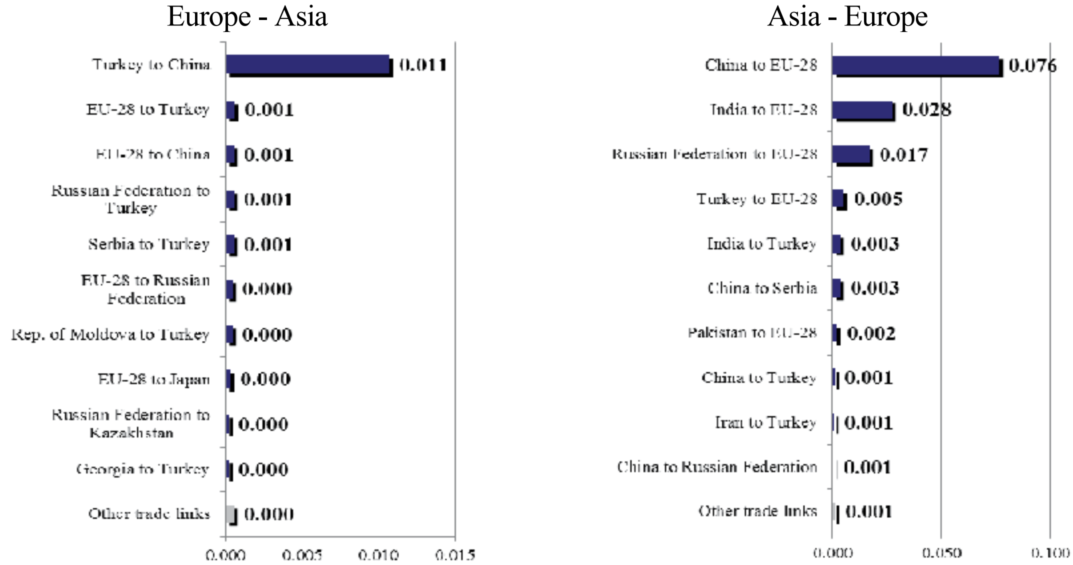


Figure A42 - Top 10 trade partners in 2015, Billions United States Dollars



HS 15. Animal or vegetable fats and oils and their cleavage products; prepared animal fats; animal or vegetable waxes

Figure A43 - Volume of trade 2011–2015, Billions United States Dollars

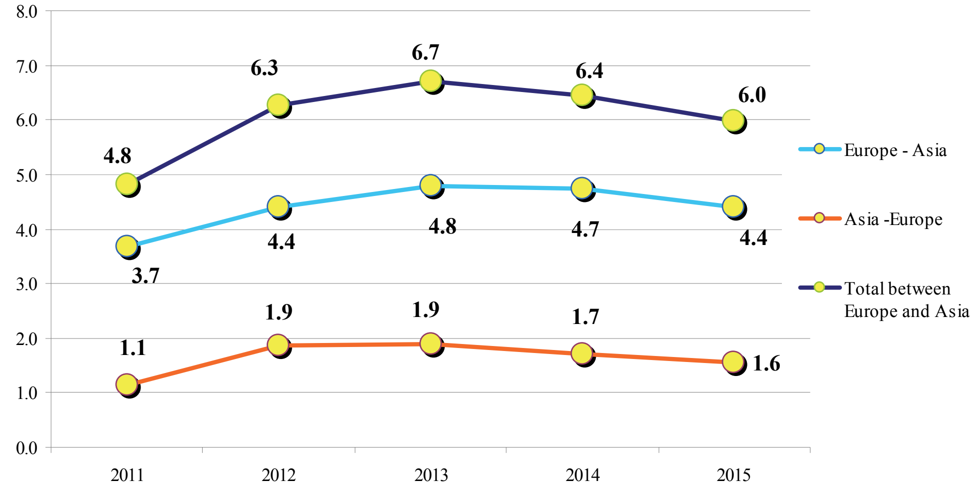


Figure A44 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

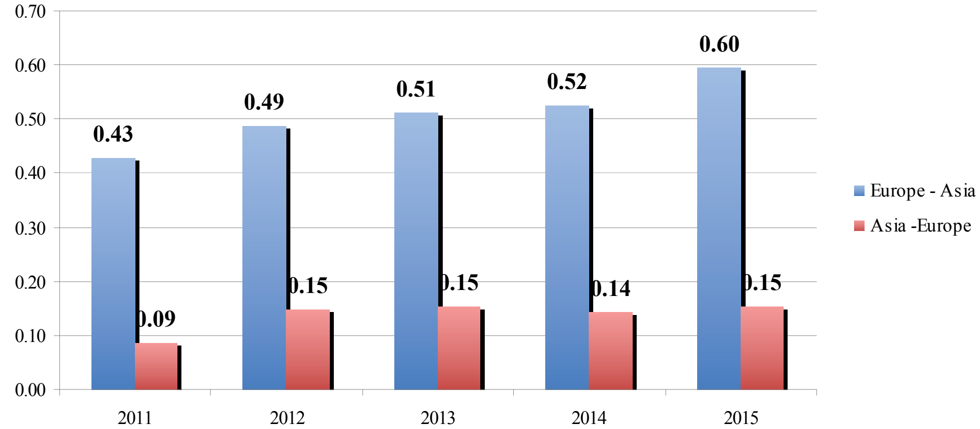
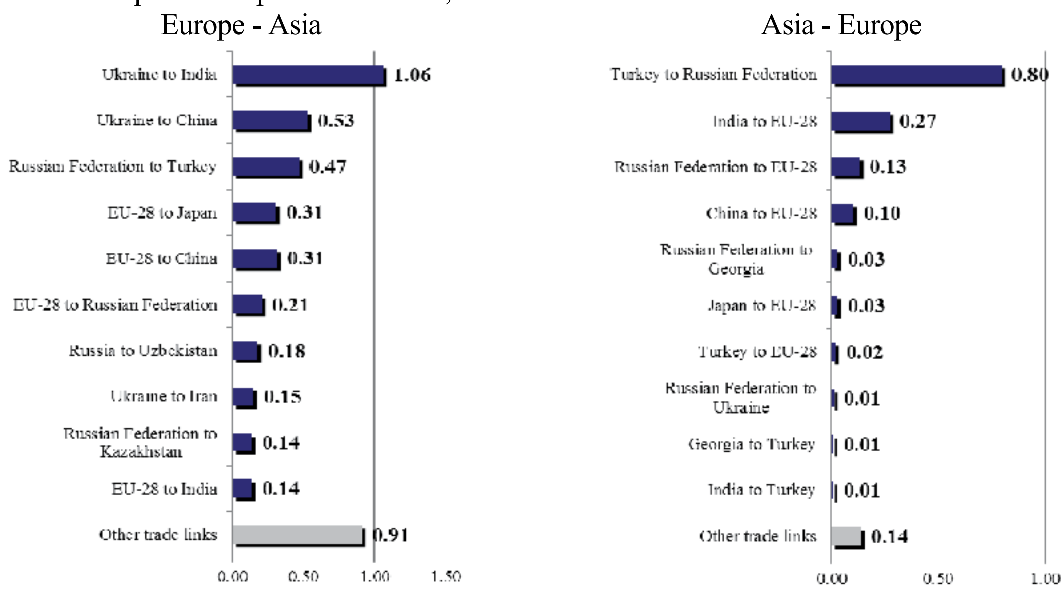


Figure A45 - Top 10 trade partners in 2015, Billions United States Dollars



HS 16. Meat, fish or crustaceans, molluscs or other aquatic invertebrates; preparations thereof

Figure A46 - Volume of trade 2011–2015, Billions United States Dollars

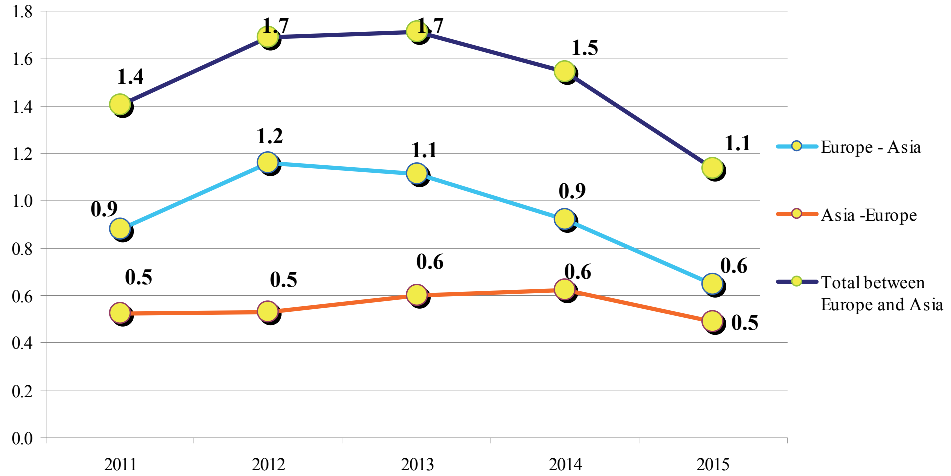


Figure A47 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

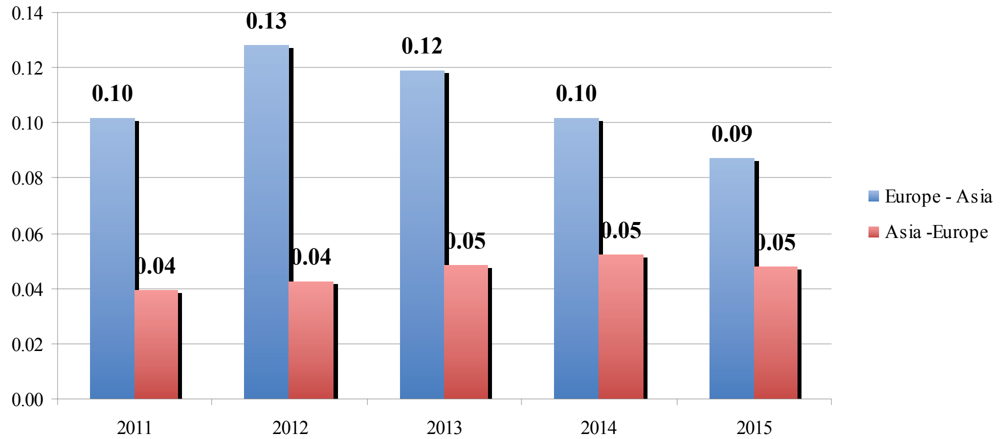
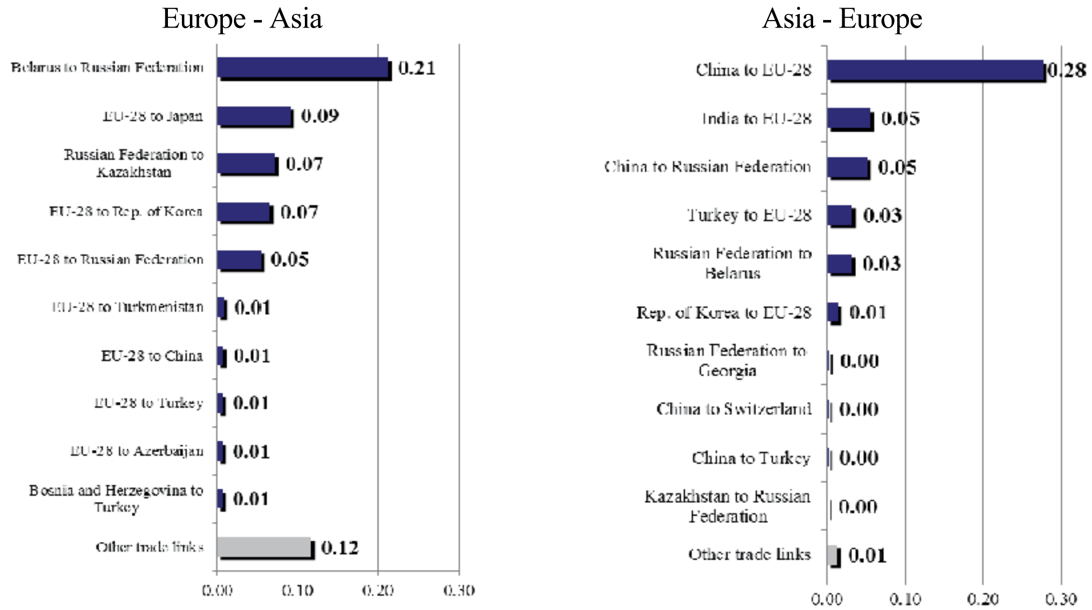


Figure A48 - Top 10 trade partners in 2015, Billions United States Dollars



HS 17. Sugars and sugar confectionery

Figure A49 - Volume of trade 2011–2015, Billions United States Dollars

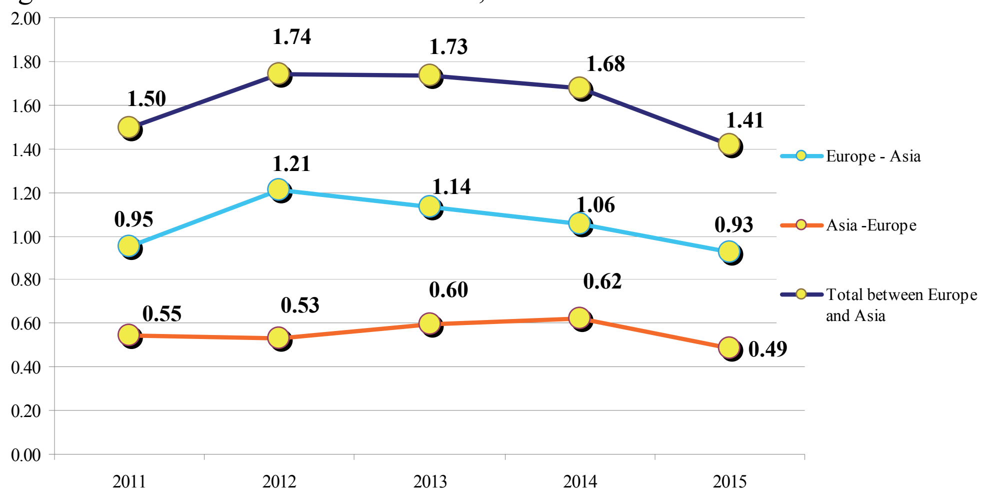


Figure A50 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

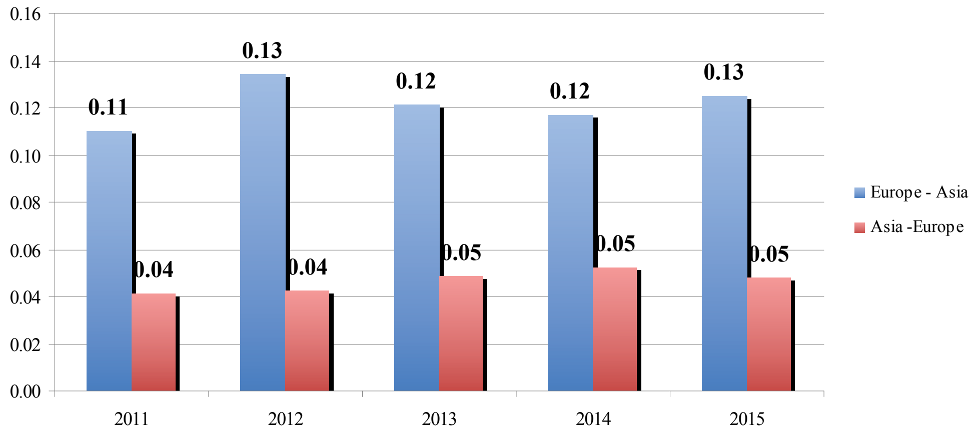
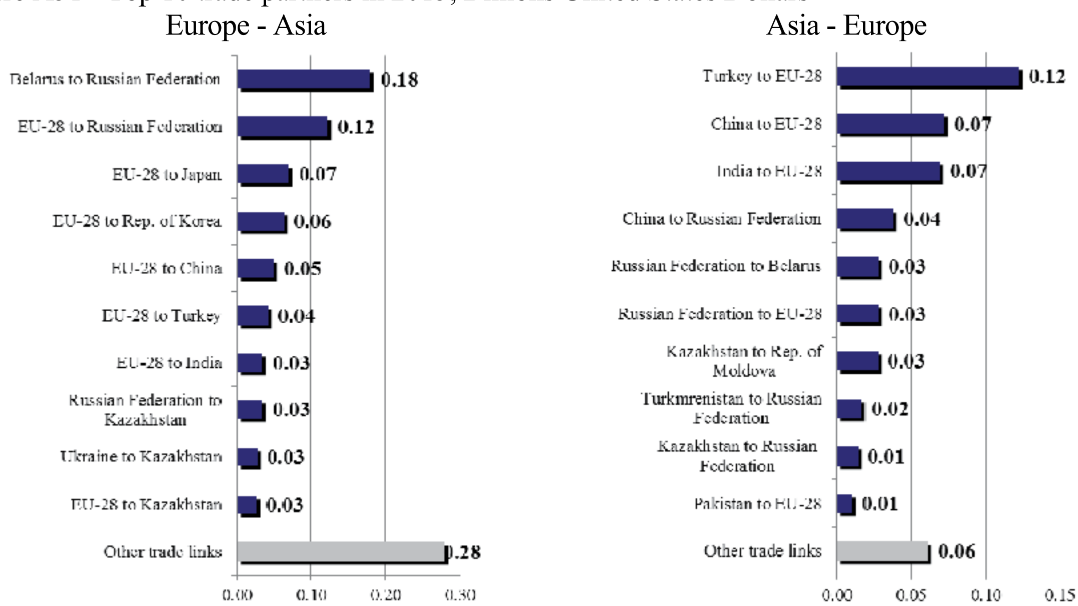


Figure A51 - Top 10 trade partners in 2015, Billions United States Dollars



HS 18. Cocoa and cocoa preparations

Figure A52 - Volume of trade 2011–2015, Billions United States Dollars

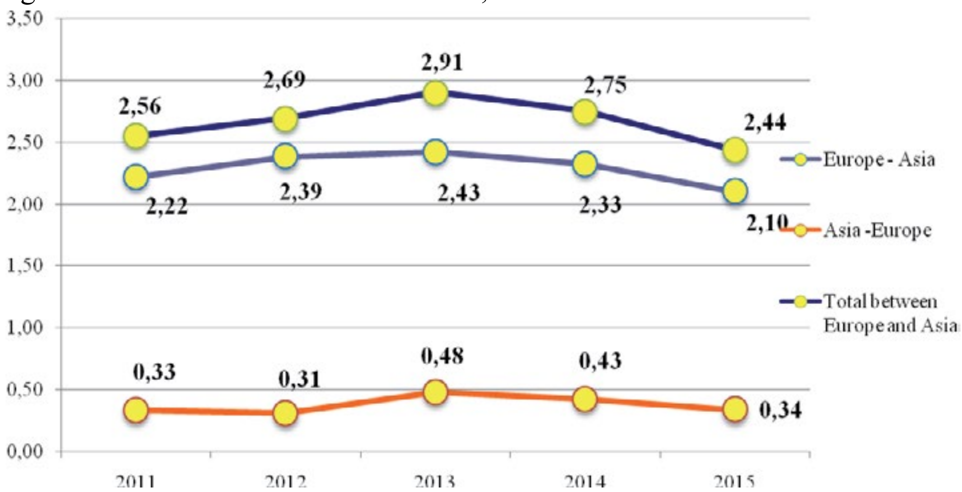


Figure A53 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

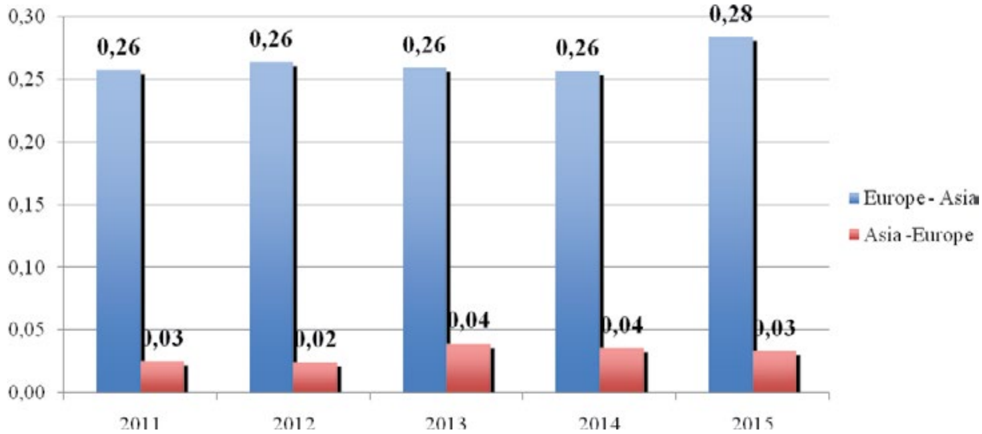
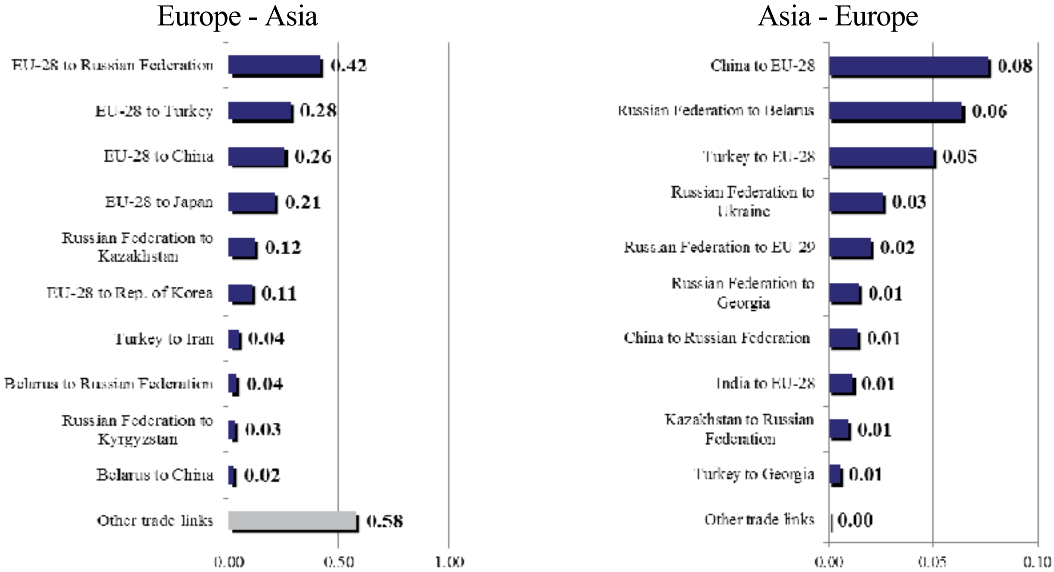


Figure A54 - Top 10 trade partners in 2015, Billions United States Dollars



HS 19. Preparations of cereals, flour, starch or milk; pastry cooks' products

Figure A55 - Volume of trade 2011–2015, Billions United States Dollars

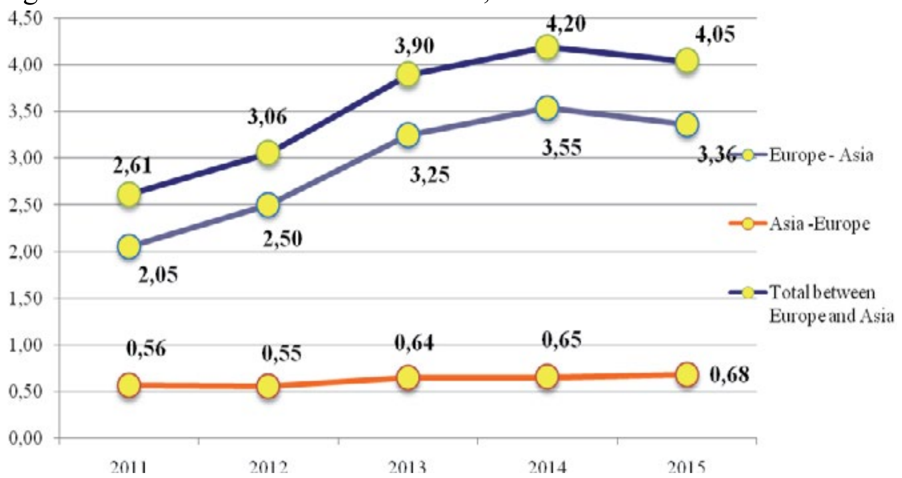


Figure A56 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

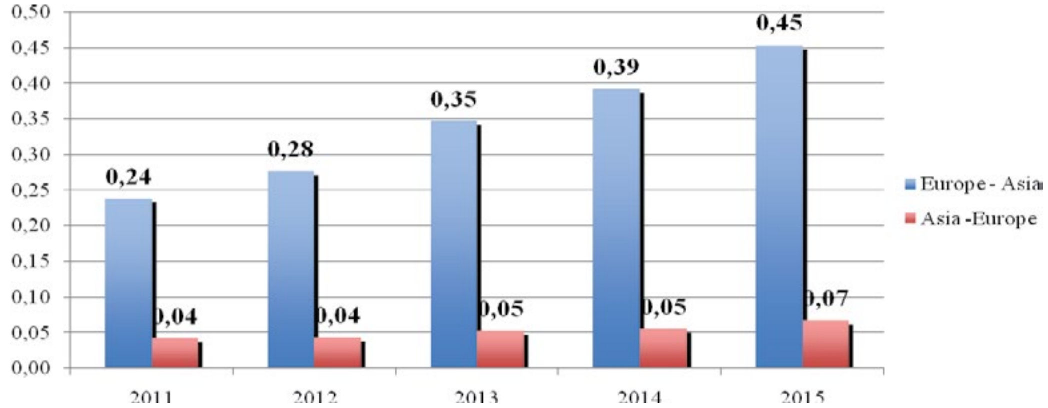
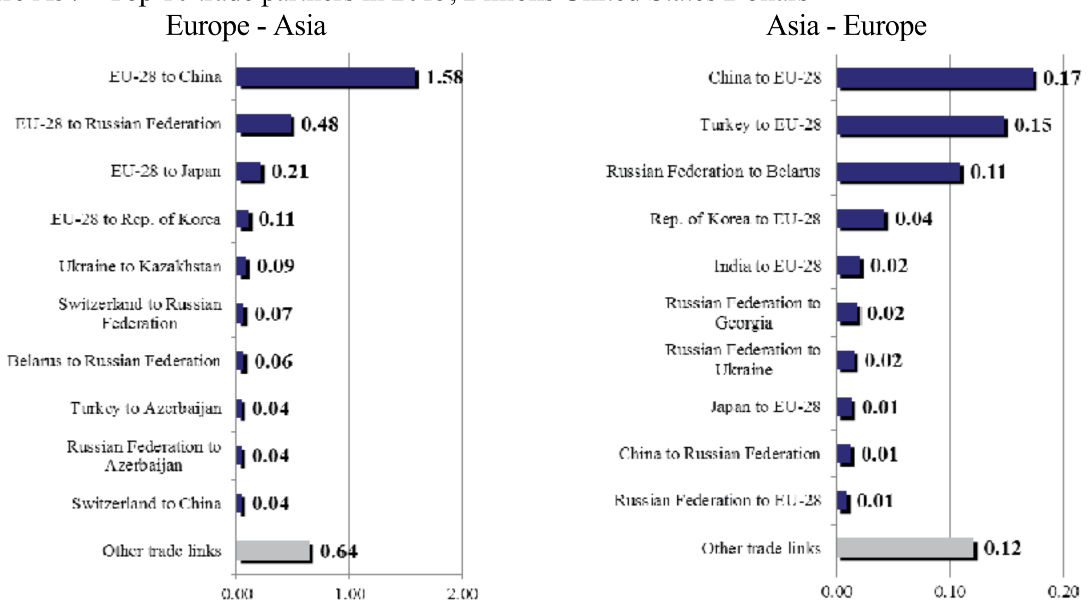


Figure A57 - Top 10 trade partners in 2015, Billions United States Dollars



HS 20. Preparations of vegetables, fruit, nuts or other parts of plants

Figure A58 - Volume of trade 2011–2015, Billions United States Dollars

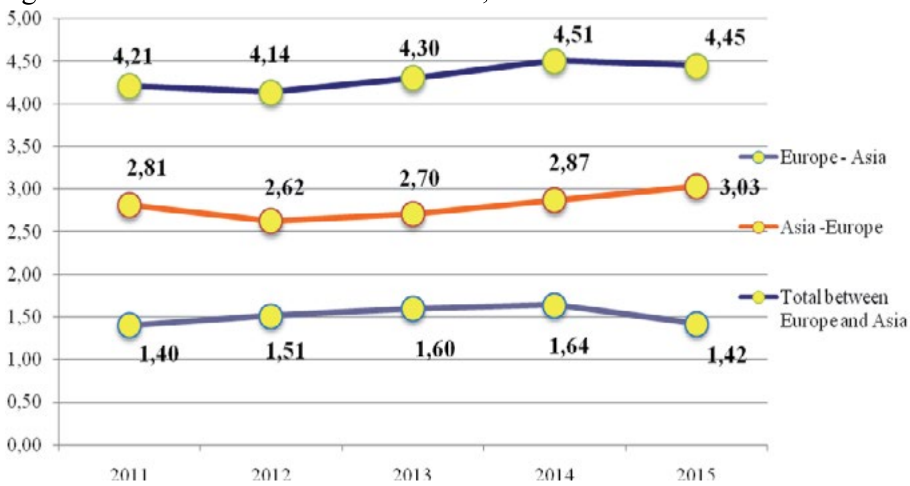


Figure A59 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

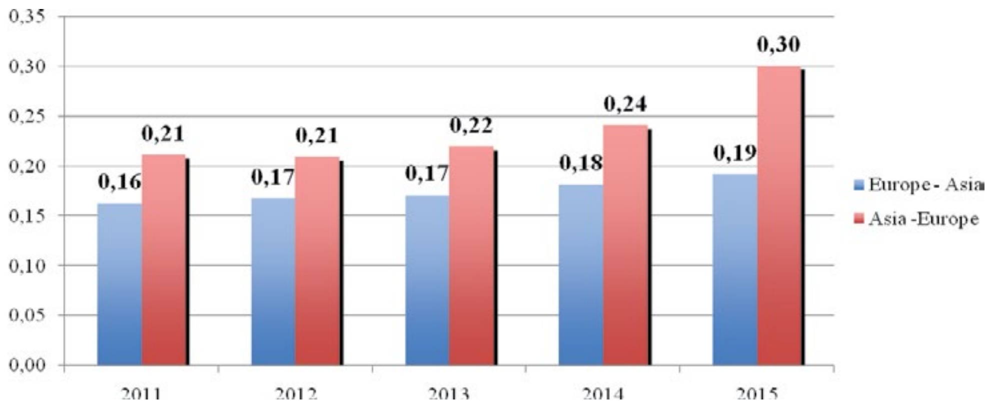
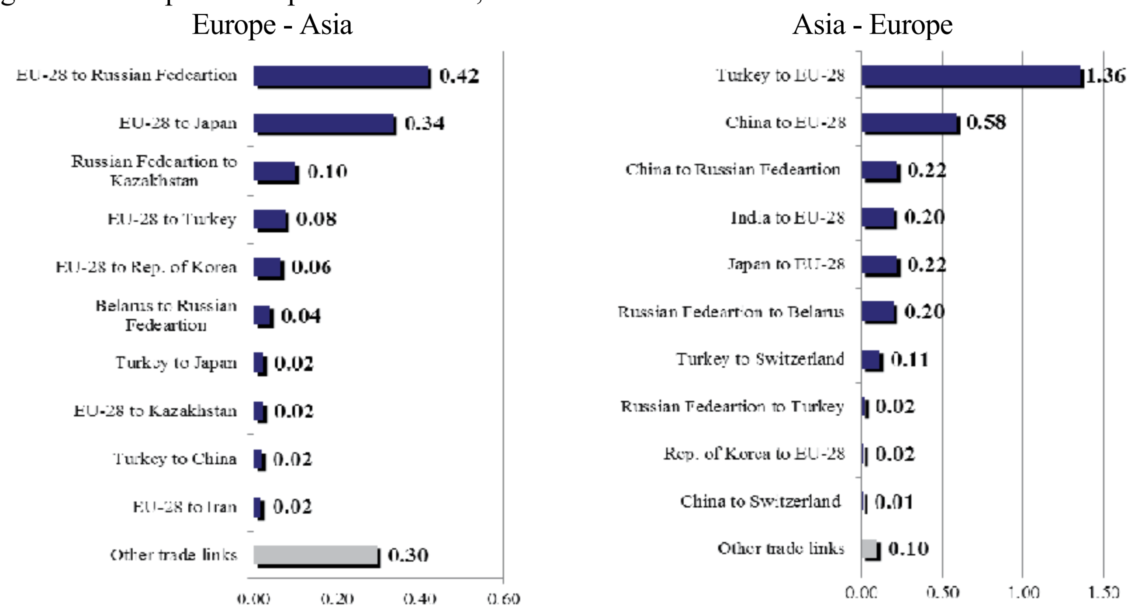


Figure A60 - Top 10 trade partners in 2015, Billions United States Dollars



HS 21. Miscellaneous edible preparations

Figure A61 - Volume of trade 2011–2015, Billions United States Dollars

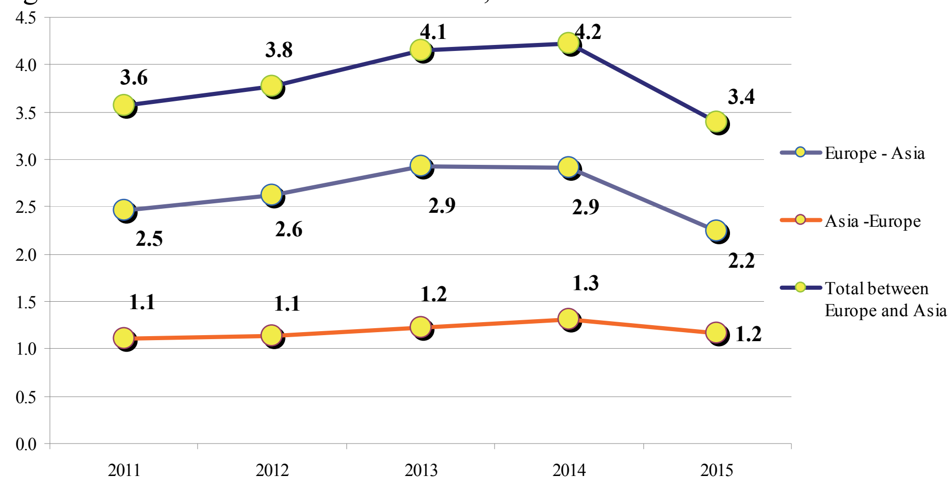


Figure A62 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

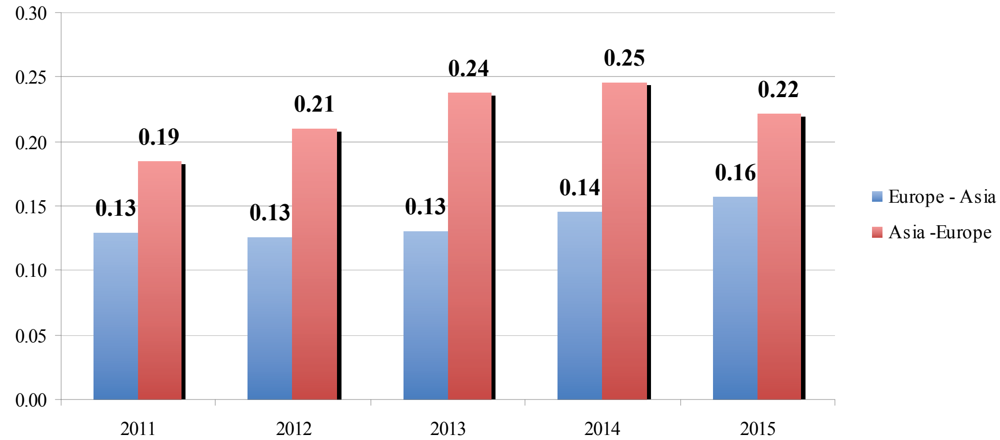
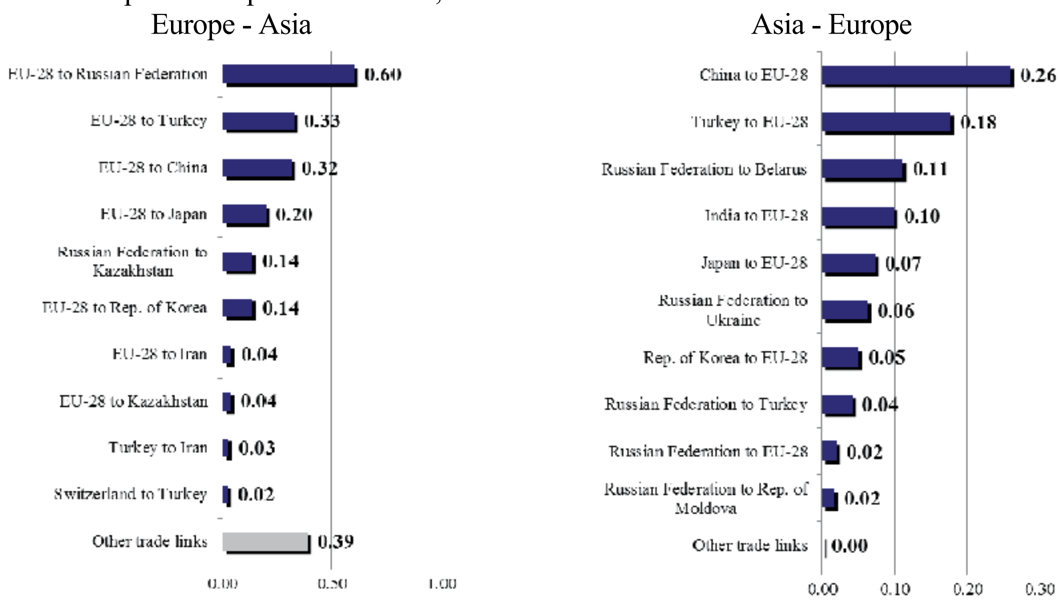


Figure A63 - Top 10 trade partners in 2015, Billions United States Dollars



HS 22. Beverages, spirits and vinegar

Figure A64 - Volume of trade 2011–2015, Billions United States Dollars

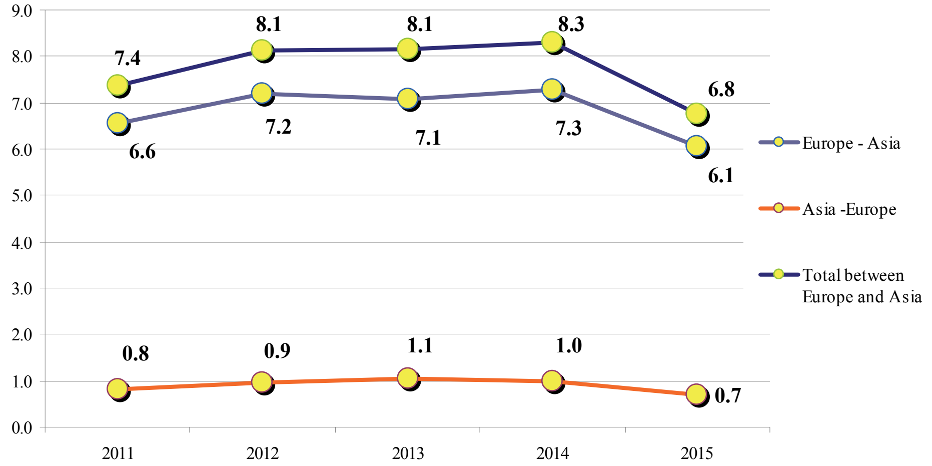


Figure A65 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

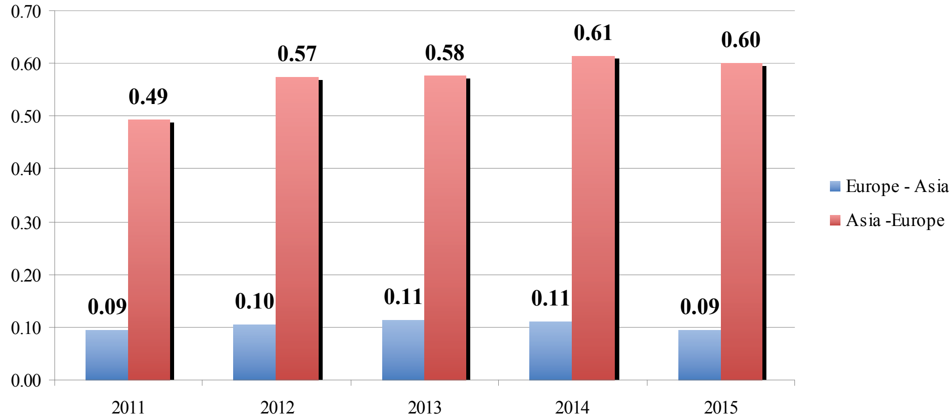
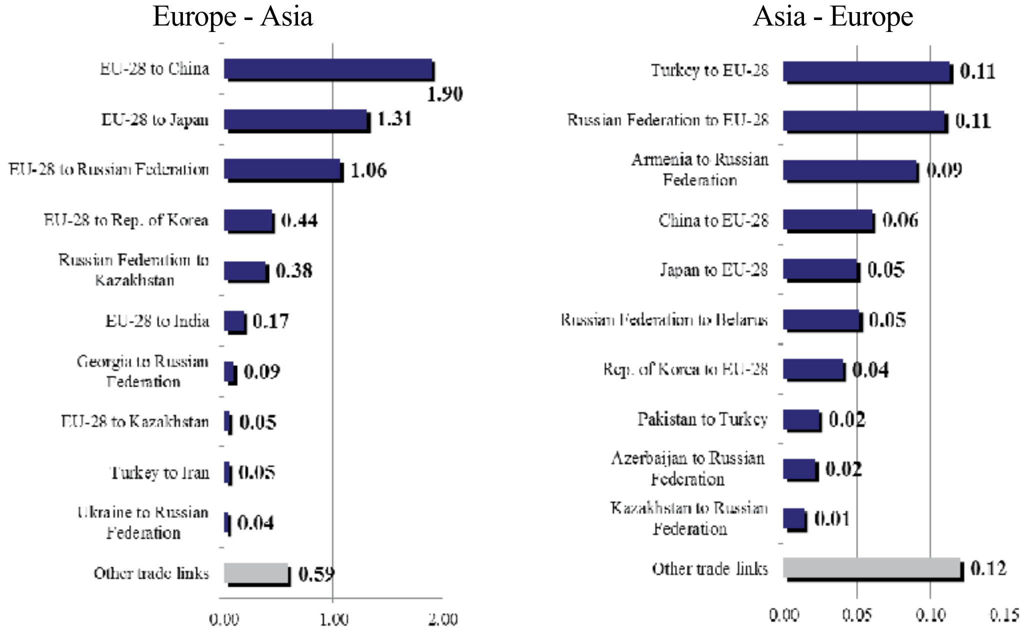


Figure A66 - Top 10 trade partners in 2015, Billions United States Dollars



HS 23. Food industries, residues and wastes thereof; prepared animal fodder

Figure A67 - Volume of trade 2011–2015, Billions United States Dollars

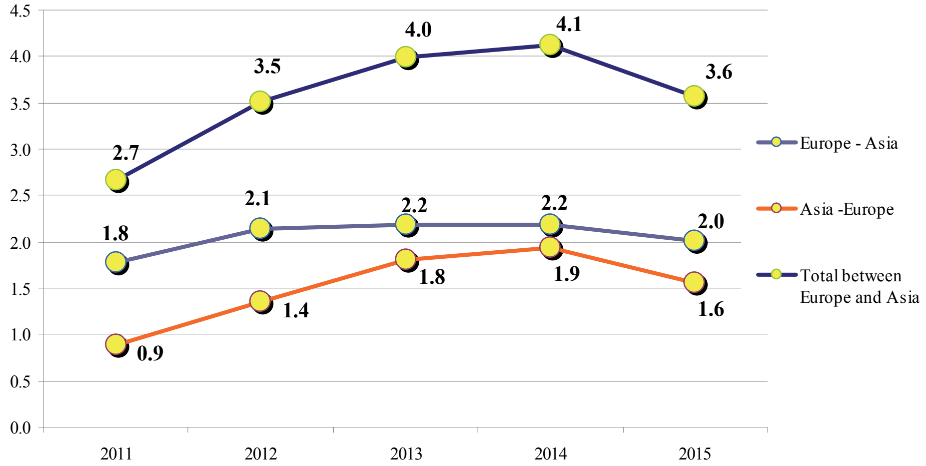


Figure A68 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

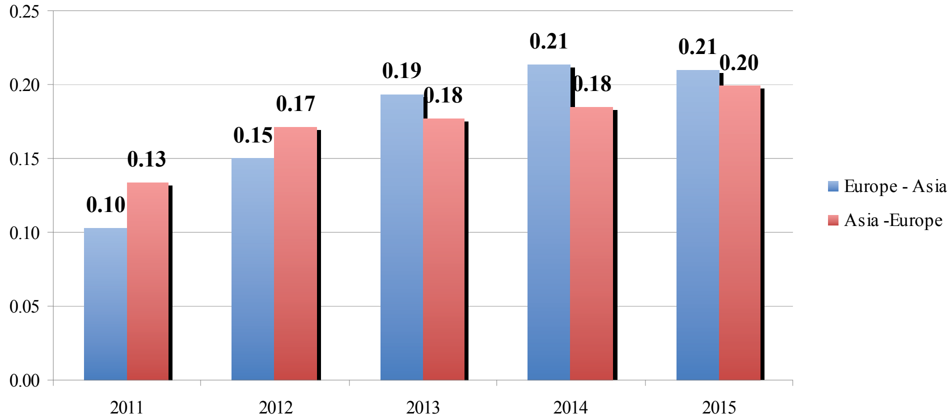
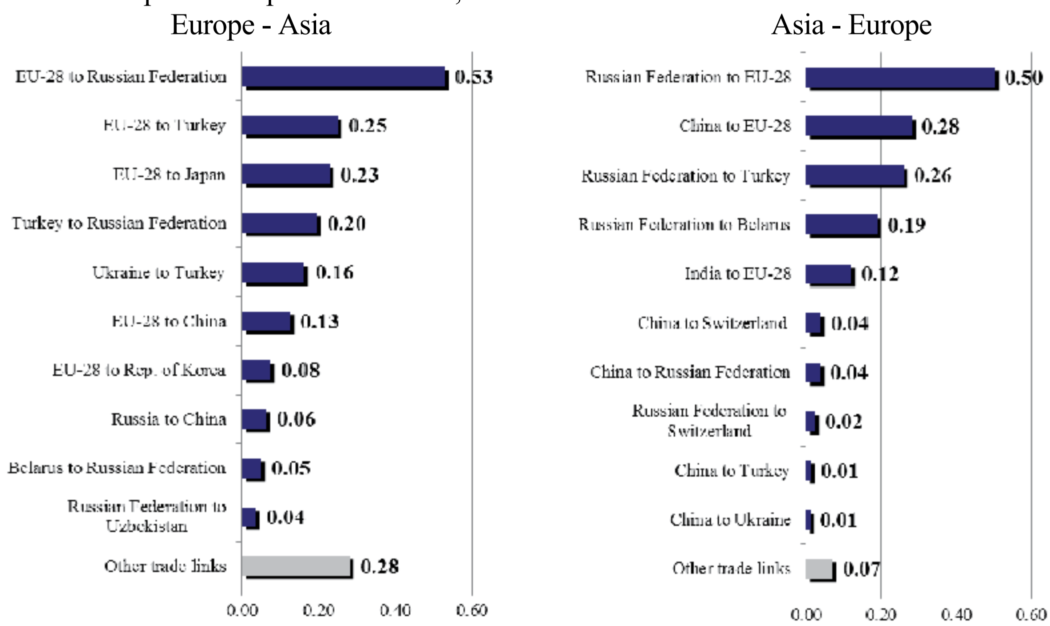


Figure A69 - Top 10 trade partners in 2015, Billions United States Dollars



HS 24. Tobacco and manufactured tobacco substitutes

Figure A70 - Volume of trade 2011–2015, Billions United States Dollars

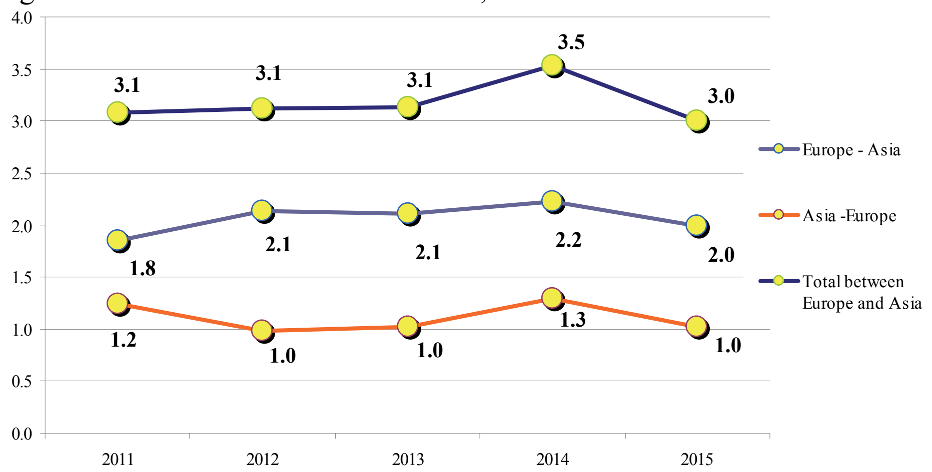


Figure A71 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

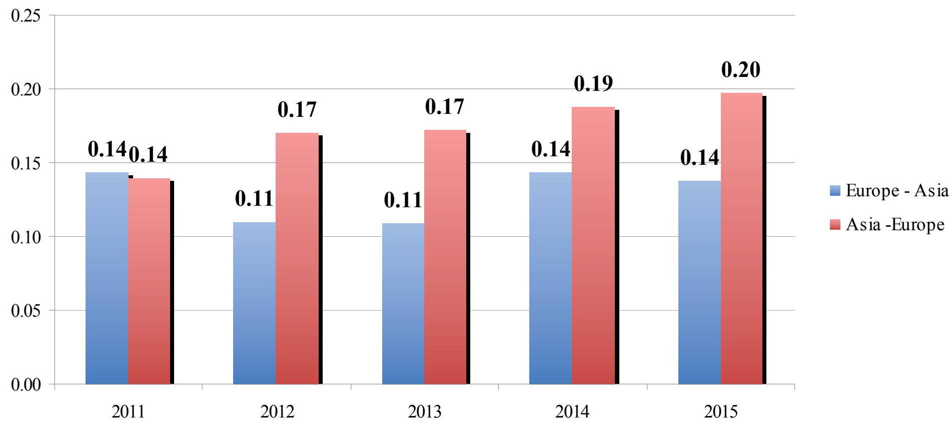
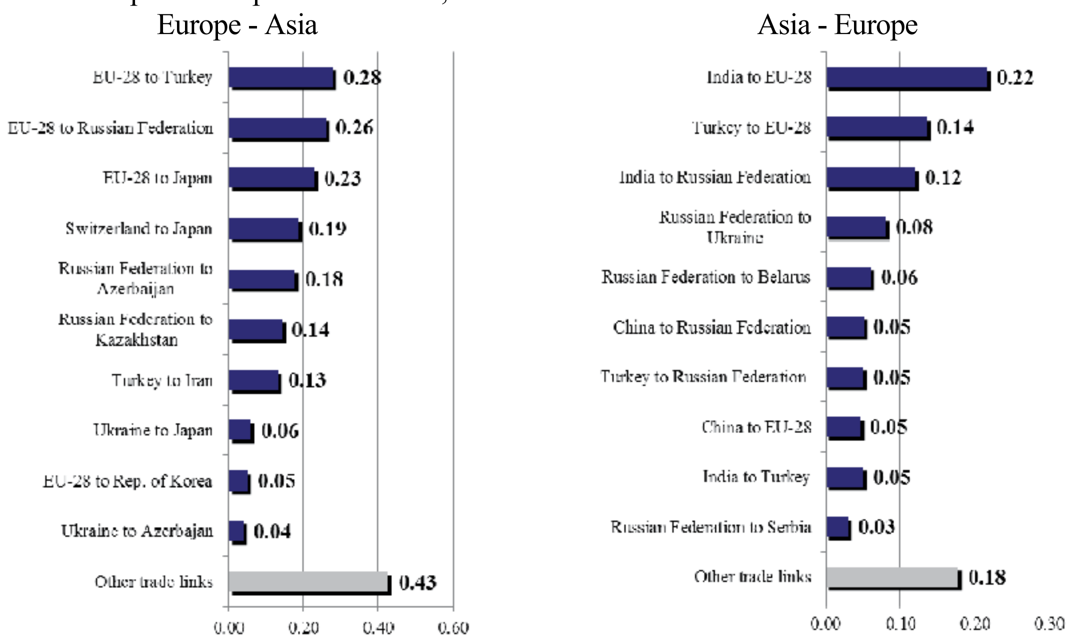


Figure A72 - Top 10 trade partners in 2015, Billions United States Dollars



HS 25. Salt; sulphur; earths, stone; plastering materials, lime and cement

Figure A73 - Volume of trade 2011–2015, Billions United States Dollars

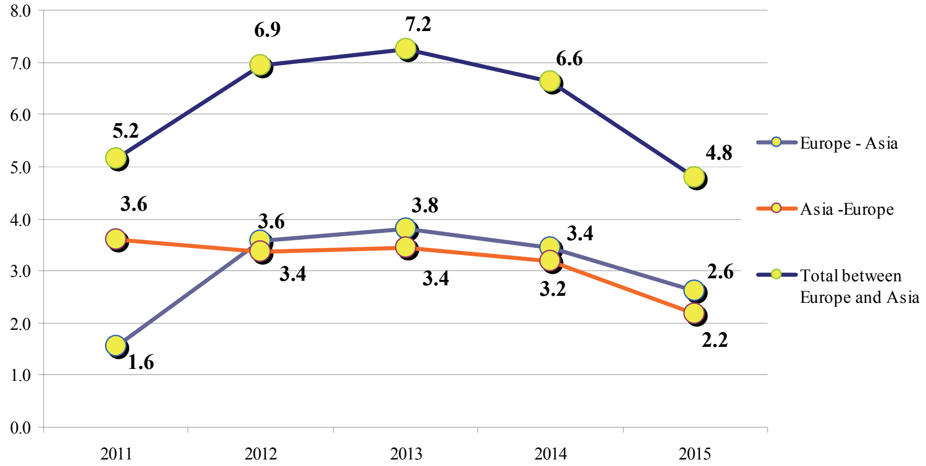


Figure A74 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

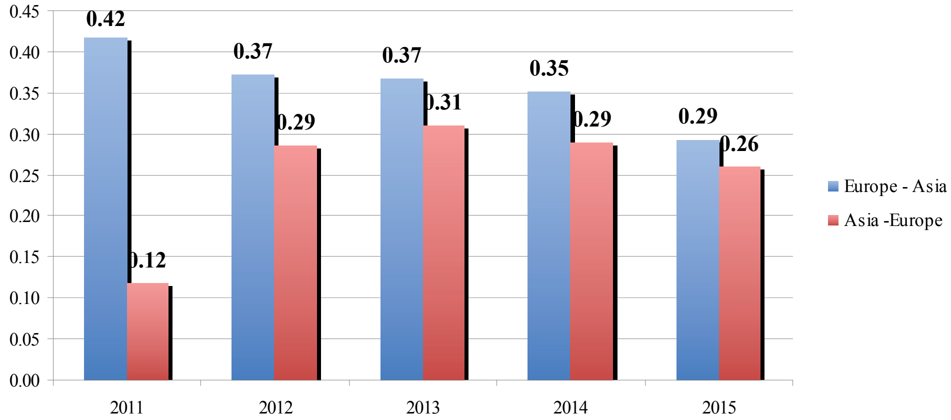
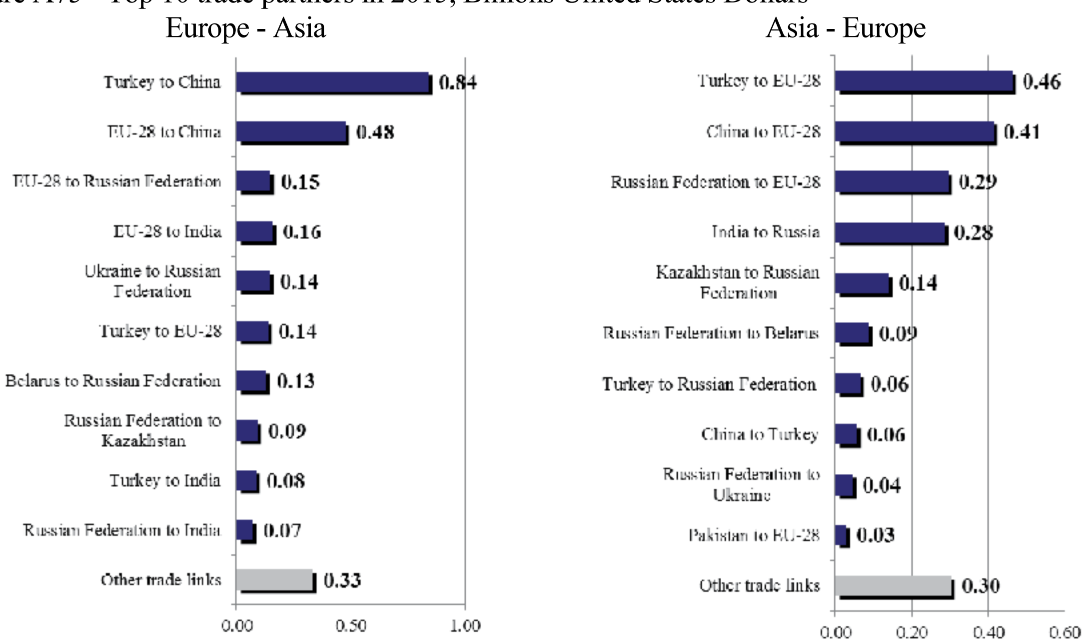


Figure A75 - Top 10 trade partners in 2015, Billions United States Dollars



HS 26. Ores, slag and ash

Figure A76 - Volume of trade 2011–2015, Billions United States Dollars

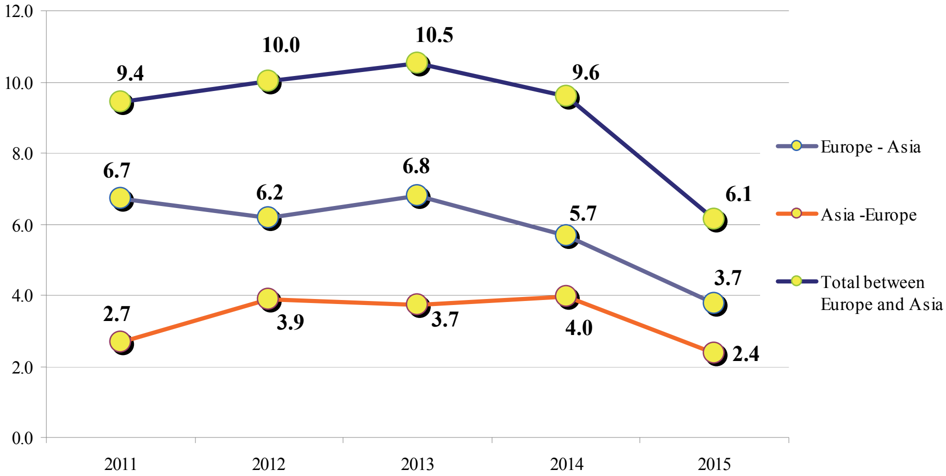


Figure A77 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

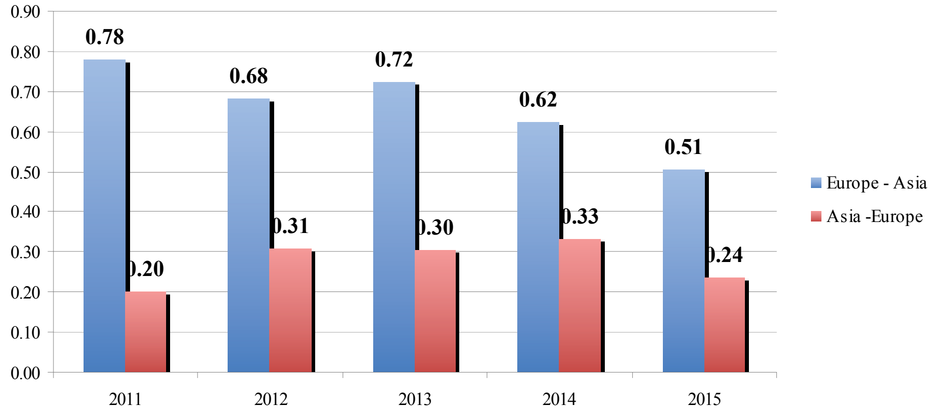
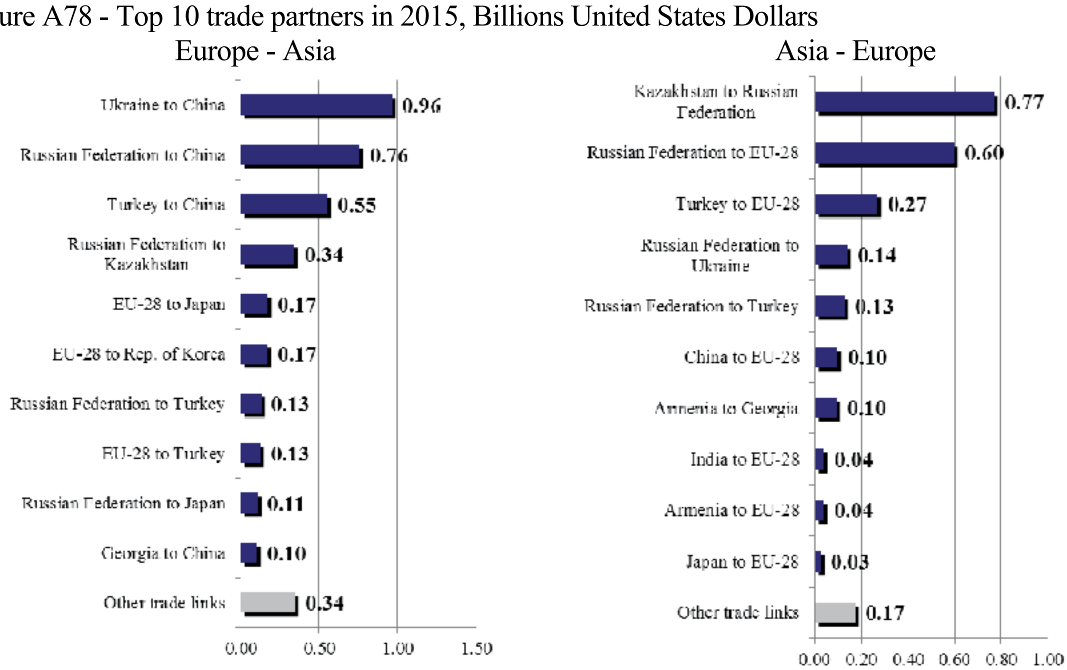


Figure A78 - Top 10 trade partners in 2015, Billions United States Dollars



HS 27. Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes

Figure A79 - Volume of trade 2011–2015, Billions United States Dollars

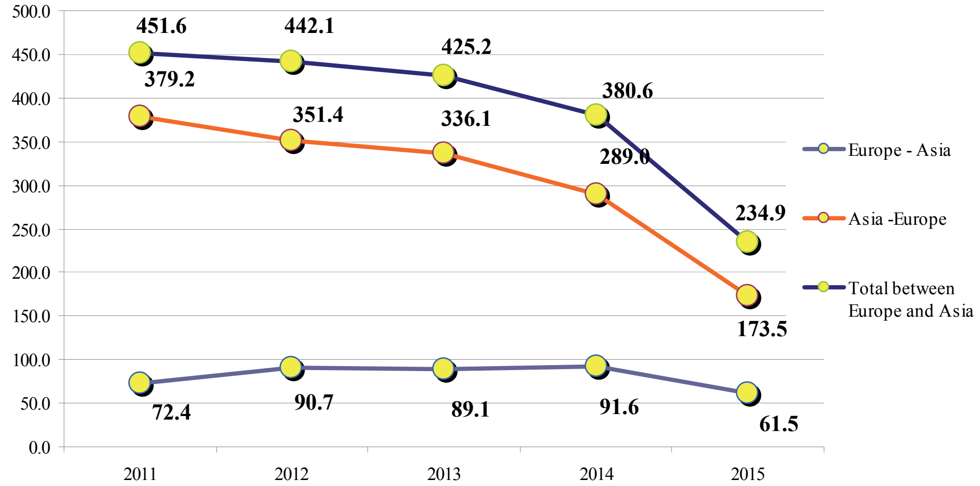


Figure A80 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

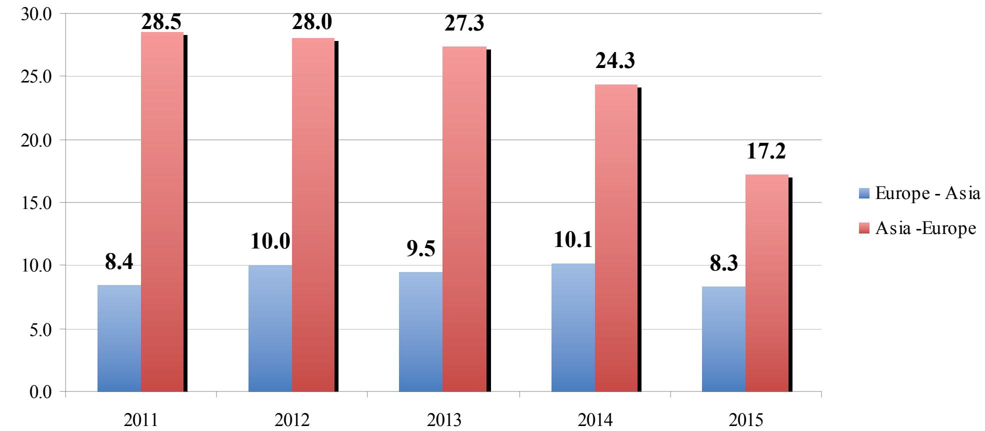
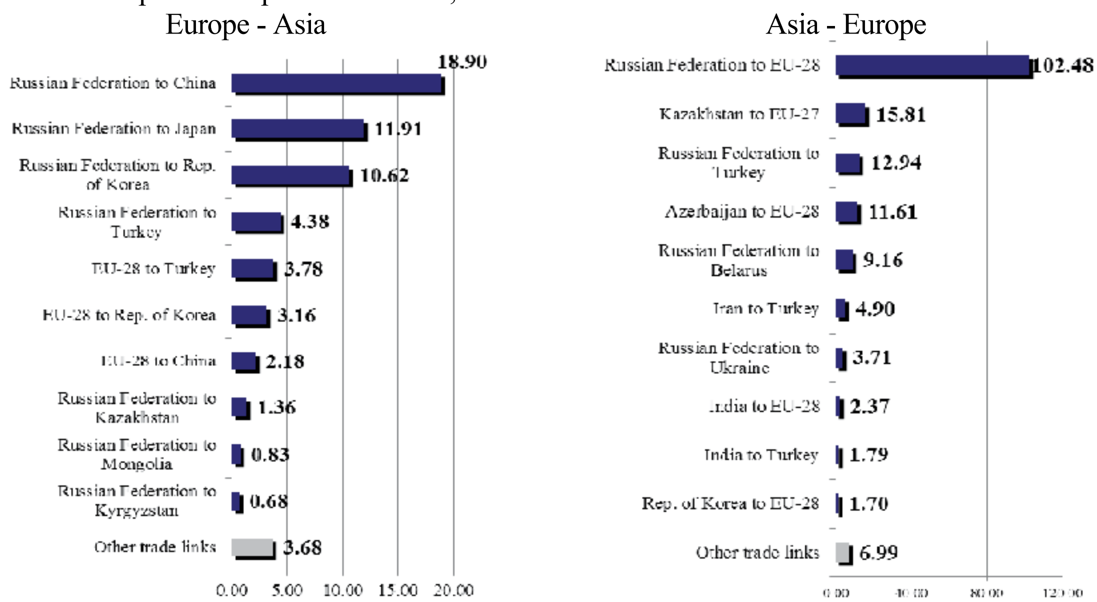


Figure A81 - Top 10 trade partners in 2015, Billions United States Dollars



HS 28. Inorganic chemicals; organic and inorganic compounds of precious metals; of rare earth metals, of radio-active elements and of isotopes

Figure A82 - Volume of trade 2011–2015, Billions United States Dollars

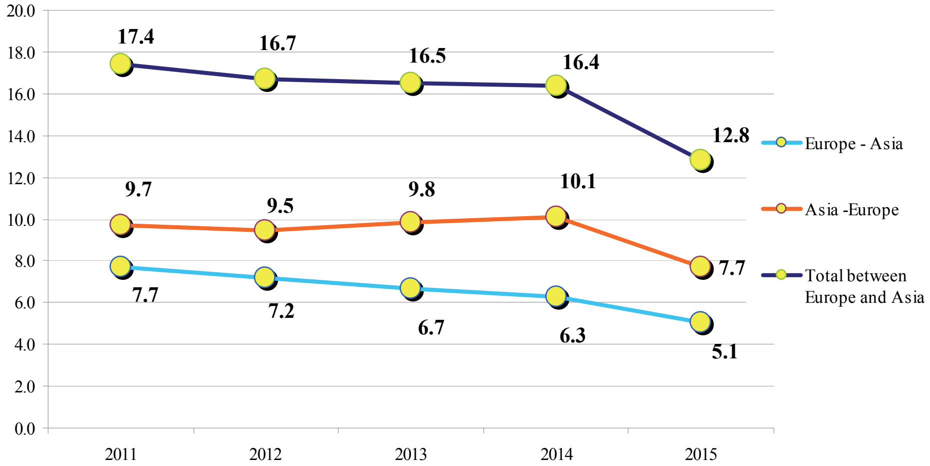


Figure A83 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

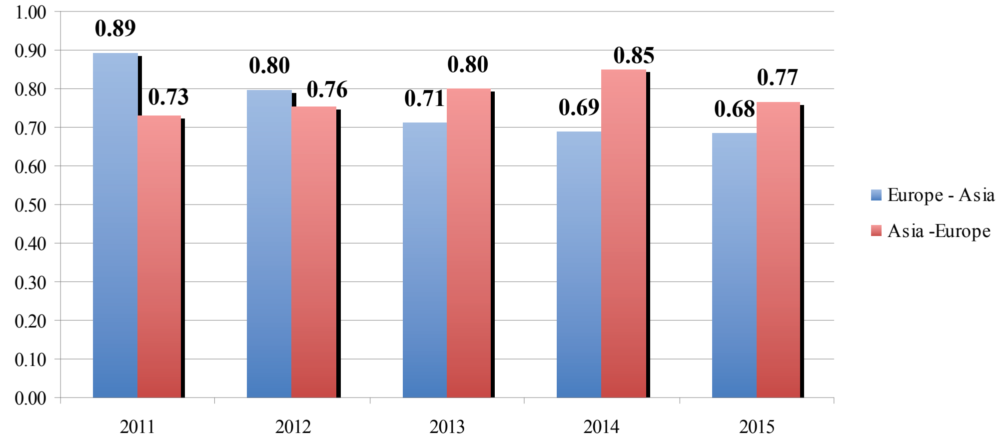
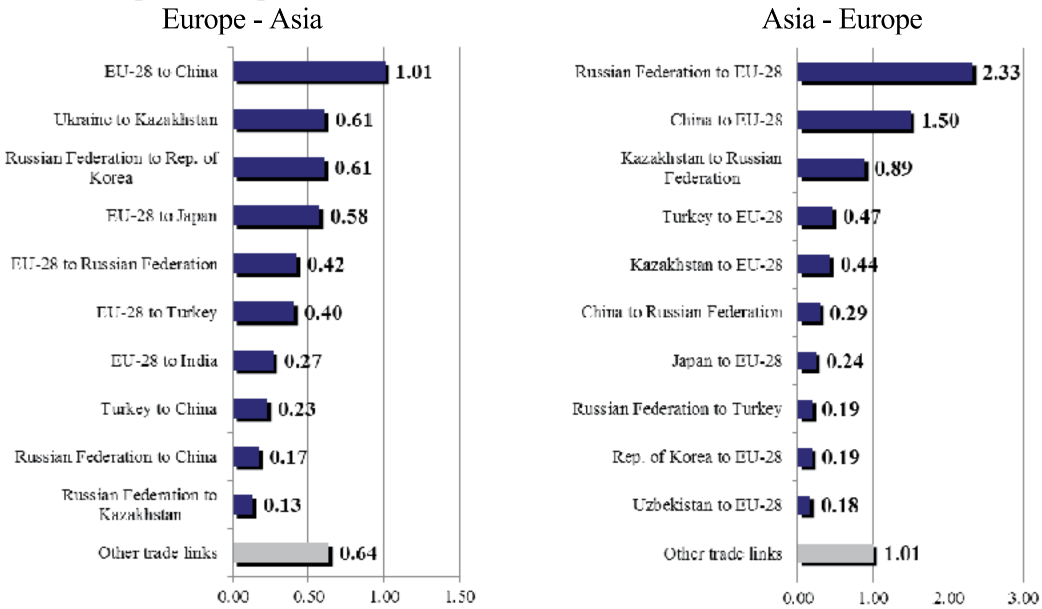


Figure A84 - Top 10 trade partners in 2015, Billions United States Dollars



HS 29. Organic chemicals

Figure A85 - Volume of trade 2011–2015, Billions United States Dollars

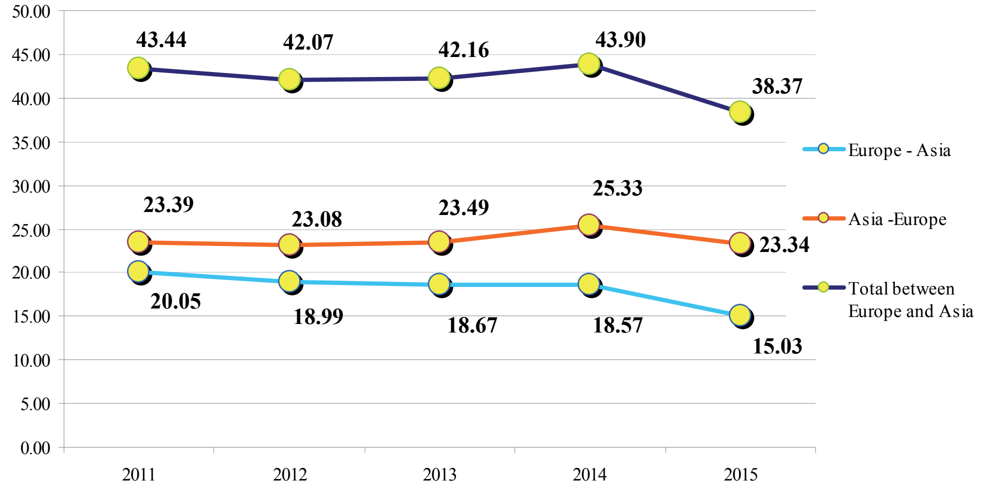


Figure A86 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

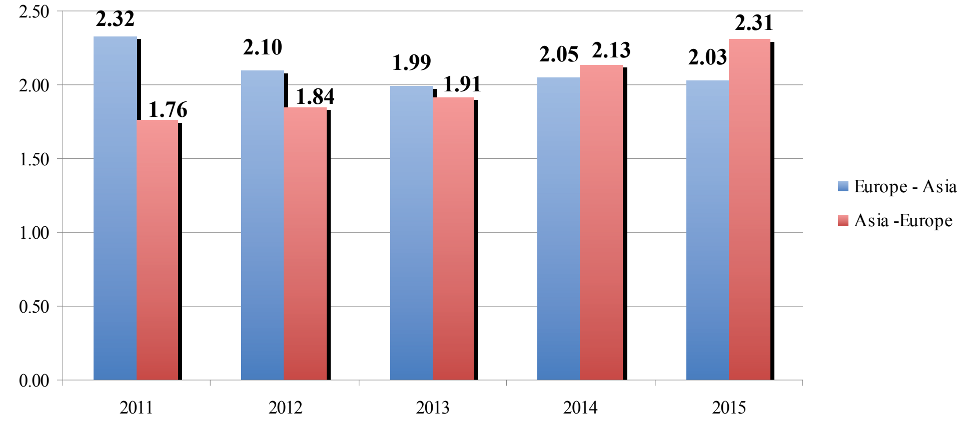
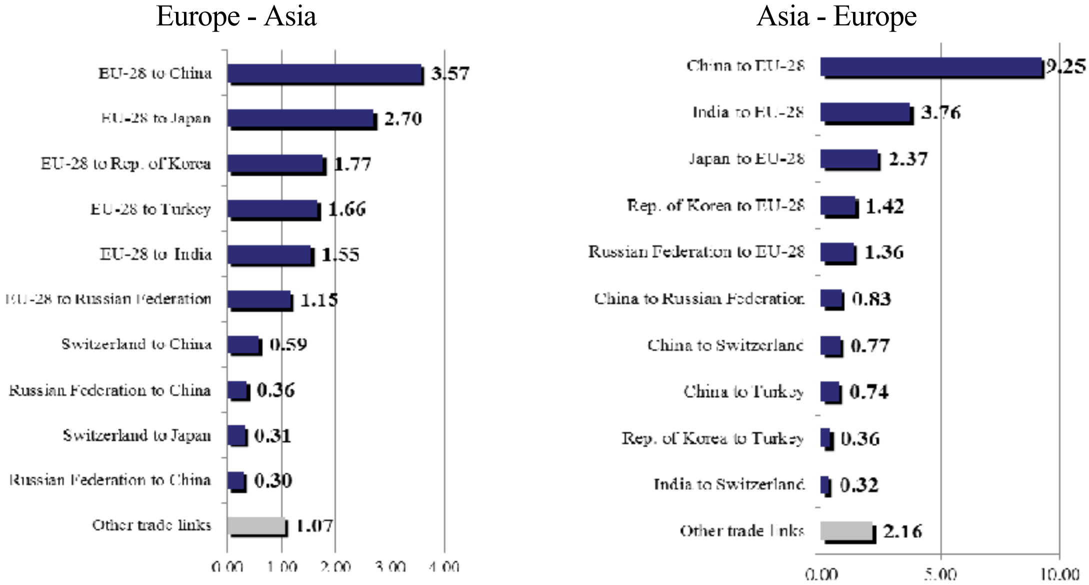


Figure A87 - Top 10 trade partners in 2015, Billions United States Dollars



HS 30. Pharmaceutical products

Figure A88 - Volume of trade 2011–2015, Billions United States Dollars

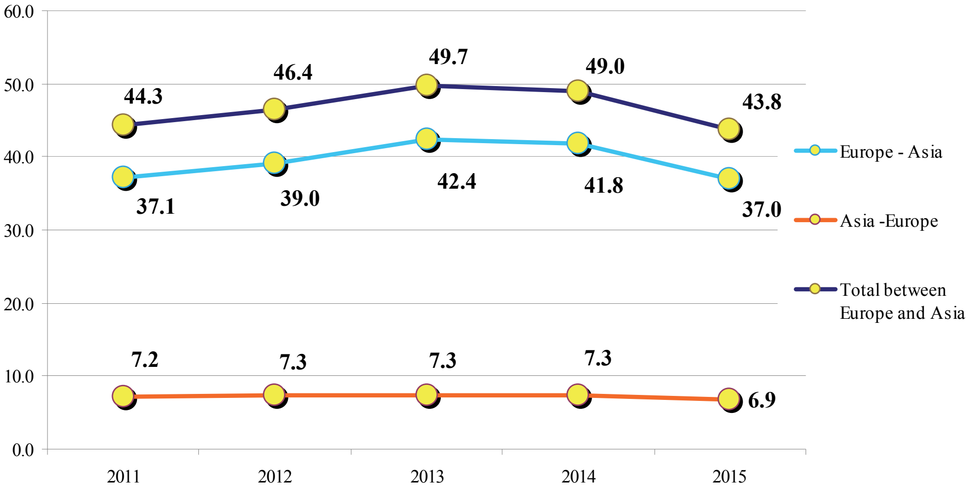


Figure A89 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

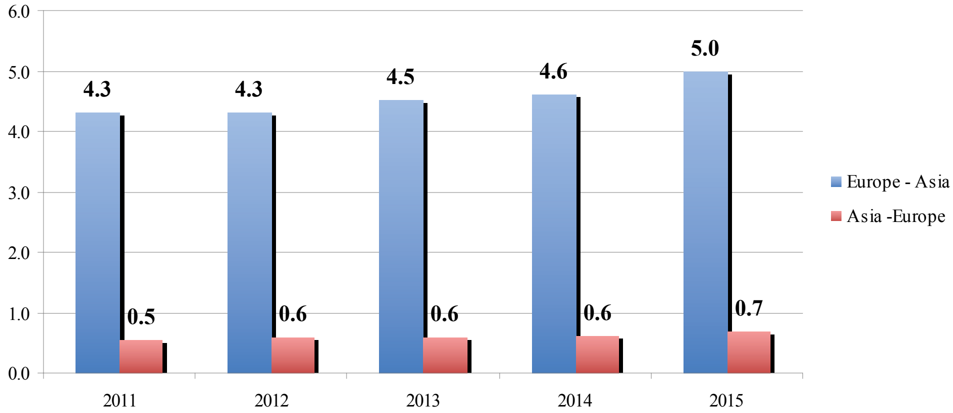
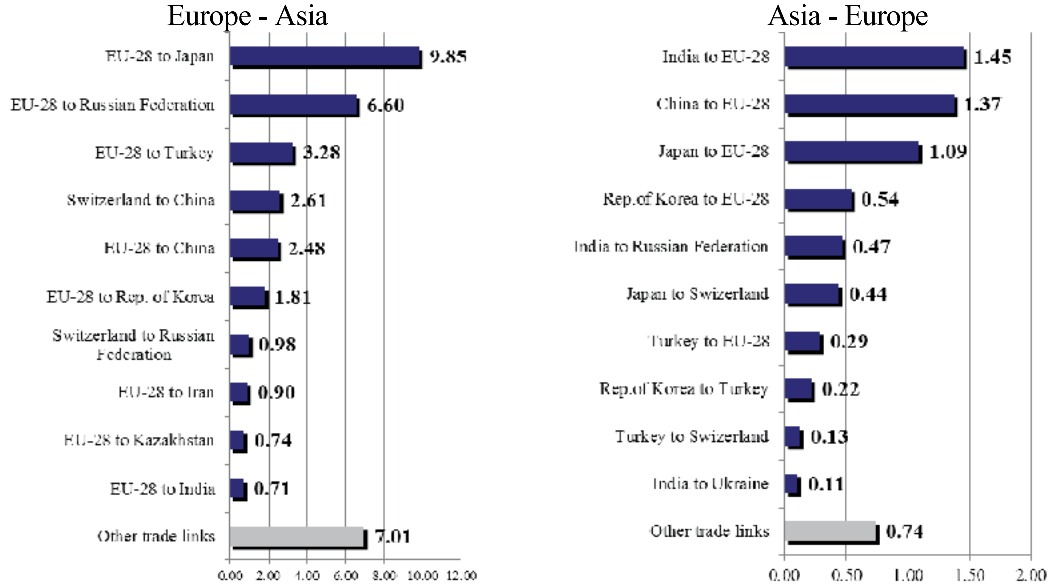


Figure A90 - Top 10 trade partners in 2015, Billions United States Dollars



HS 31. Fertilizers

Figure A91 - Volume of trade 2011–2015, Billions United States Dollars

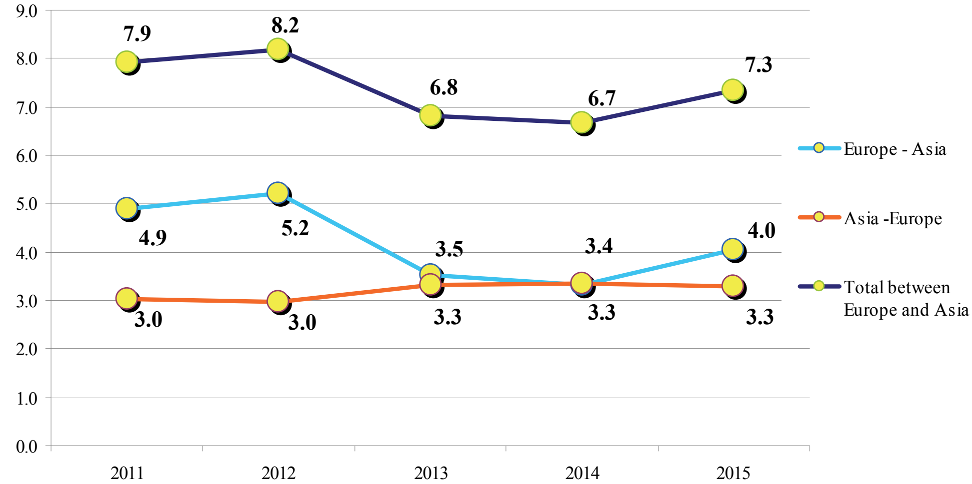


Figure A92 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

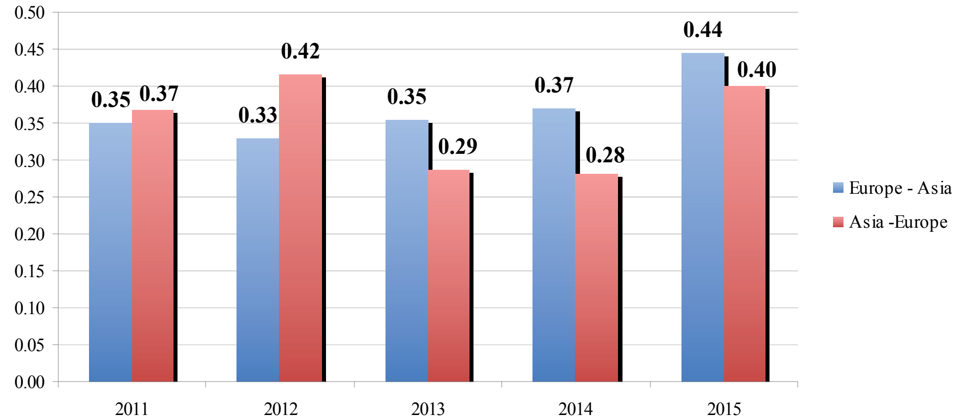
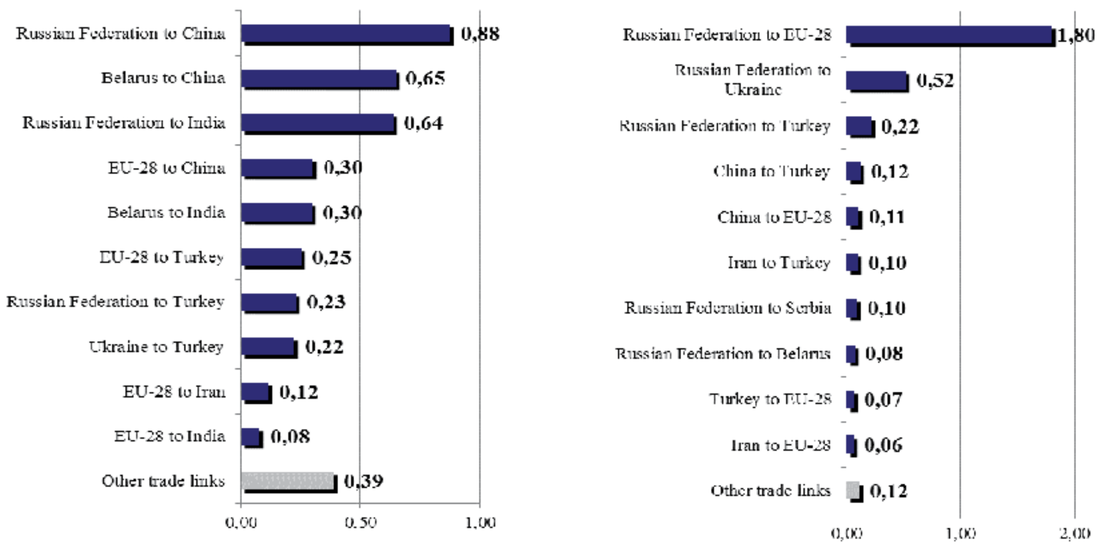


Figure A93 - Top 10 trade partners in 2015, Billions United States Dollars

Europe - Asia

Asia - Europe



HS 32. Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints, varnishes; putty, other mastics; inks

Figure A94 - Volume of trade 2011–2015, Billions United States Dollars

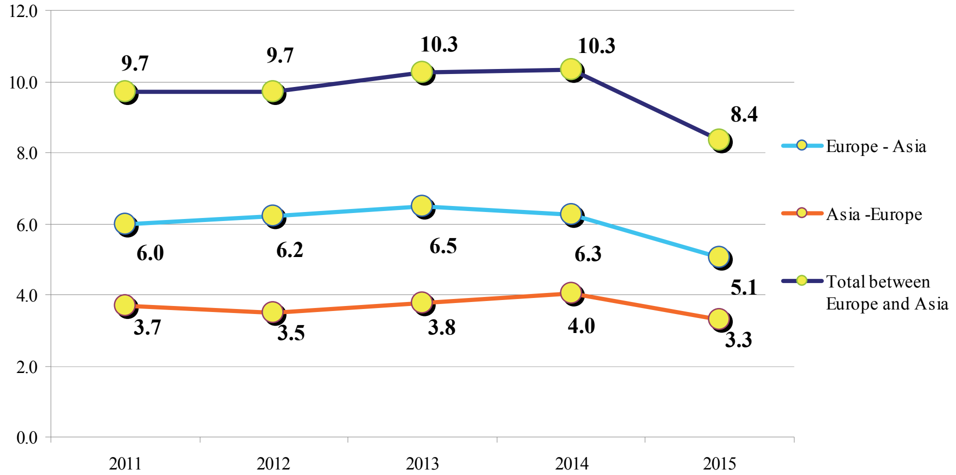


Figure A95 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

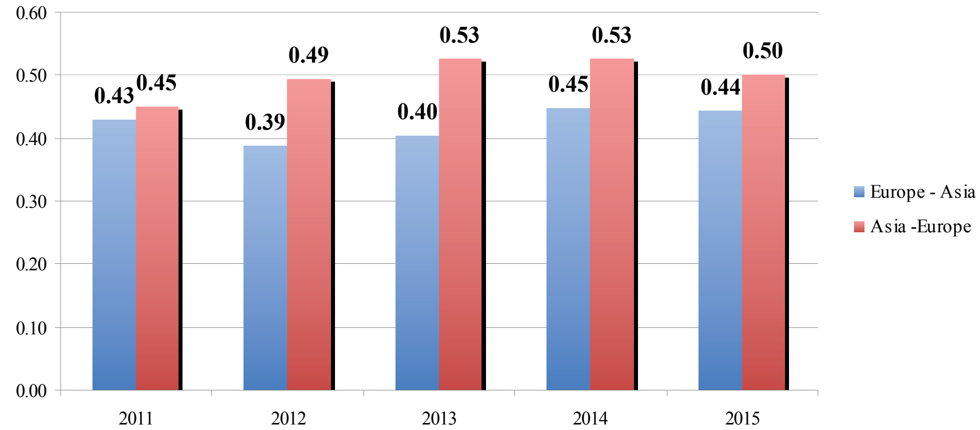
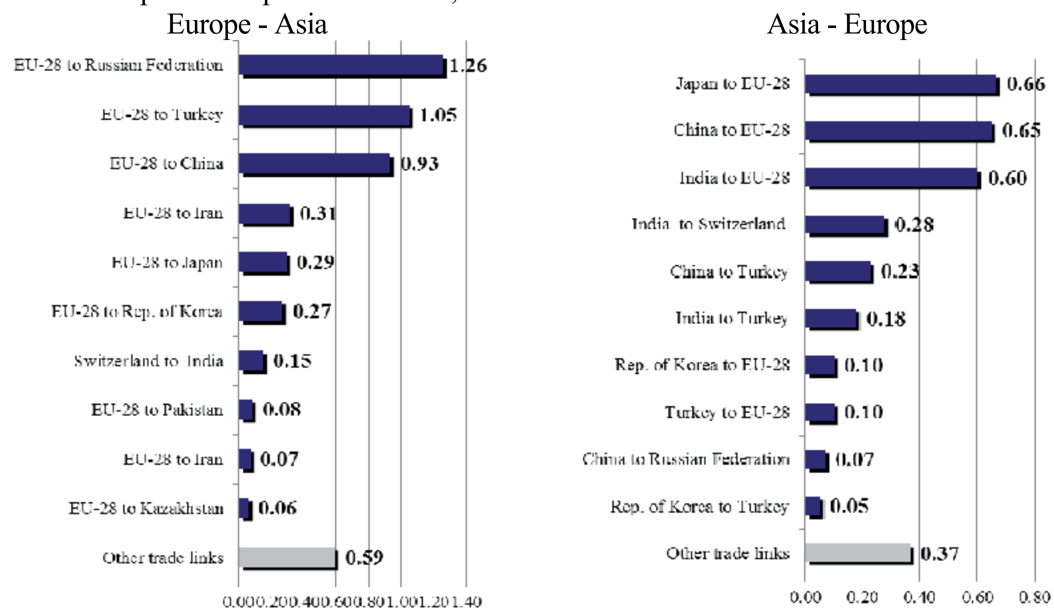


Figure A96 - Top 10 trade partners in 2015, Billions United States Dollars



HS 33. Essential oils and resinoids; perfumery, cosmetic or toilet preparations

Figure A97 - Volume of trade 2011–2015, Billions United States Dollars

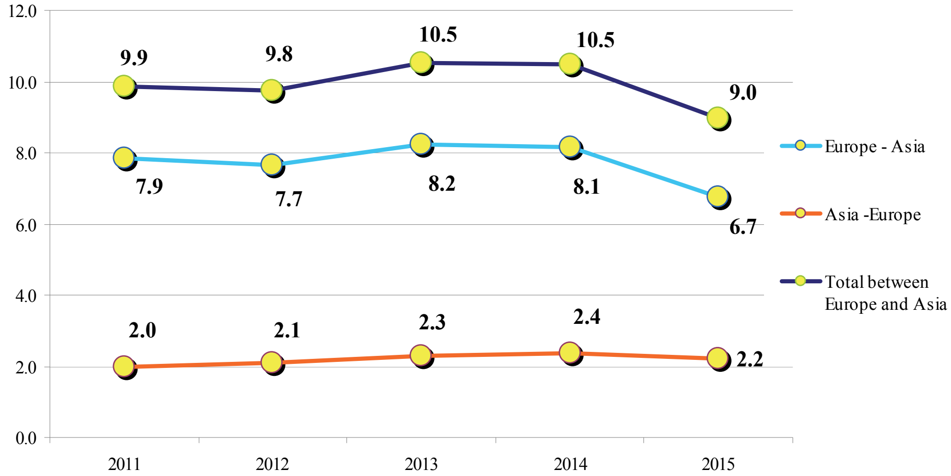


Figure A98 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

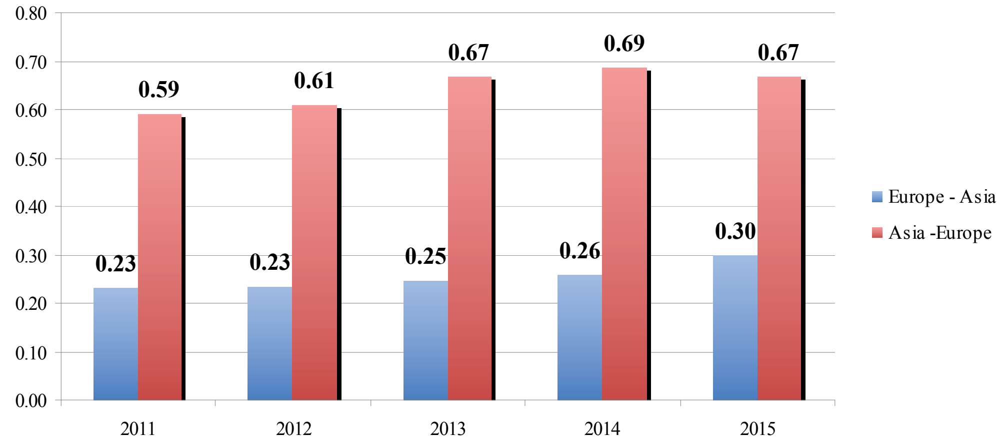
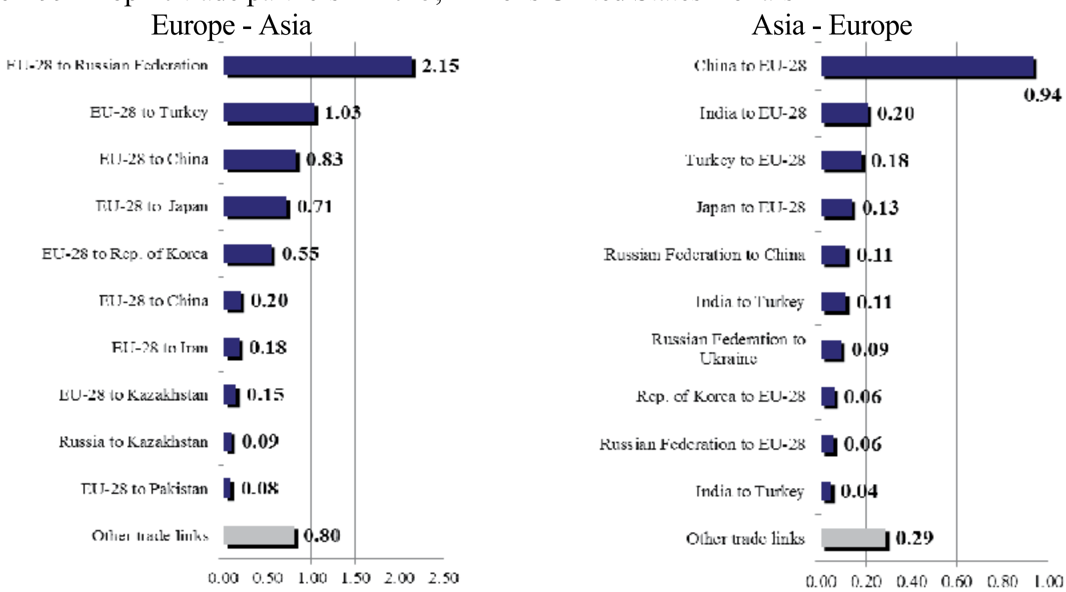


Figure A99 - Top 10 trade partners in 2015, Billions United States Dollars



HS 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

Figure A100 - Volume of trade 2011–2015, Billions United States Dollars

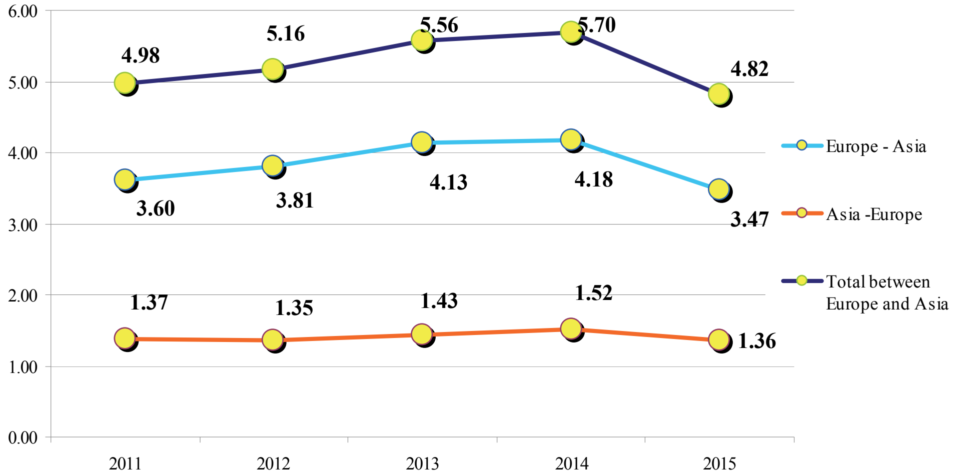


Figure A101 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

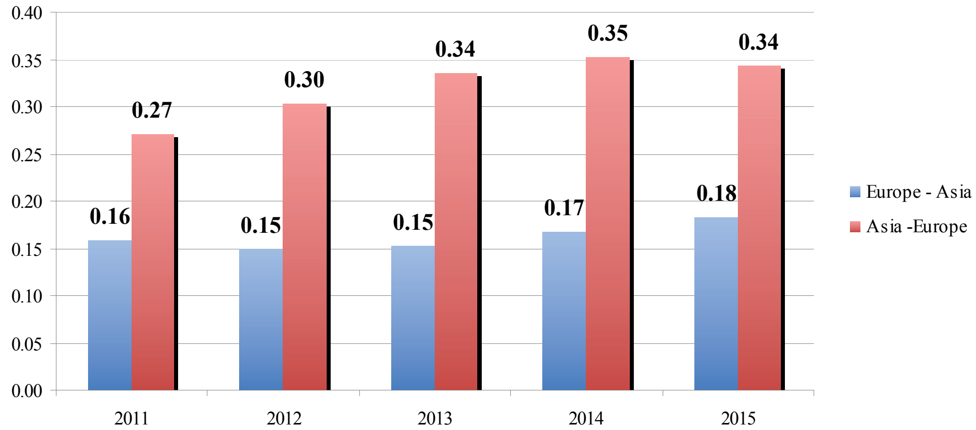
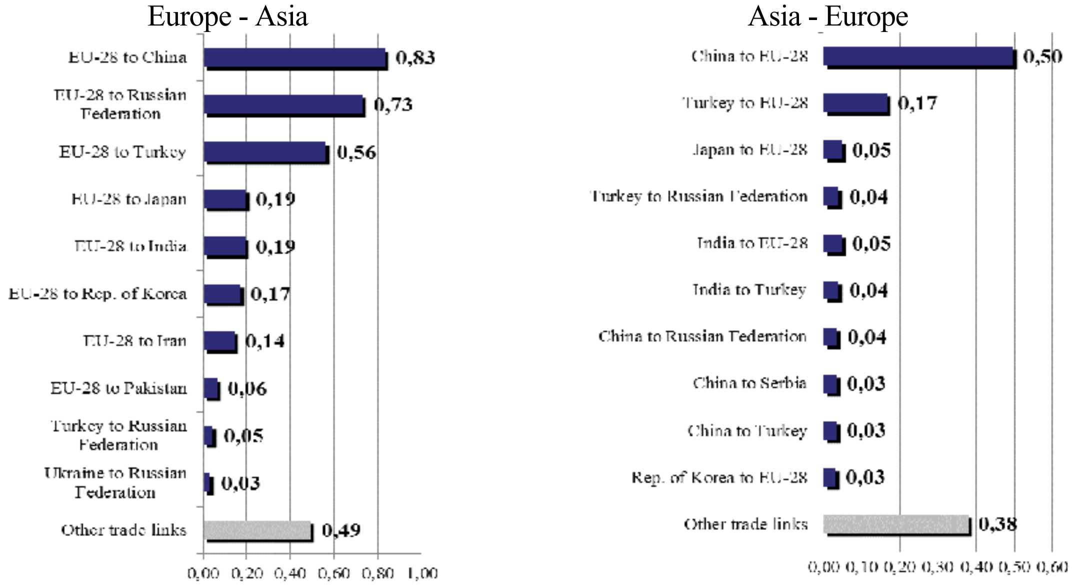


Figure A102 - Top 10 trade partners in 2015, Billions United States Dollars



HS 35. Albuminoidal substances; modified starches; glues; enzymes

Figure A103 - Volume of trade 2011–2015, Billions United States Dollars

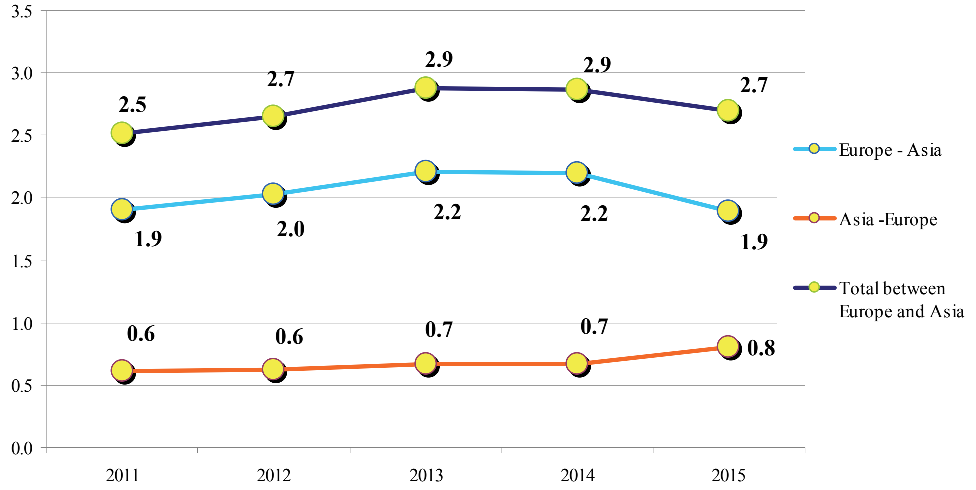


Figure A104 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

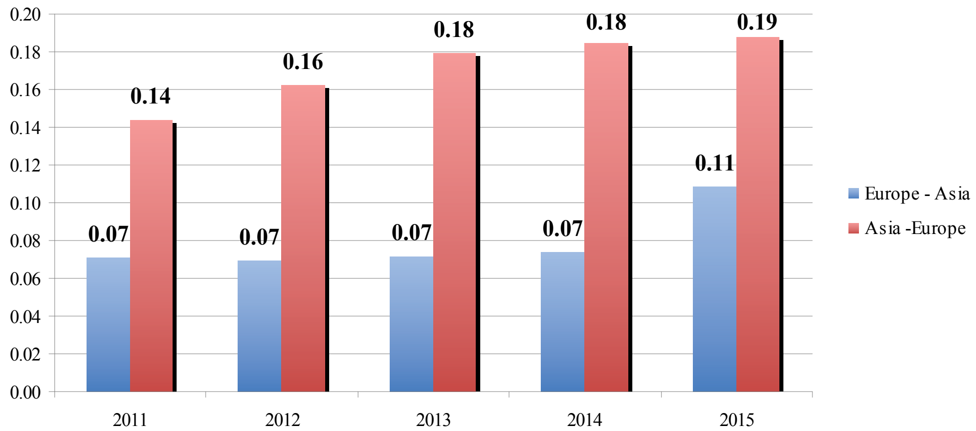
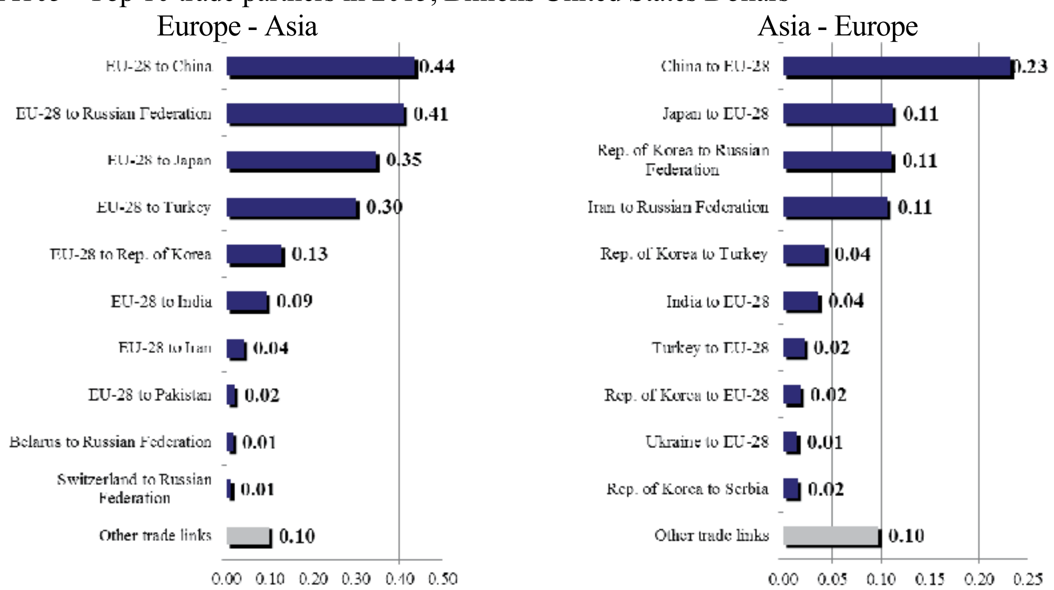


Figure A105 - Top 10 trade partners in 2015, Billions United States Dollars



HS 36. Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations

Figure A106 - Volume of trade 2011–2015, Billions United States Dollars

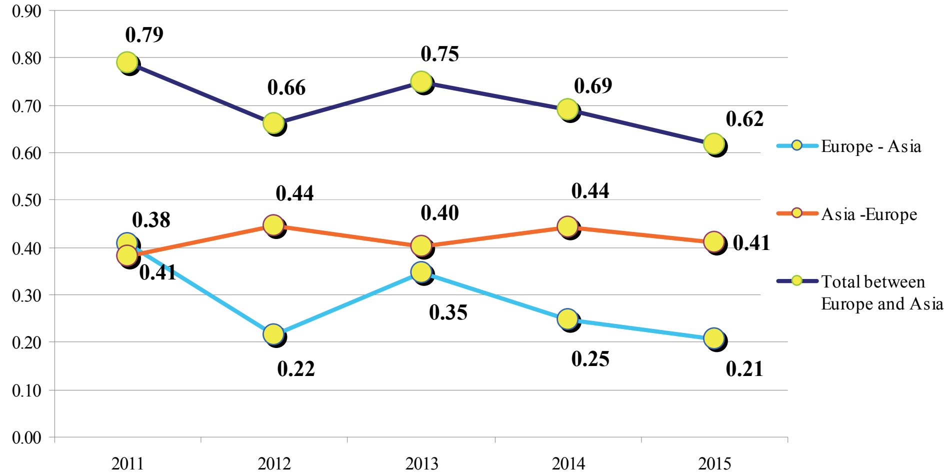


Figure A107 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

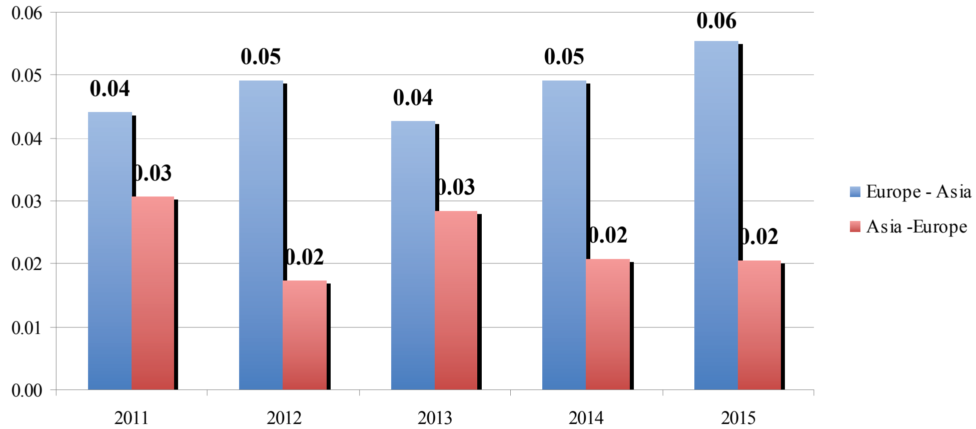
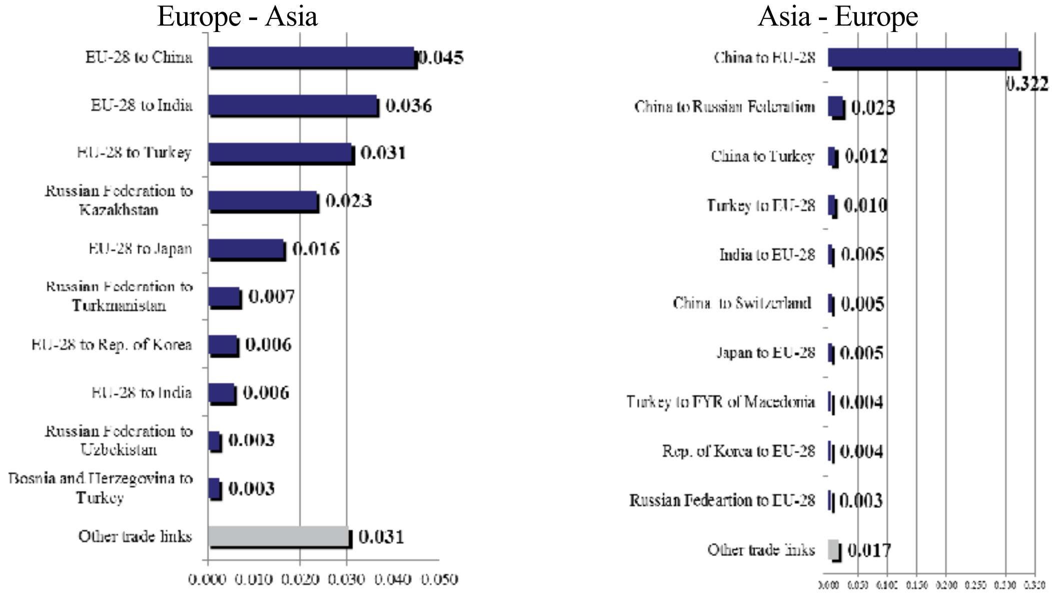


Figure A108 - Top 10 trade partners in 2015, Billions United States Dollars



HS 37. Photographic or cinematographic goods

Figure A109 - Volume of trade 2011–2015, Billions United States Dollars

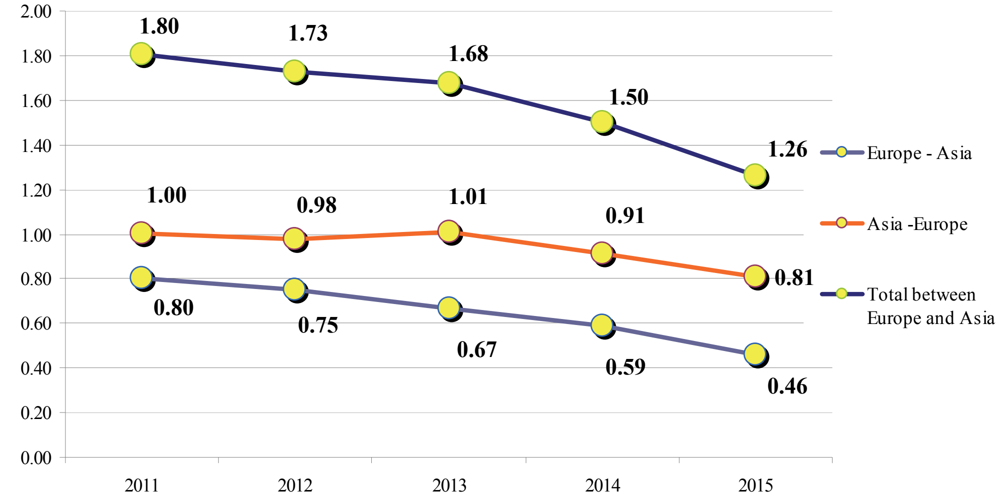


Figure A110 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

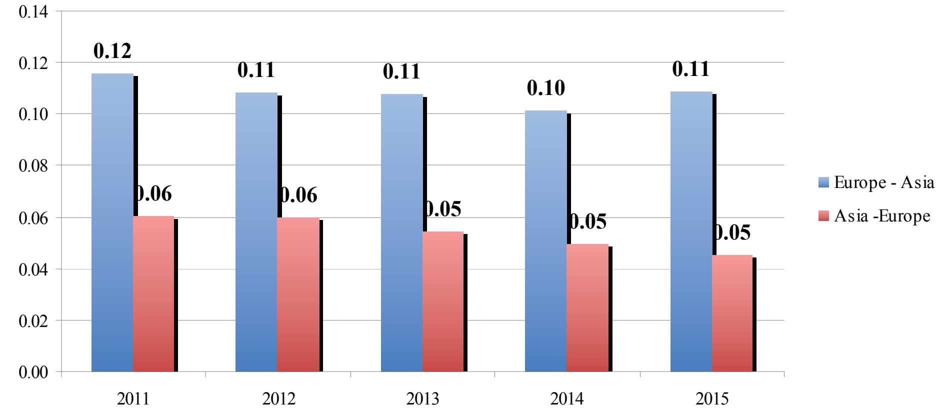
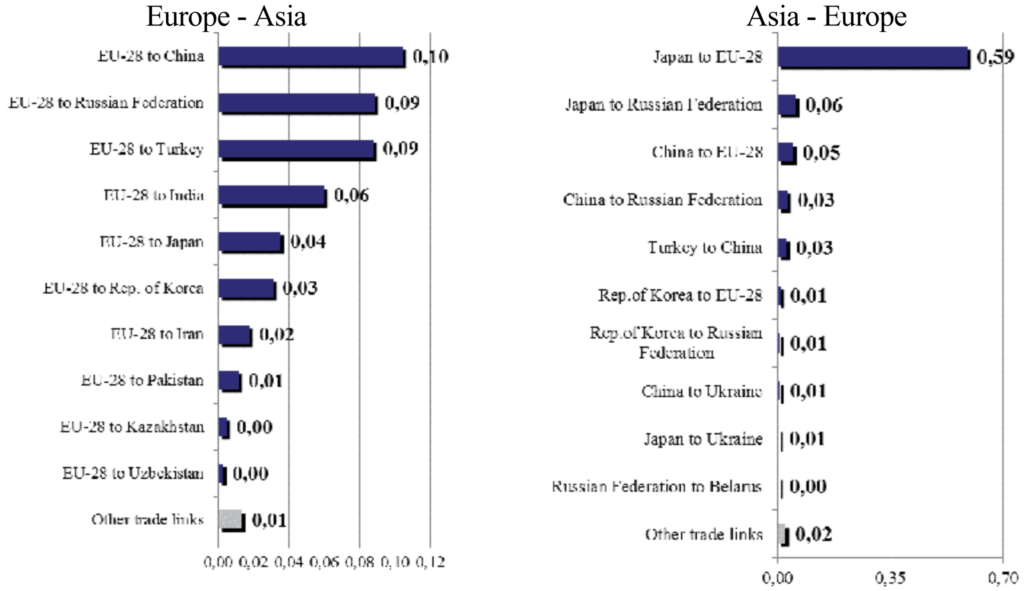


Figure A111 - Top 10 trade partners in 2015, Billions United States Dollars



HS 38. Chemical products n.e.c.

Figure A112 - Volume of trade 2011–2015, Billions United States Dollars

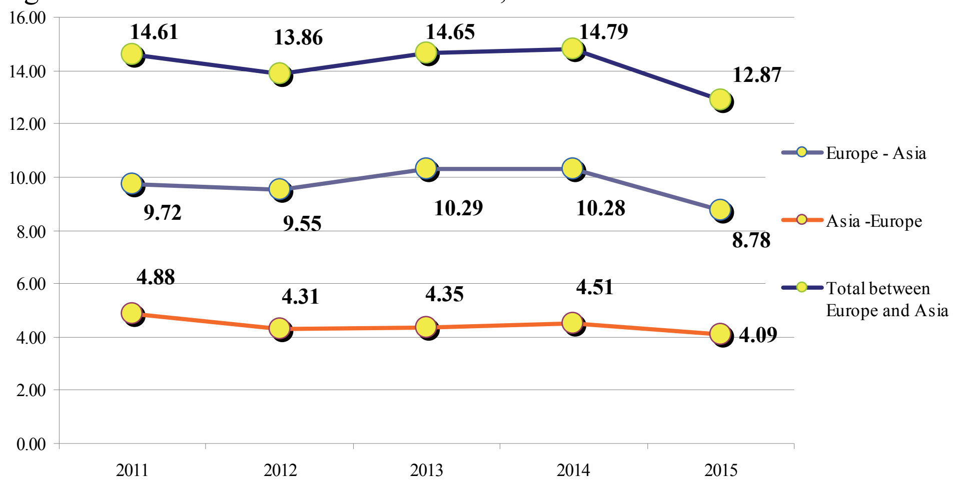


Figure A113 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

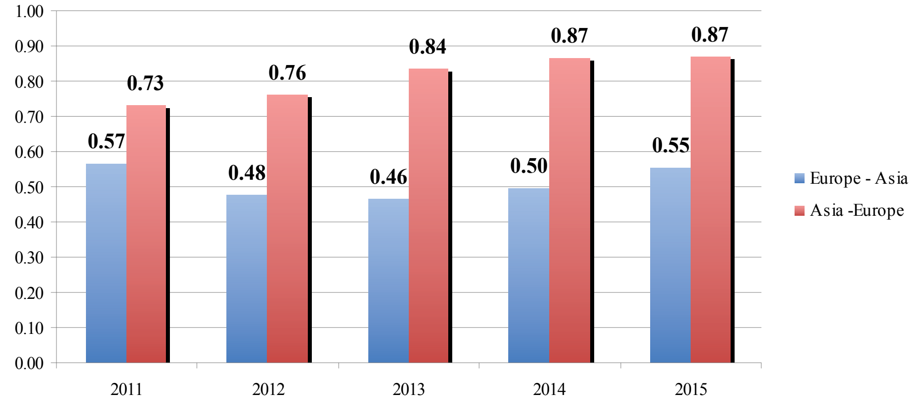
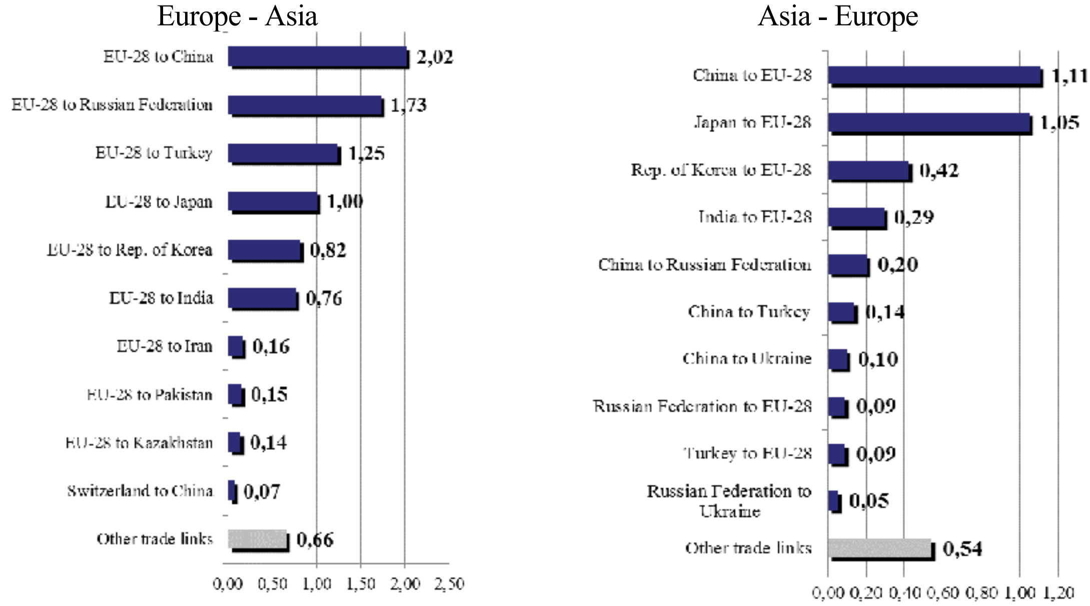


Figure A114 - Top 10 trade partners in 2015, Billions United States Dollars



HS 39. Plastics and articles thereof

Figure A115 - Volume of trade 2011–2015, Billions United States Dollars

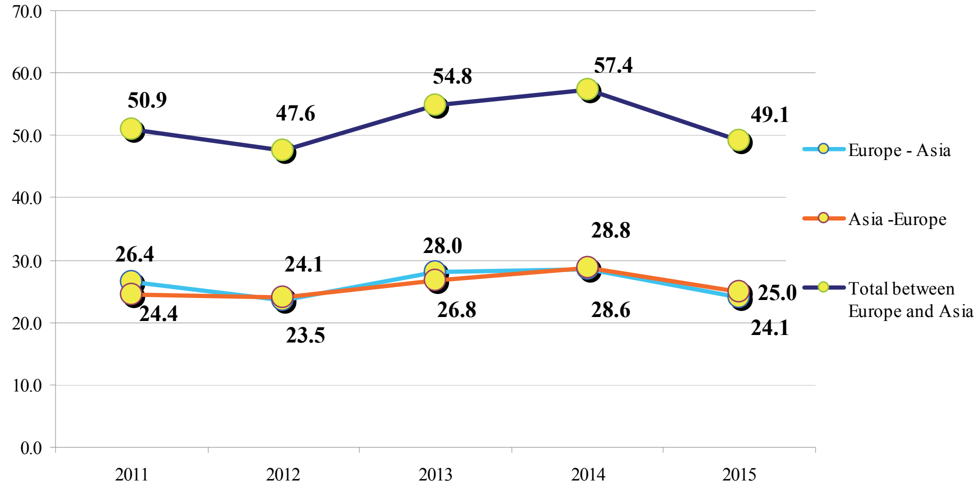


Figure A116 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

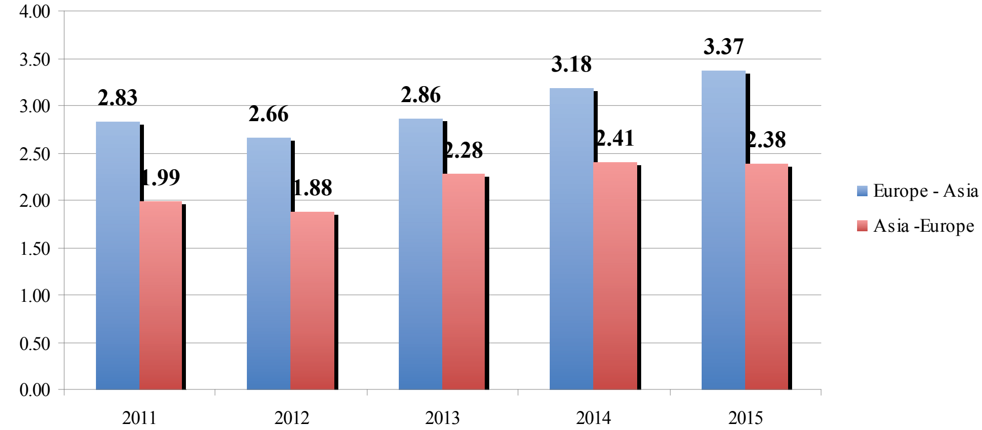
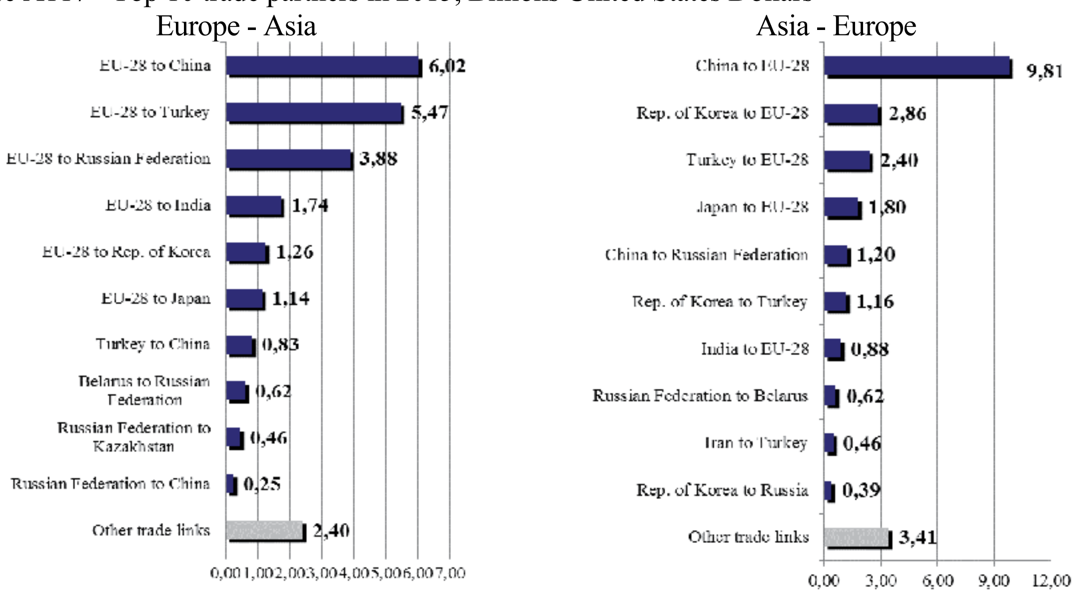


Figure A117 - Top 10 trade partners in 2015, Billions United States Dollars



HS 40. Rubber and articles thereof

Figure A118 - Volume of trade 2011–2015, Billions United States Dollars

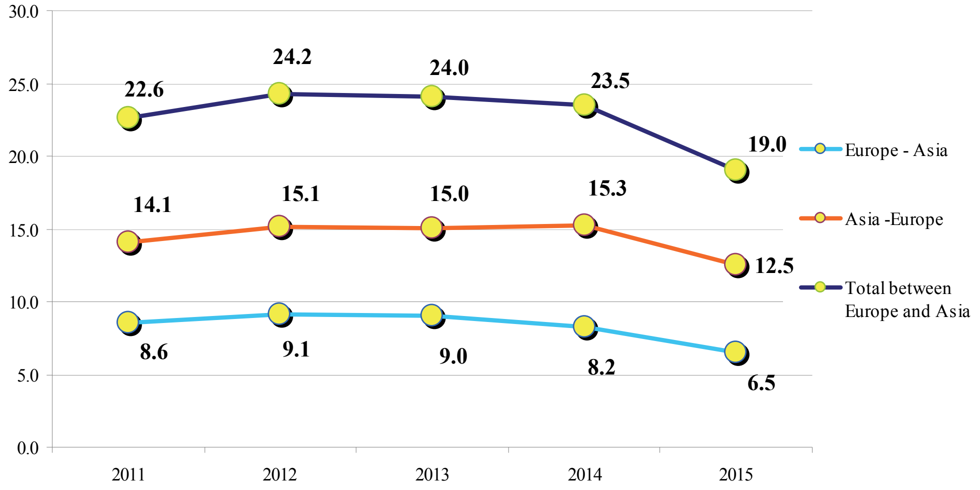


Figure A119 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

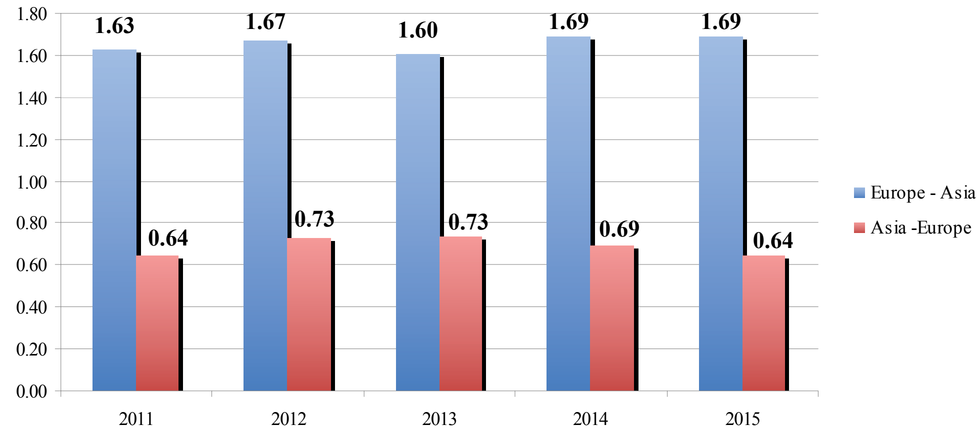
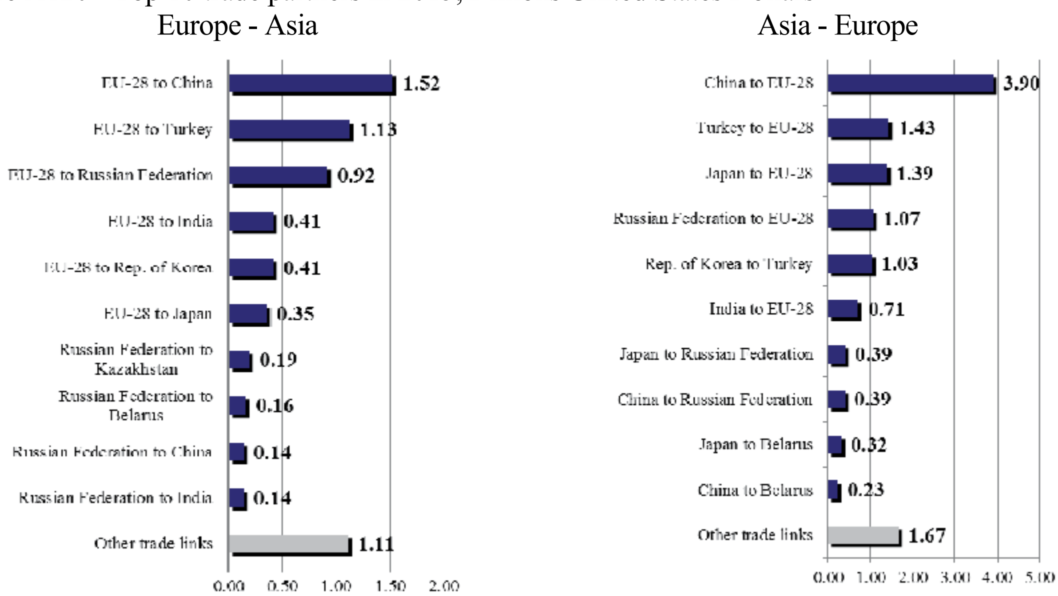


Figure A120 - Top 10 trade partners in 2015, Billions United States Dollars



HS 41. Raw hides and skins (other than furskins) and leather

Figure A121 - Volume of trade 2011–2015, Billions United States Dollars

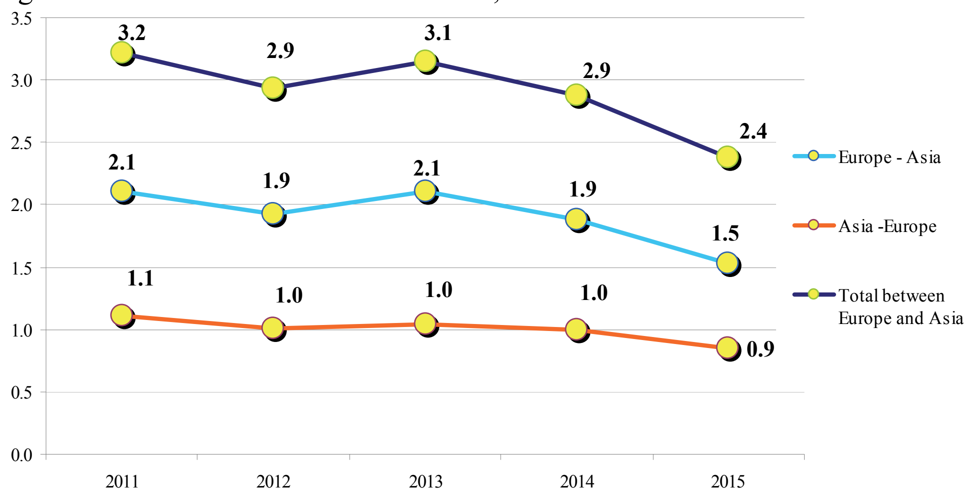


Figure A122 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

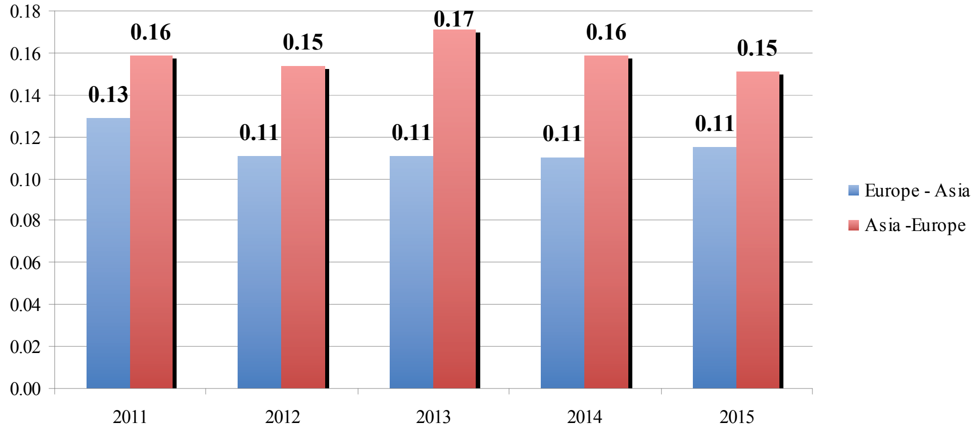
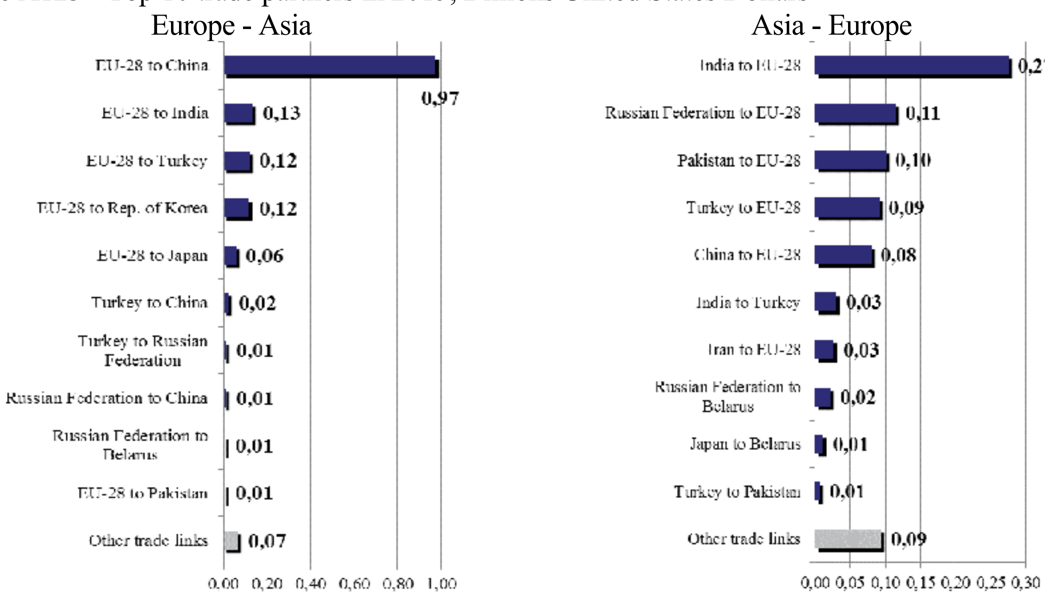


Figure A123 - Top 10 trade partners in 2015, Billions United States Dollars



HS 42. Articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silk-worm gut)

Figure A124 - Volume of trade 2011–2015, Billions United States Dollars

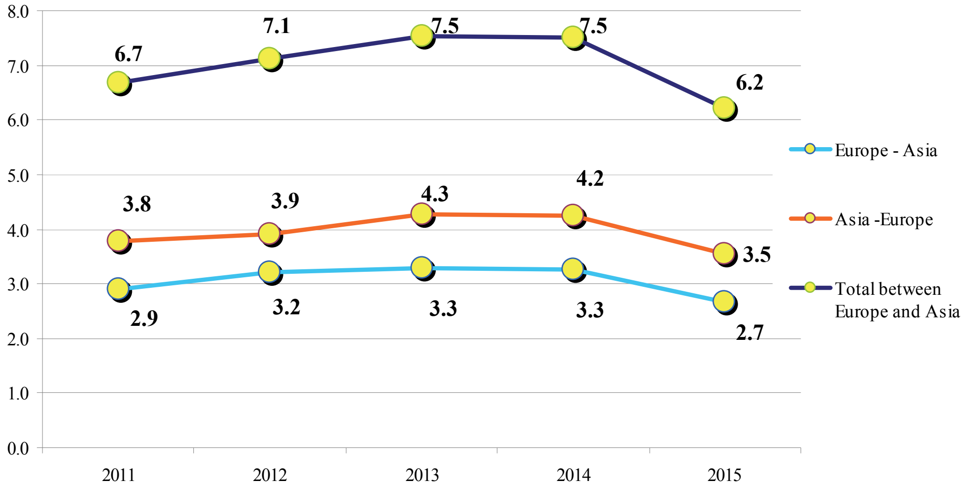


Figure A125 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

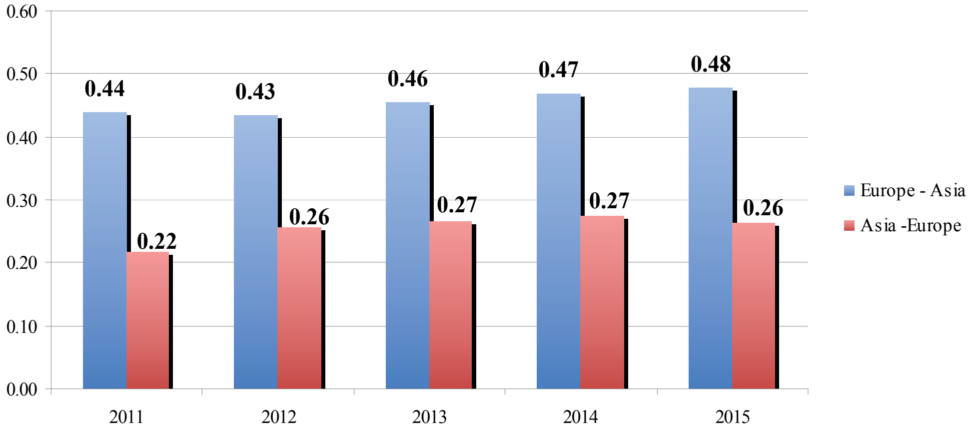
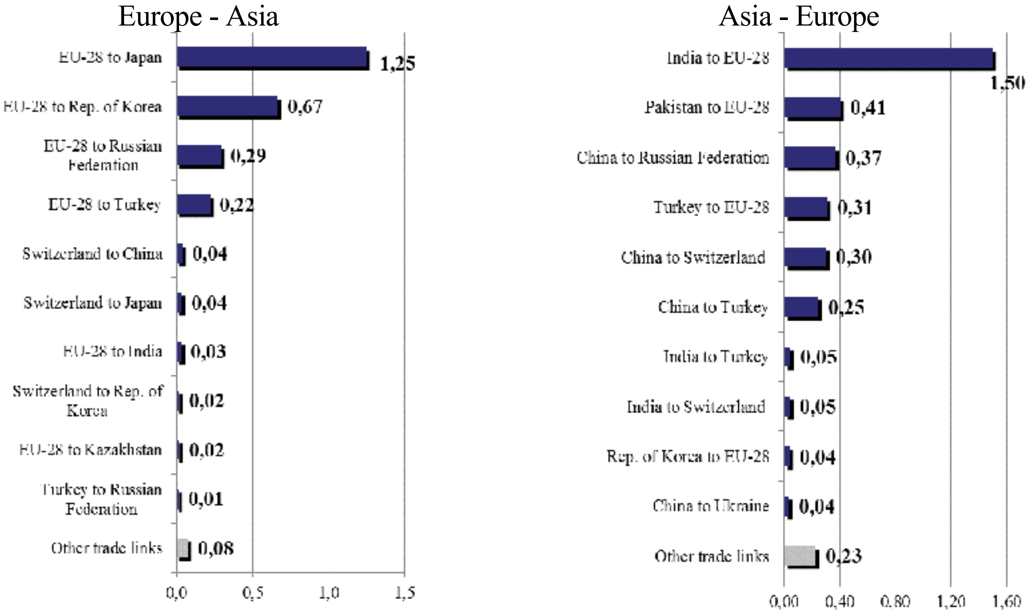


Figure A126 - Top 10 trade partners in 2015, Billions United States Dollars



HS 43. Furskins and artificial fur; manufactures thereof

Figure A127 - Volume of trade 2011–2015, Billions United States Dollars

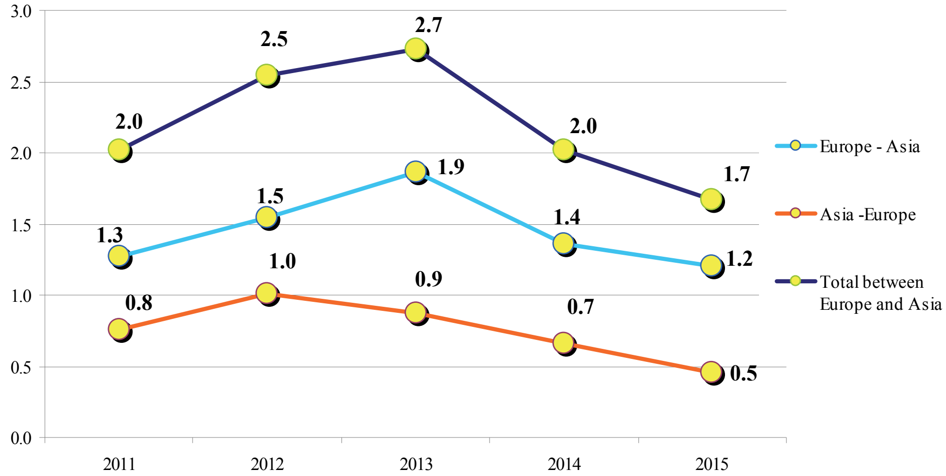


Figure A128 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

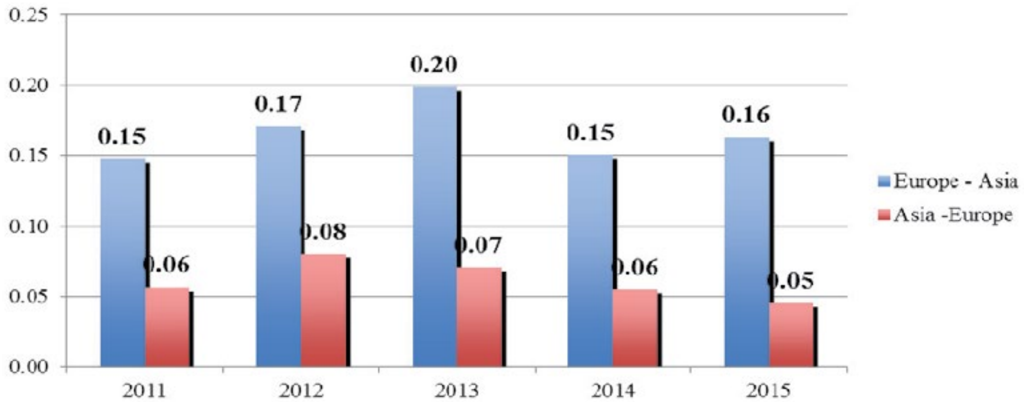
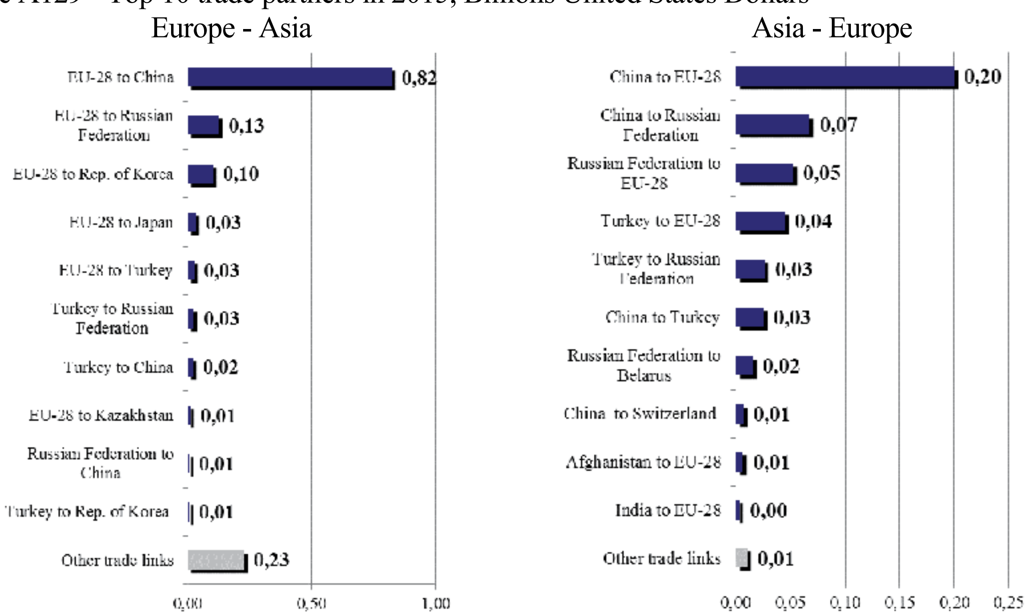


Figure A129 - Top 10 trade partners in 2015, Billions United States Dollars



HS 44. Wood and articles of wood; wood charcoal

Figure A130 - Volume of trade 2011–2015, Billions United States Dollars

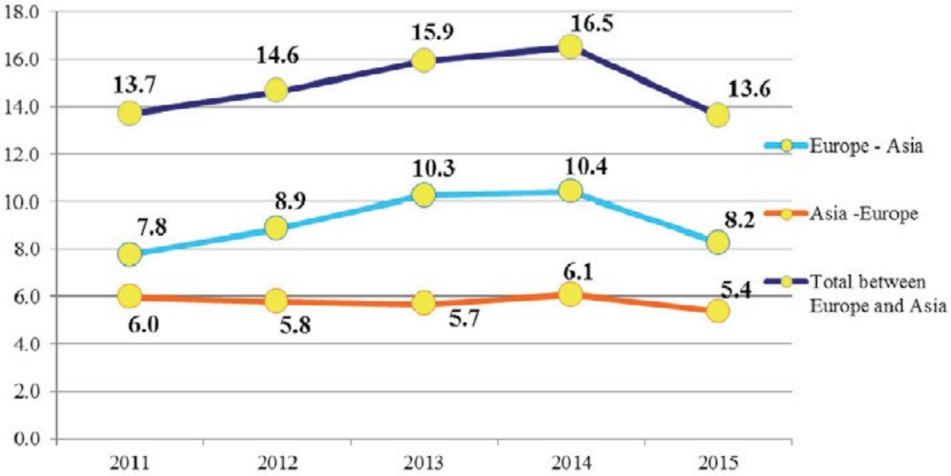


Figure A131 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

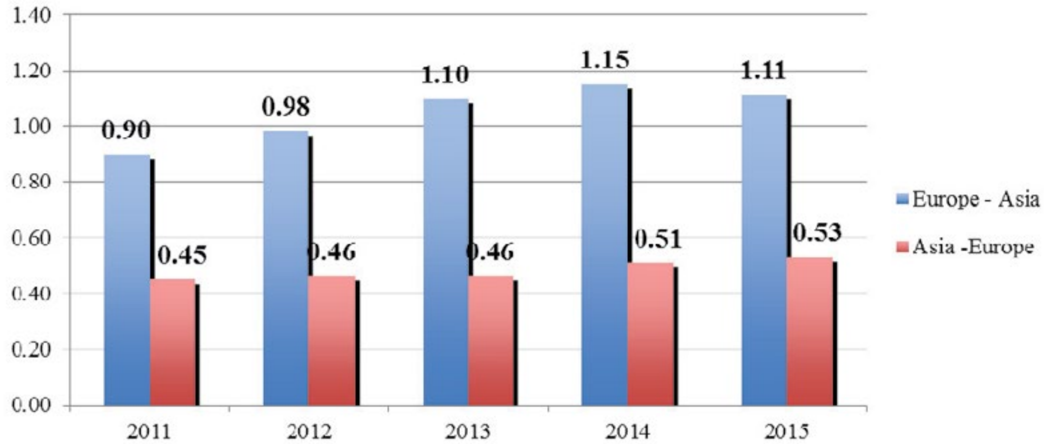
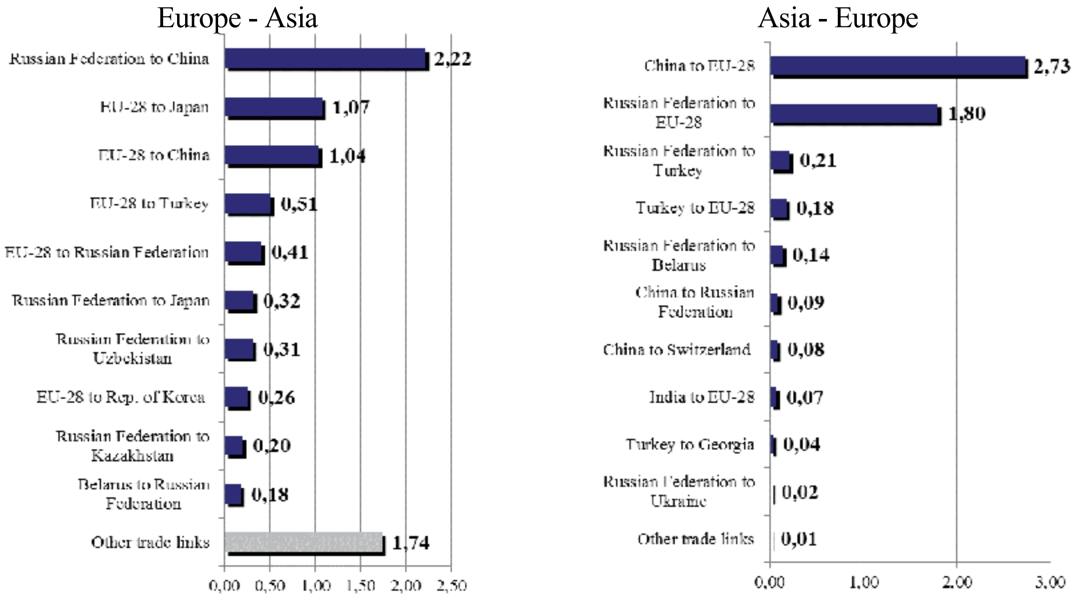


Figure A132 - Top 10 trade partners in 2015, Billions United States Dollars



HS 45. Cork and articles of cork

Figure A133 - Volume of trade 2011–2015, Billions United States Dollars

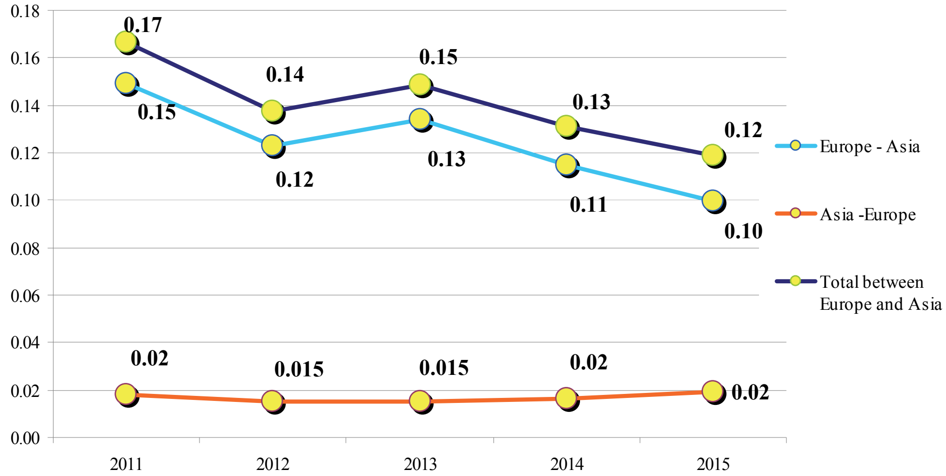


Figure A134 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

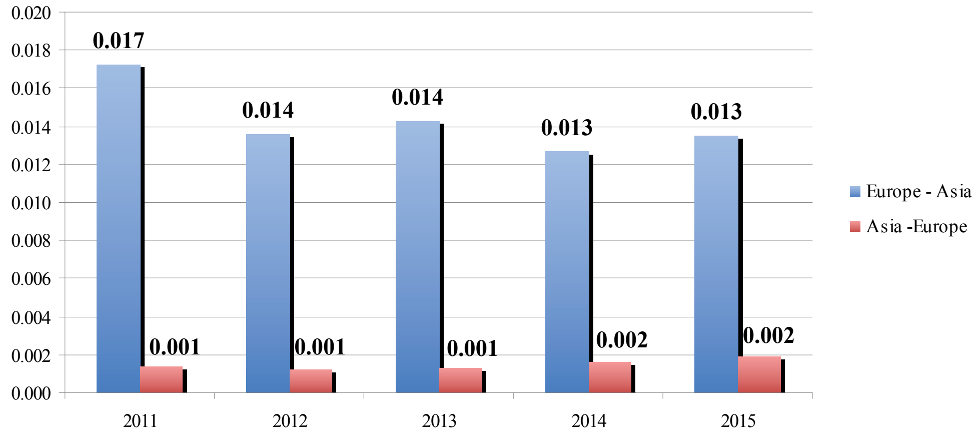
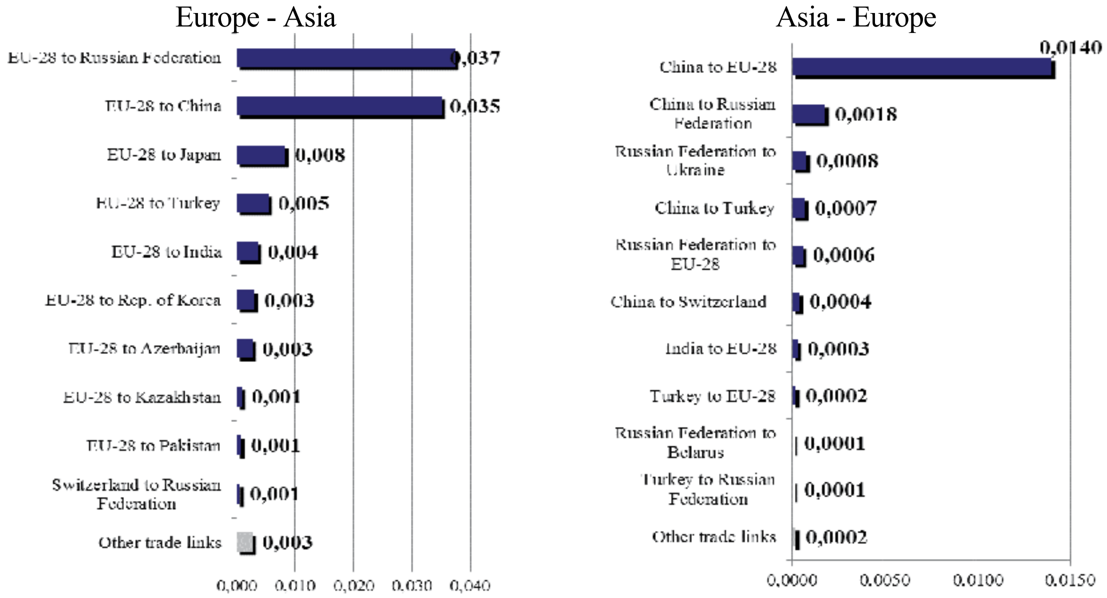


Figure A135 - Top 10 trade partners in 2015, Billions United States Dollars



HS 46. Manufactures of straw, esparto or other plaiting materials; basketware and wickerwork

Figure A136 - Volume of trade 2011–2015, Billions United States Dollars

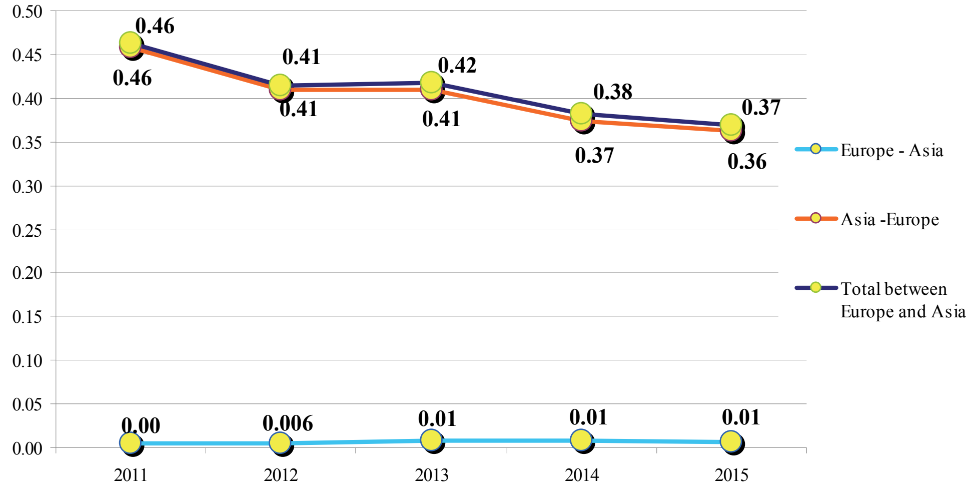


Figure A137 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

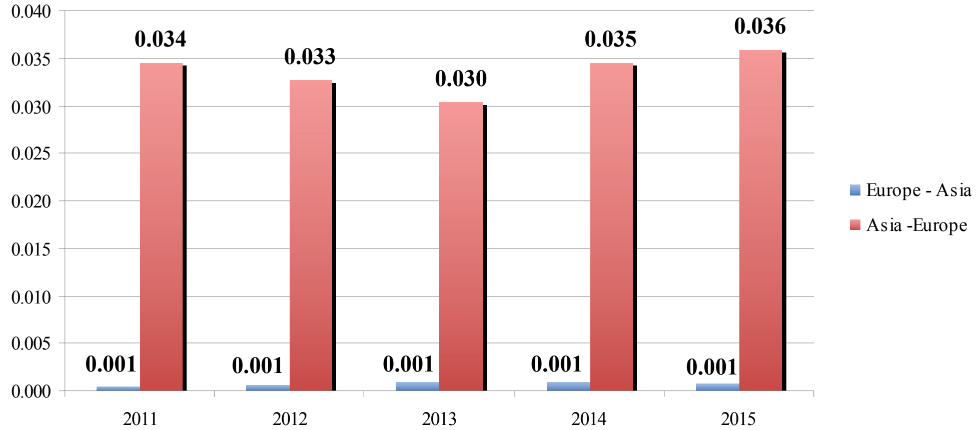
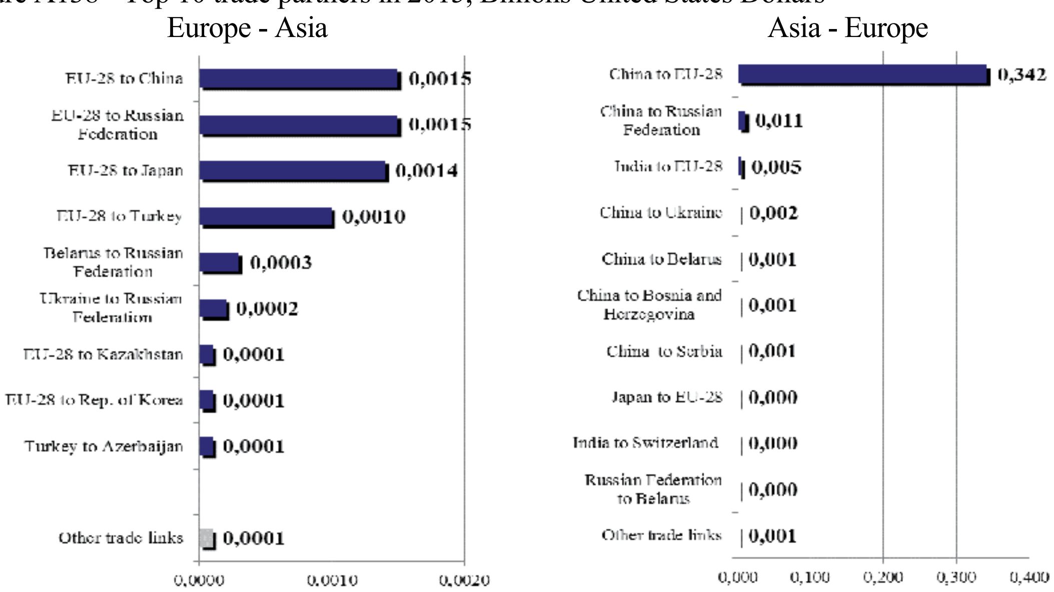


Figure A138 - Top 10 trade partners in 2015, Billions United States Dollars



HS 47. Pulp of wood or other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard

Figure A139 - Volume of trade 2011–2015, Billions United States Dollars

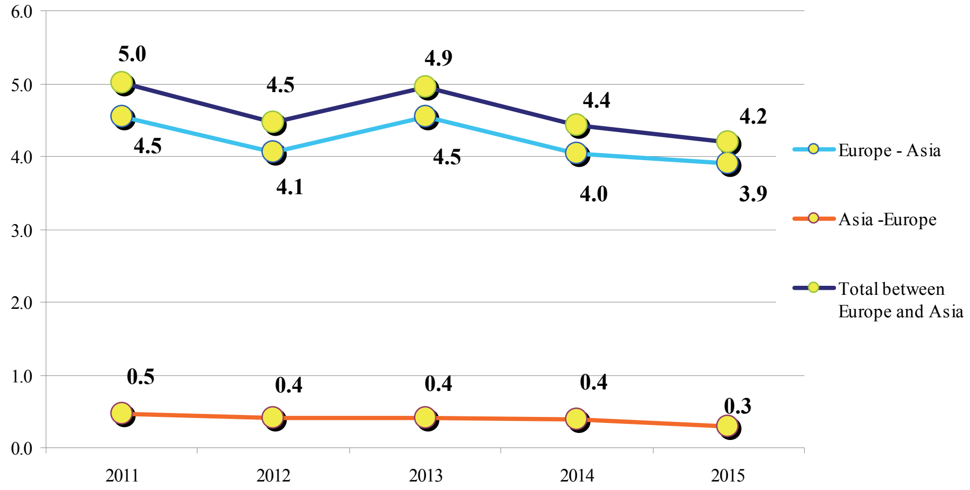


Figure A140 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

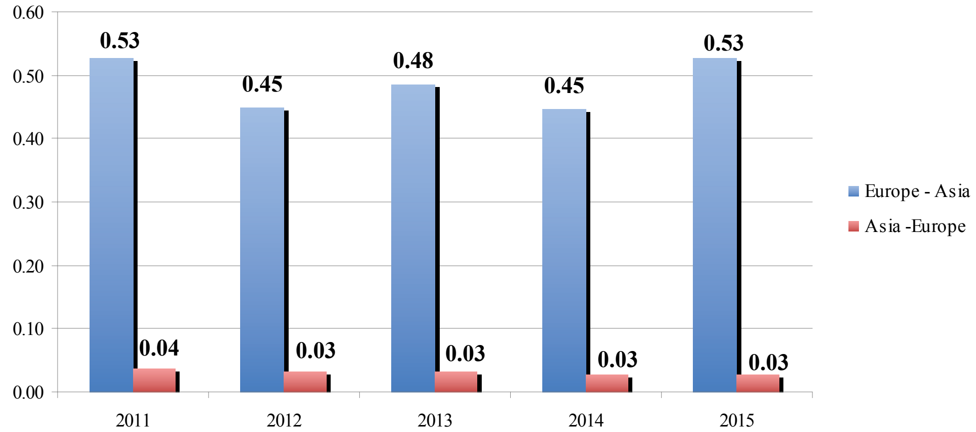
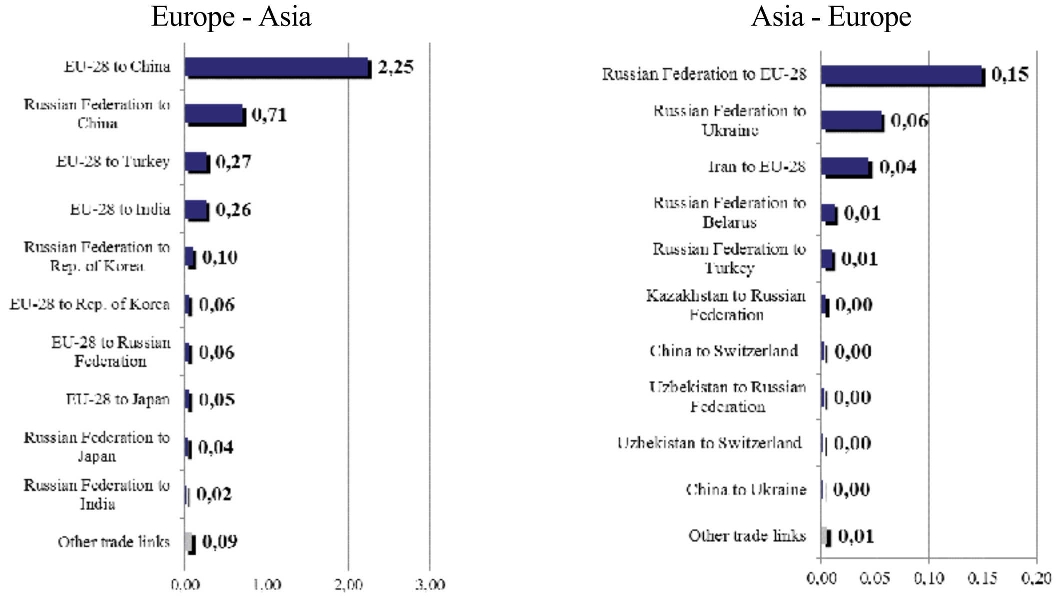


Figure A141 - Top 10 trade partners in 2015, Billions United States Dollars



HS 48. Paper and paperboard; articles of paper pulp, of paper or paperboard

Figure A142 - Volume of trade 2011–2015, Billions United States Dollars

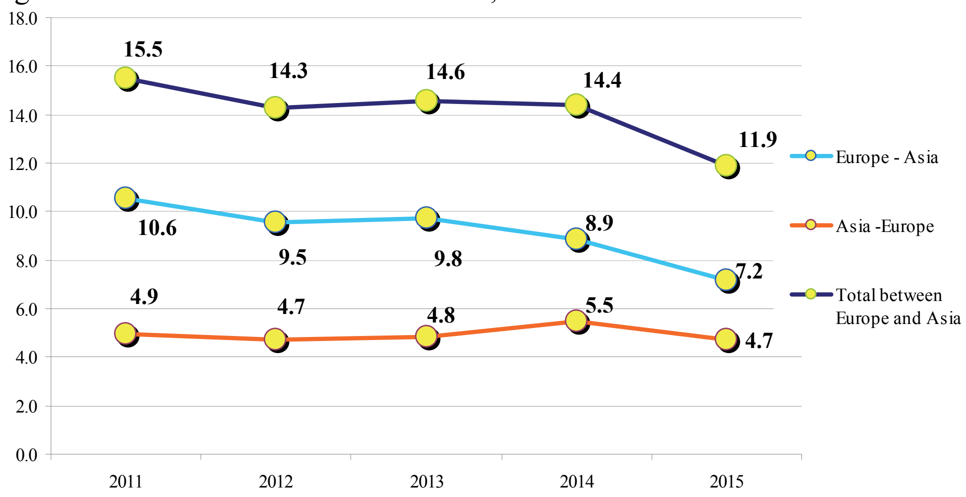


Figure A143 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

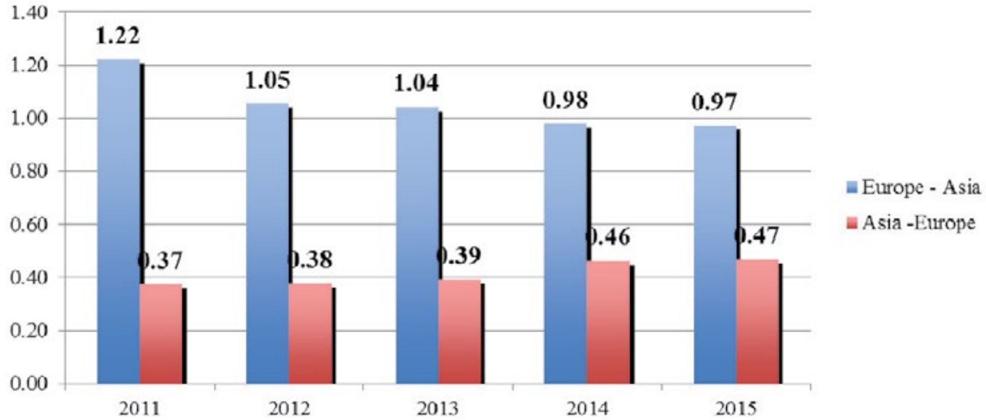
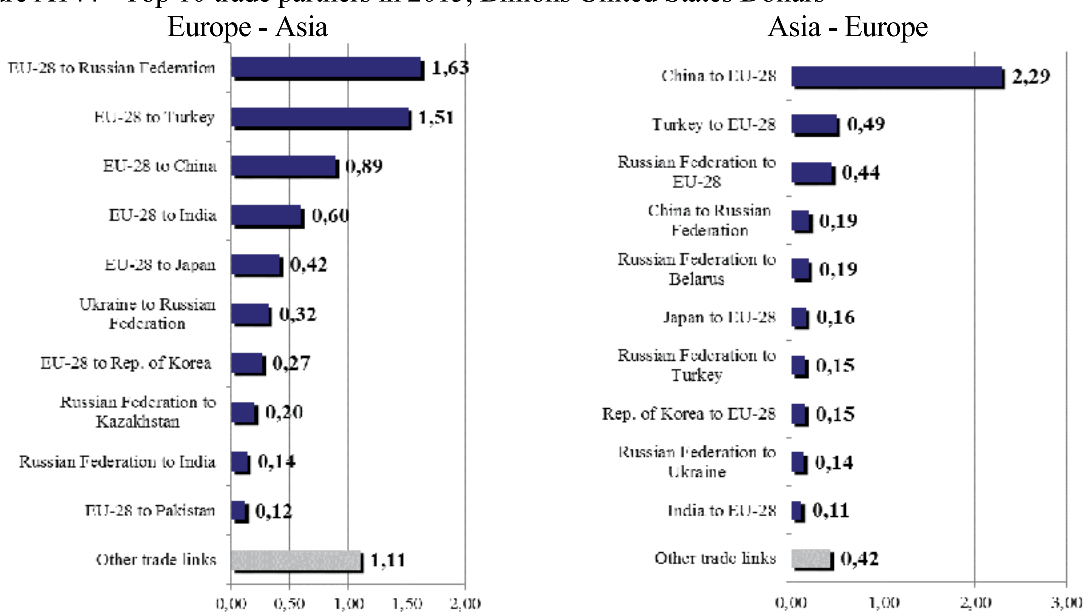


Figure A144 - Top 10 trade partners in 2015, Billions United States Dollars



HS 49. Printed books, newspapers, pictures and other products of the printing industry; manuscripts, typescripts and plans

Figure A145 - Volume of trade 2011–2015, Billions United States Dollars

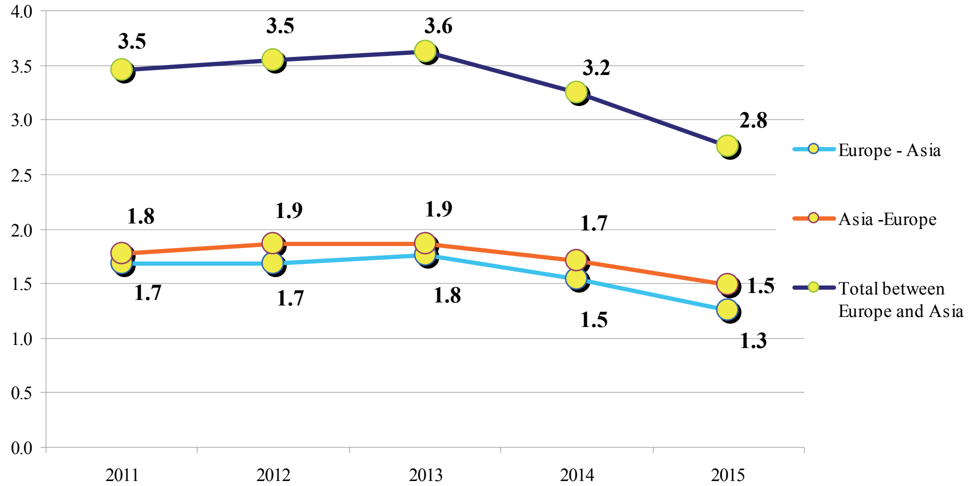


Figure A146 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

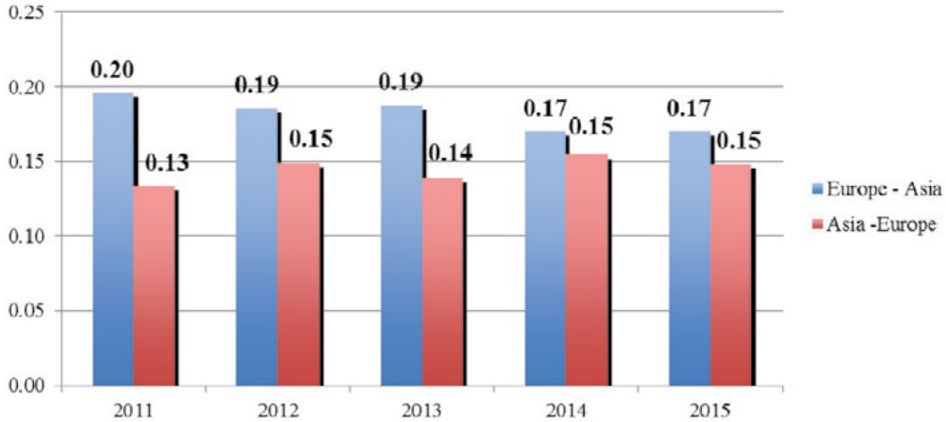
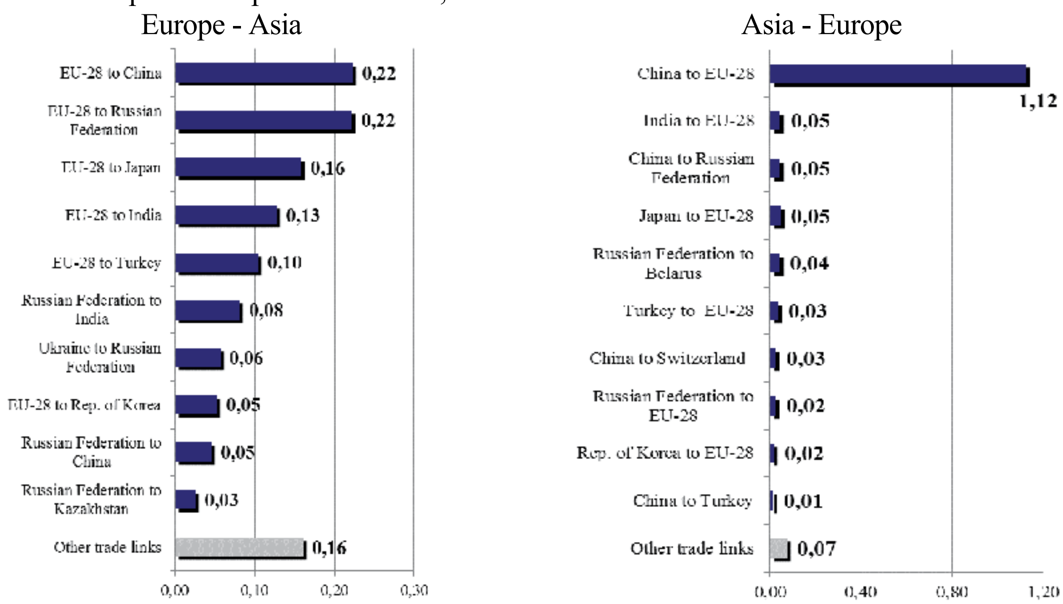


Figure A147 - Top 10 trade partners in 2015, Billions United States Dollars



HS 50. Silk

Figure A148 - Volume of trade 2011–2015, Billions United States Dollars

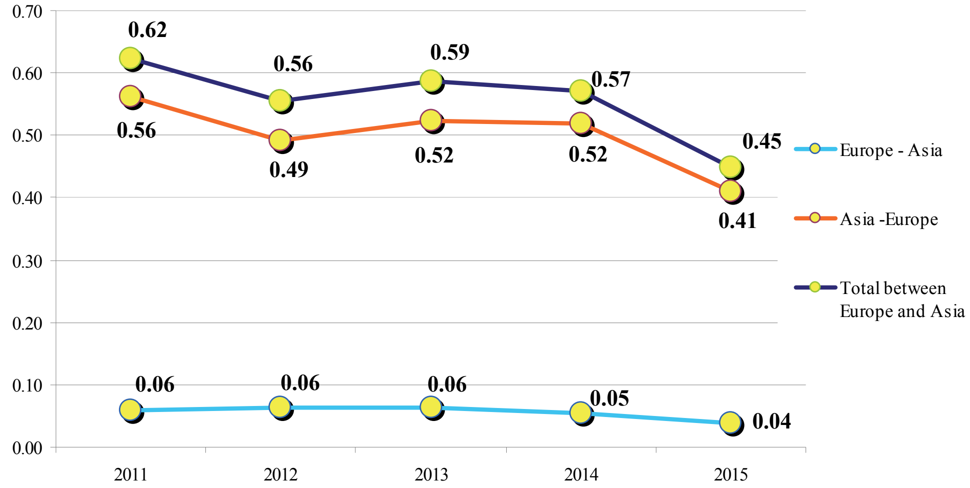


Figure A149 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

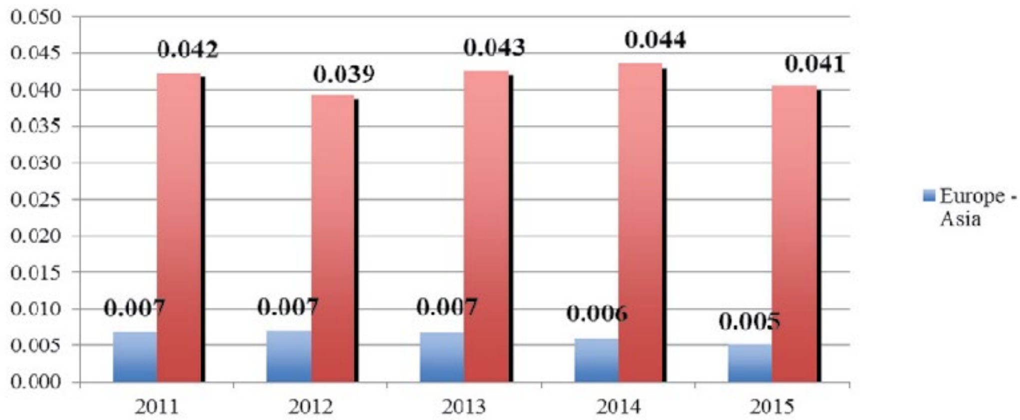
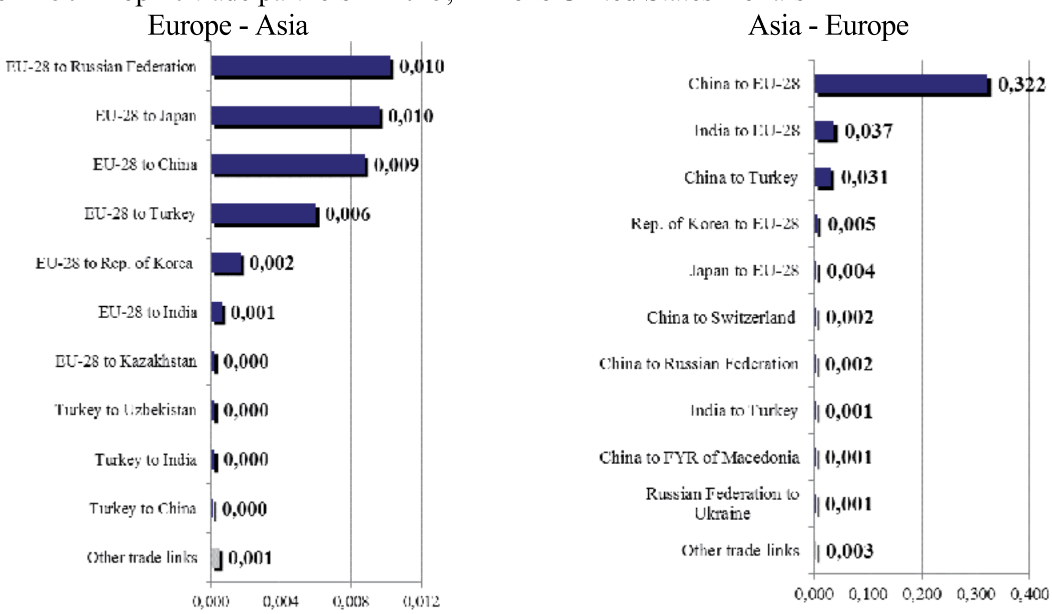


Figure A150 - Top 10 trade partners in 2015, Billions United States Dollars



HS 51. Wool, fine or coarse animal hair; horsehair yarn and woven fabric

Figure A151 - Volume of trade 2011–2015, Billions United States Dollars

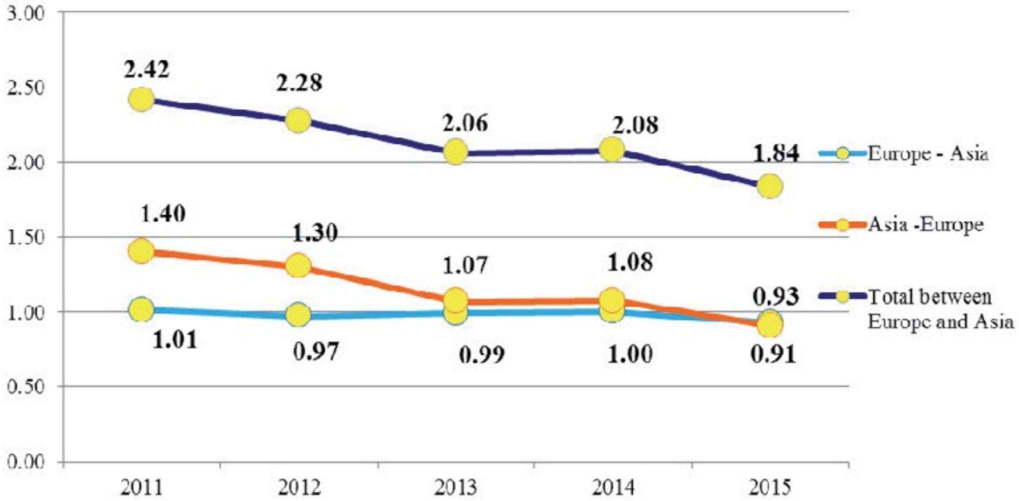


Figure A152 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

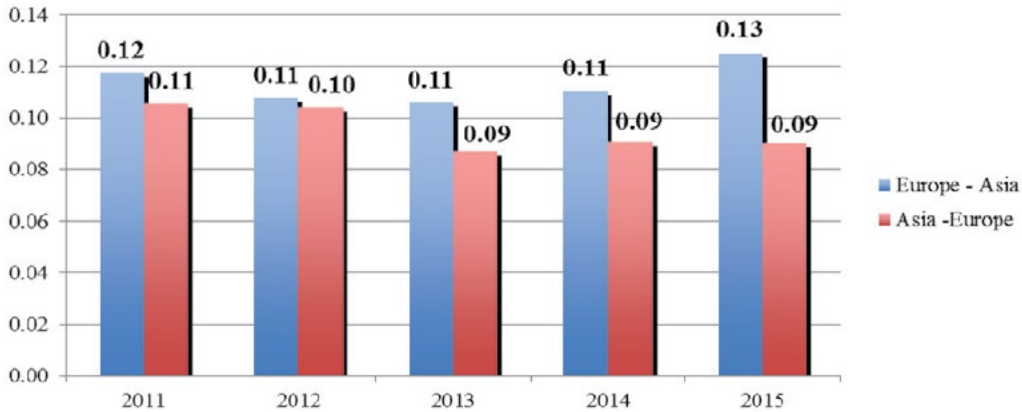
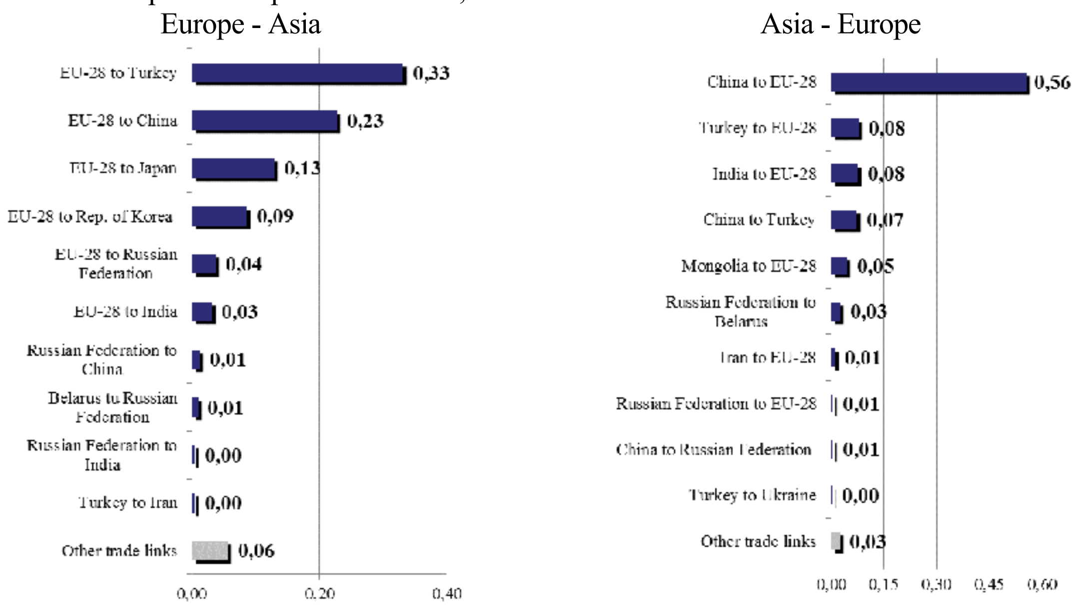


Figure A153 - Top 10 trade partners in 2015, Billions United States Dollars



HS 52. Cotton

Figure A154 - Volume of trade 201hi1–2015, Billions United States Dollars

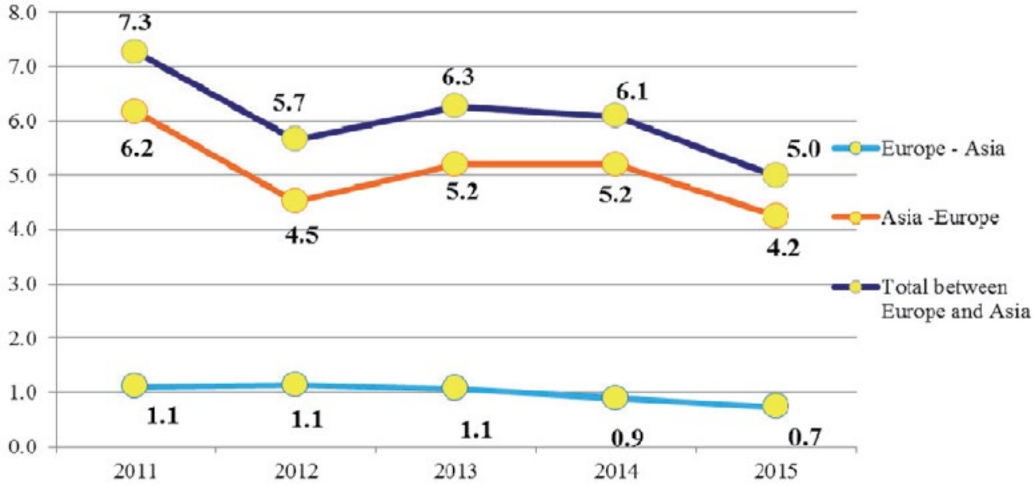


Figure A155 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

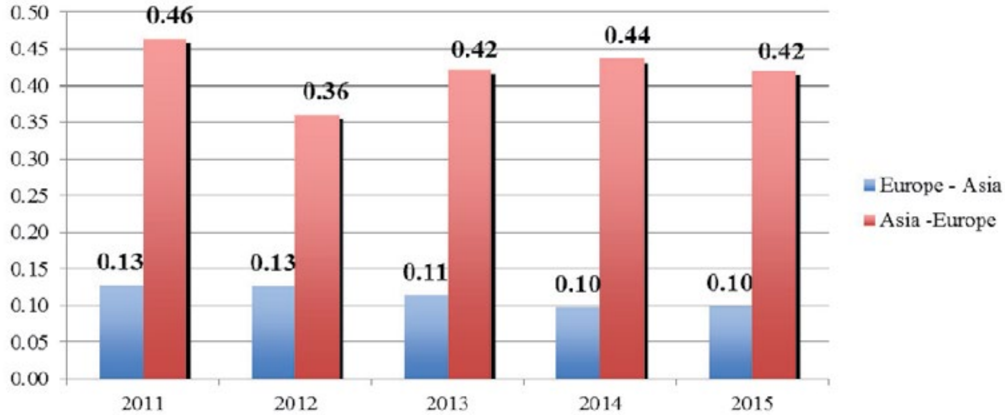
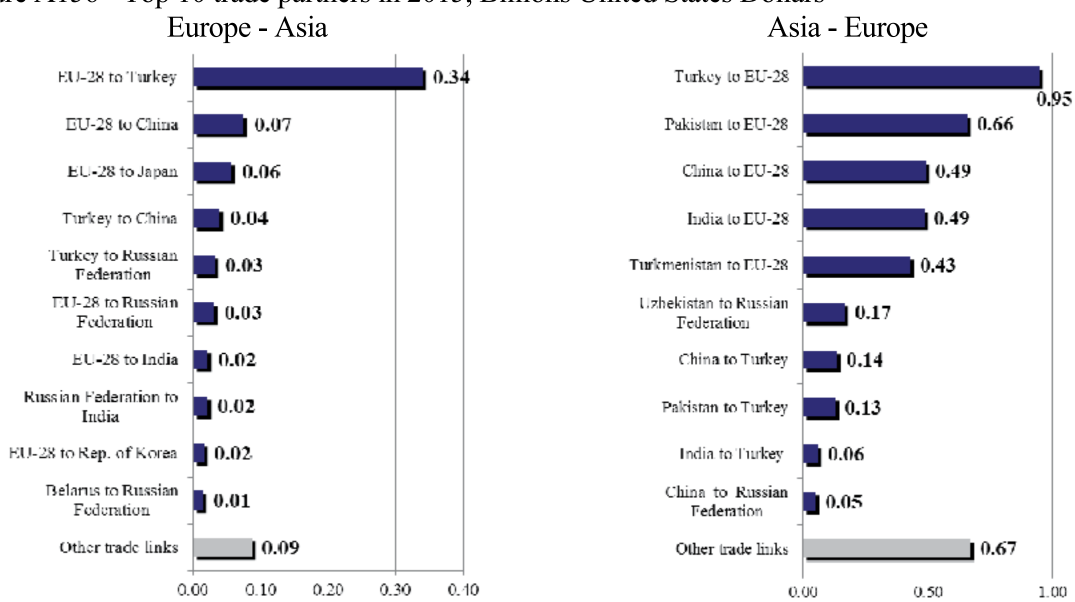


Figure A156 - Top 10 trade partners in 2015, Billions United States Dollars



HS 53. Vegetable textile fibres; paper yarn and woven fabrics of paper yarn

Figure A157 - Volume of trade 2011–2015, Billions United States Dollars

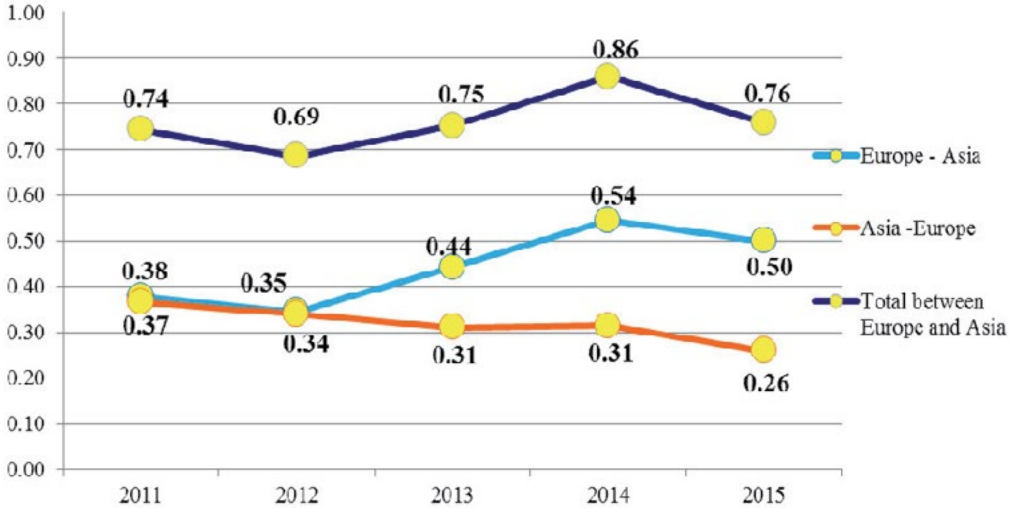


Figure A158 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

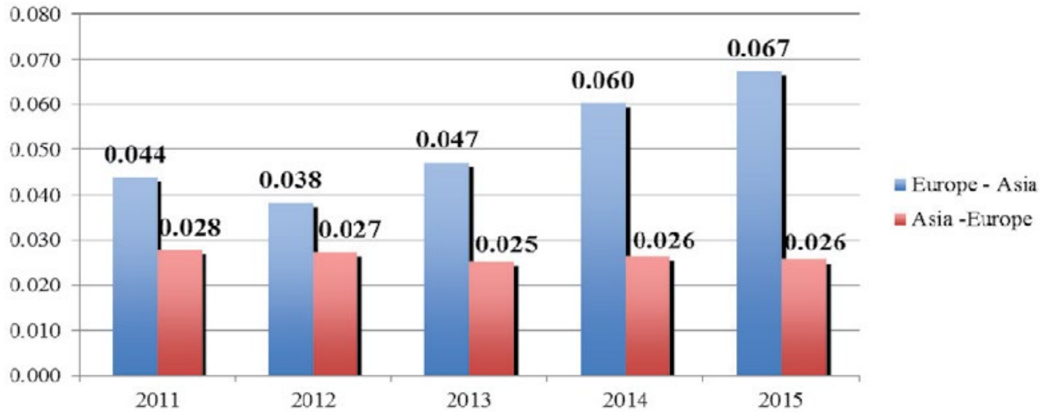
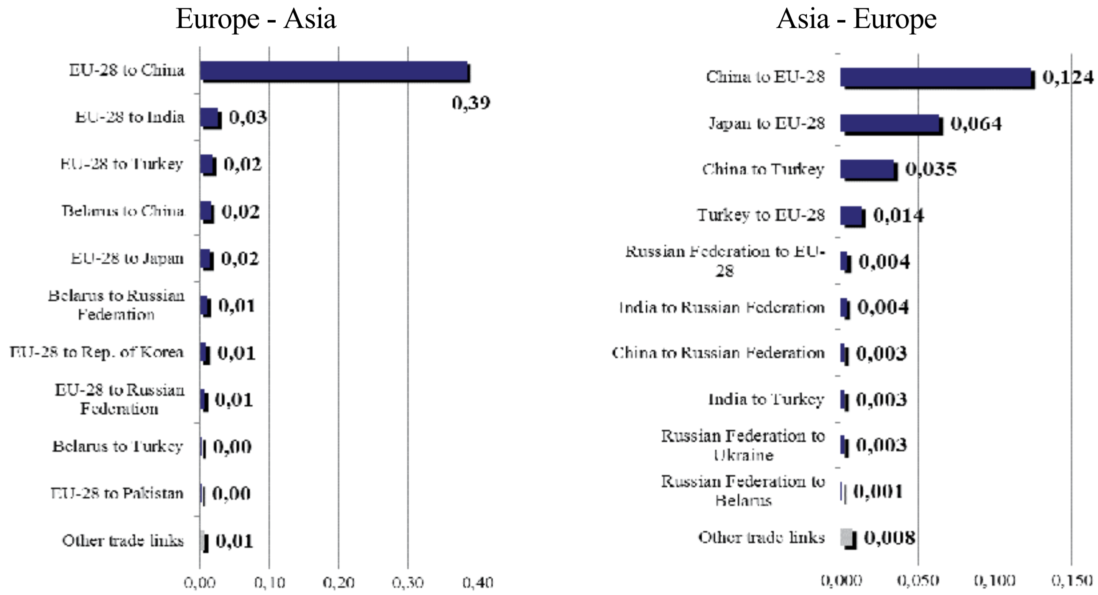


Figure A159 - Top 10 trade partners in 2015, Billions United States Dollars



HS 54. Pulp of man-made filaments; strip and the like of man-made textile materials

Figure A160 - Volume of trade 2011–2015, Billions United States Dollars

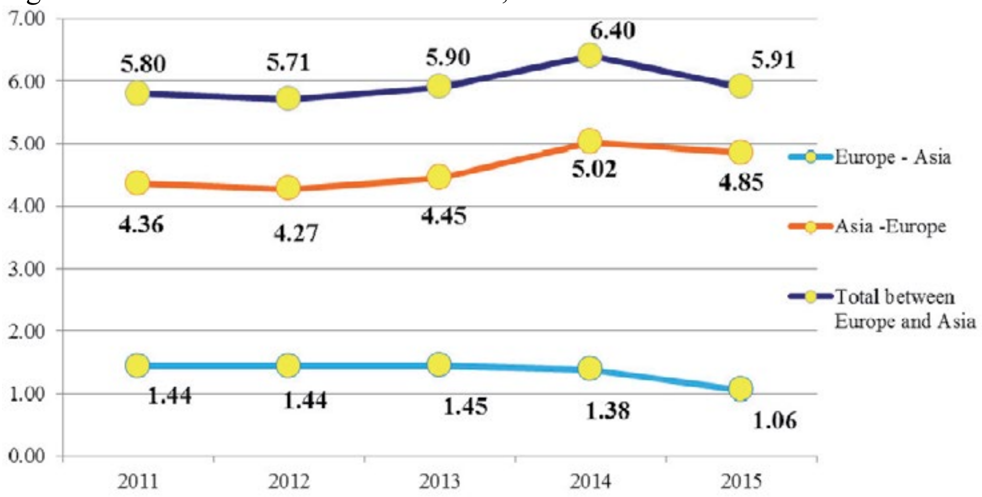


Figure A161 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

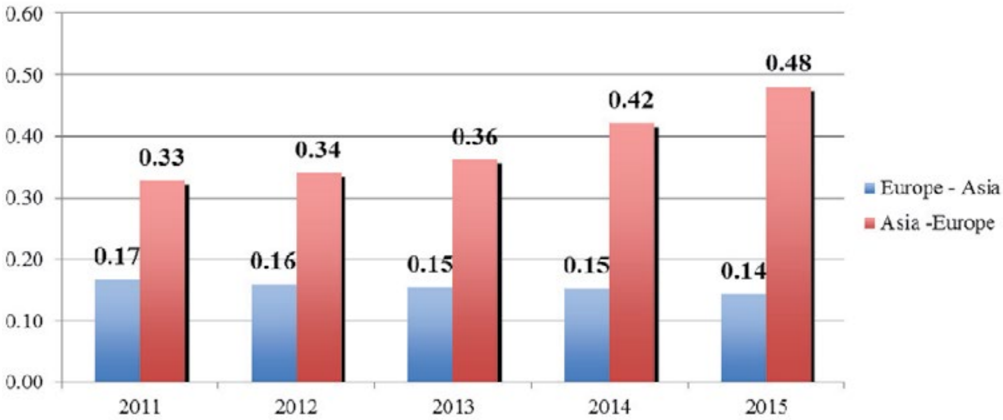
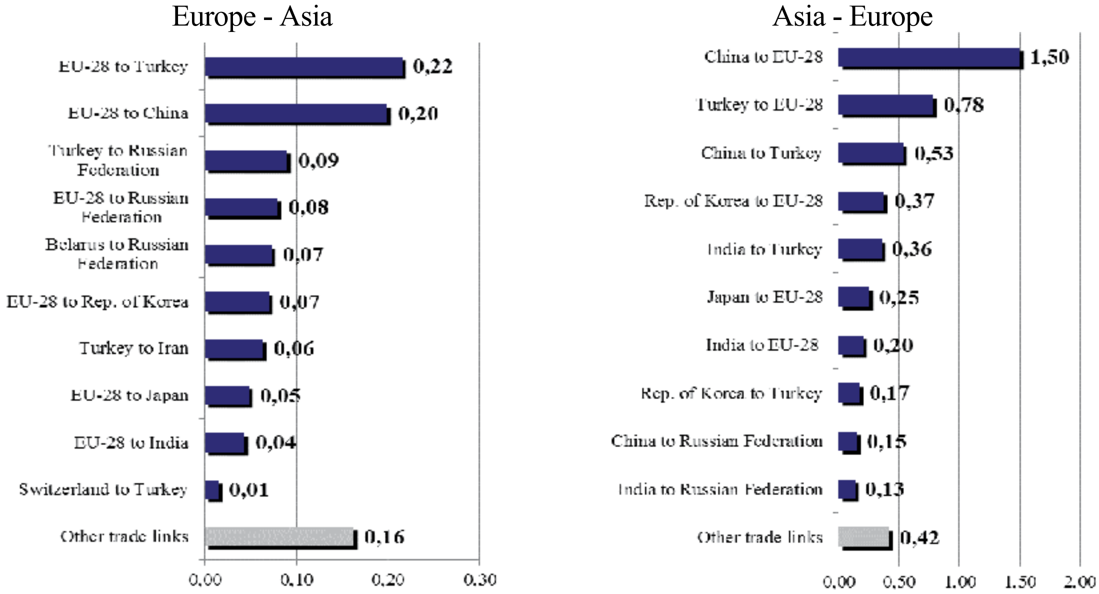


Figure A162 - Top 10 trade partners in 2015, Billions United States Dollars



HS 55. Man-made staple fibres

Figure A163 - Volume of trade 2011–2015, Billions United States Dollars

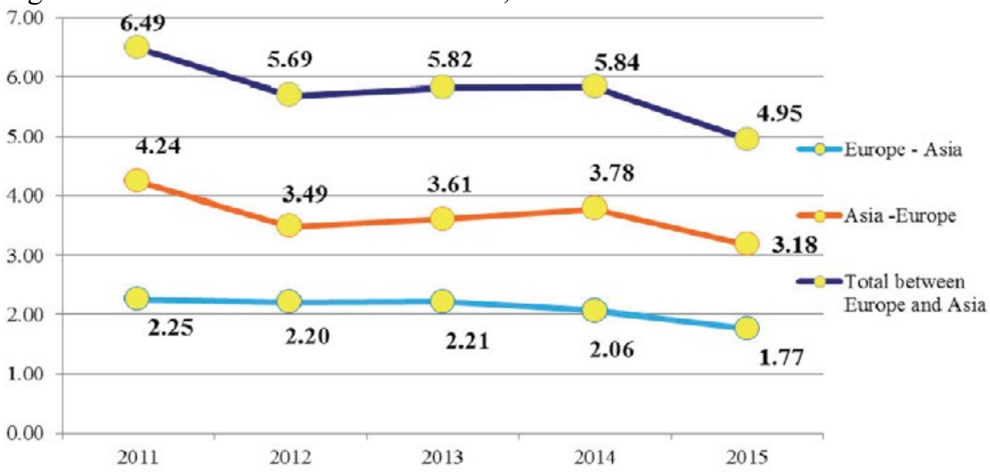


Figure A164 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

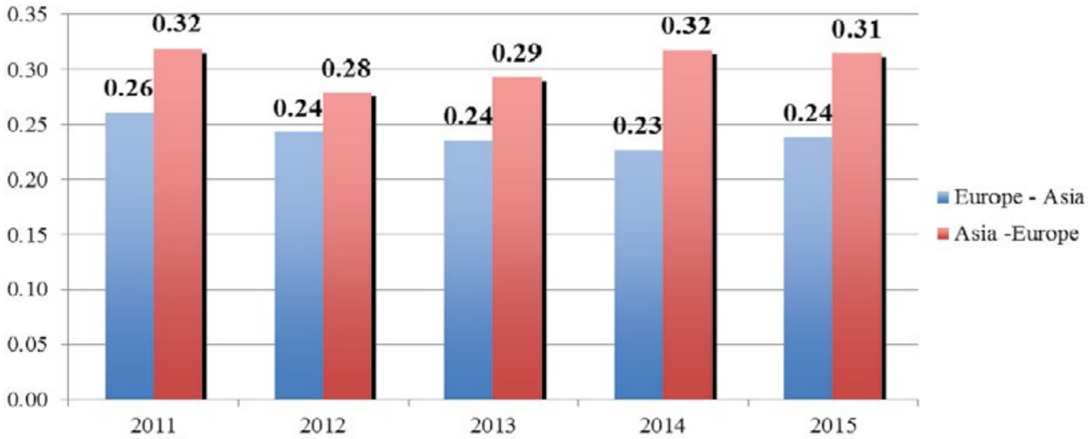
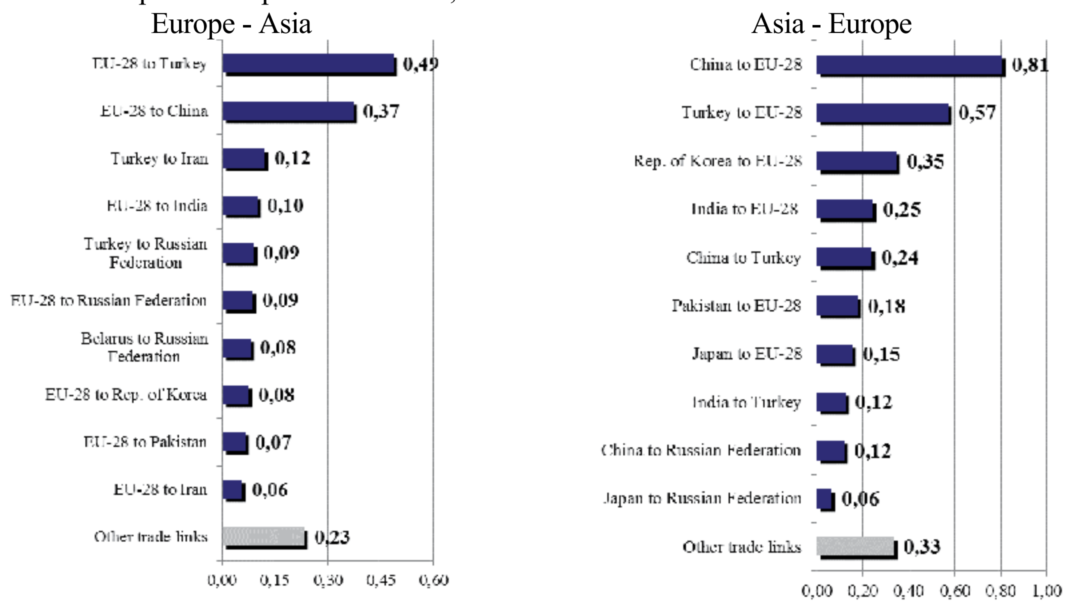


Figure A165 - Top 10 trade partners in 2015, Billions United States Dollars



HS 56. Wadding, felt and nonwovens, special yarns; twine, cordage, ropes and cables and articles thereof

Figure A166 - Volume of trade 2011–2015, Billions United States Dollars

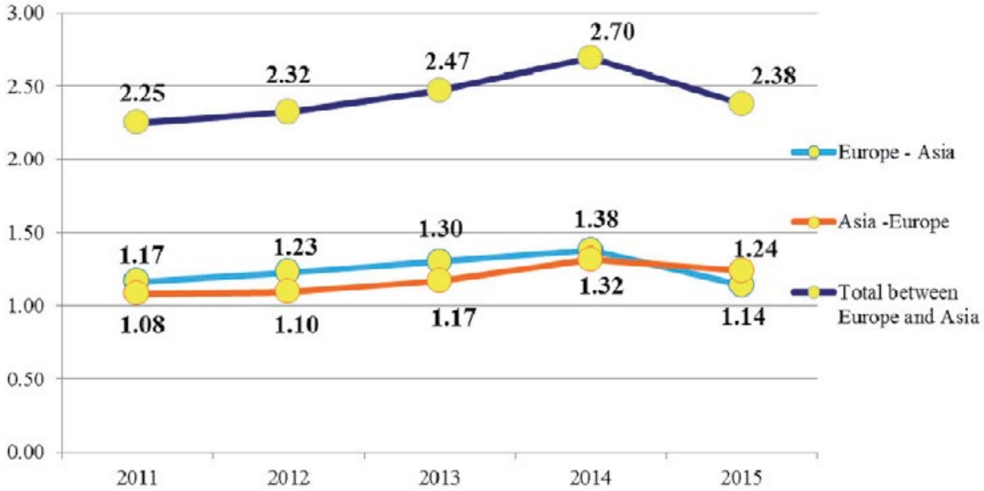


Figure A167 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

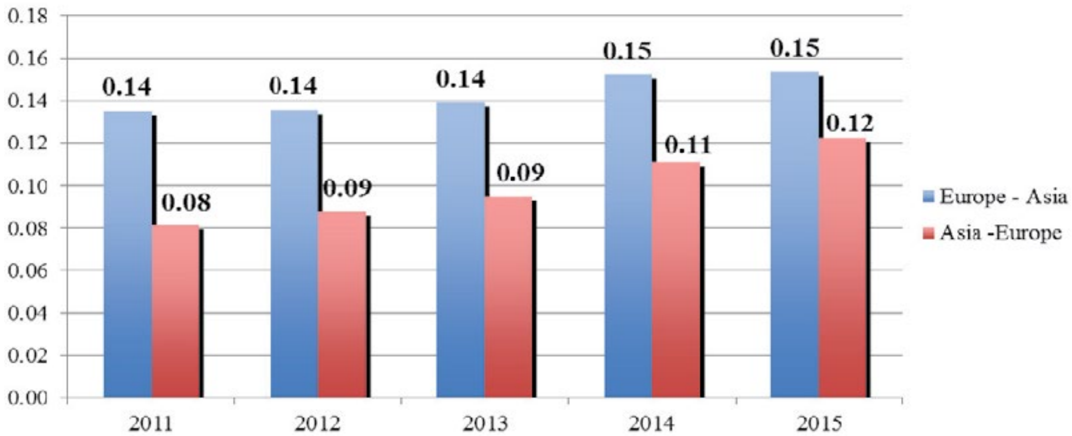
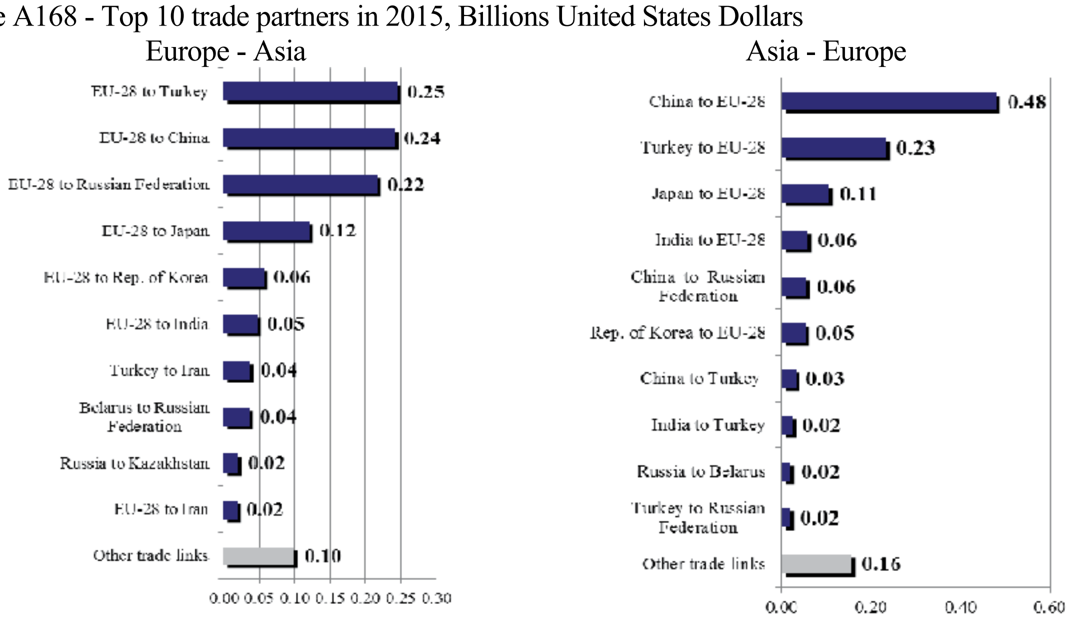


Figure A168 - Top 10 trade partners in 2015, Billions United States Dollars



HS 57. Carpets and other textile floor coverings

Figure A169 - Volume of trade 2011–2015, Billions United States Dollars

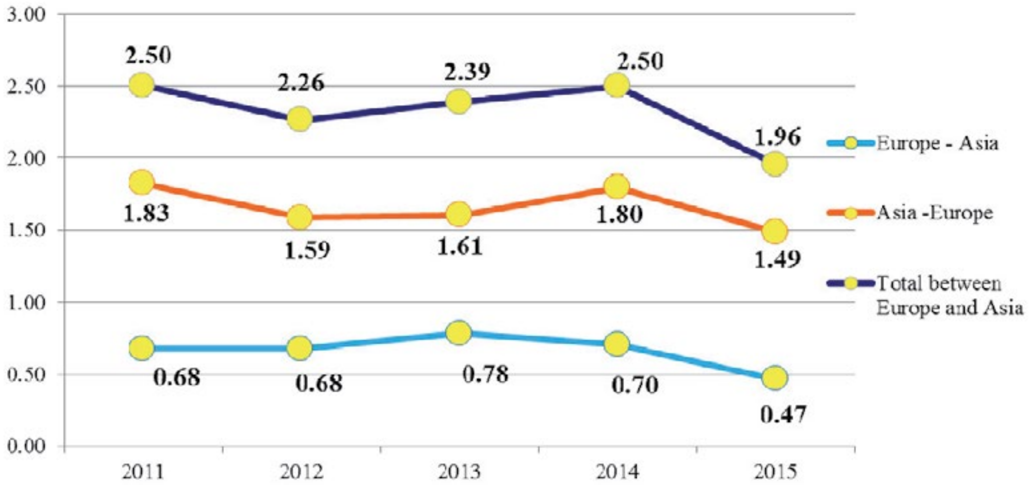


Figure A170 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

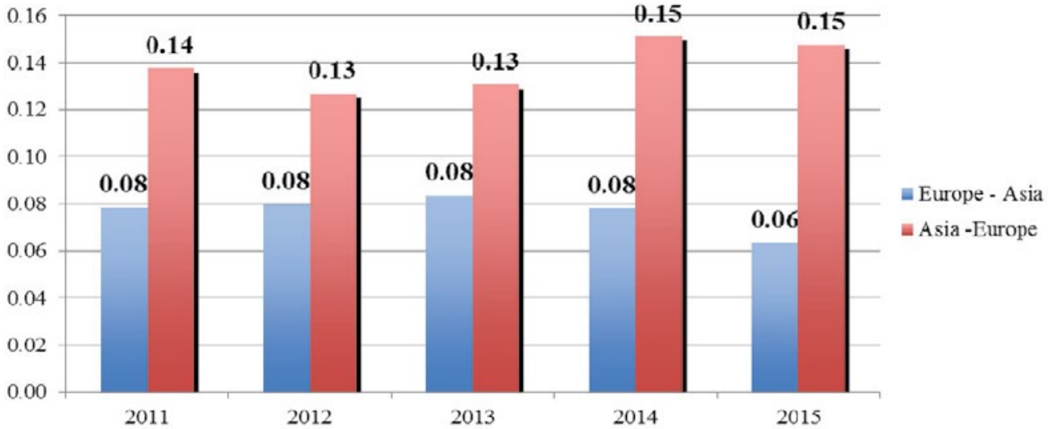
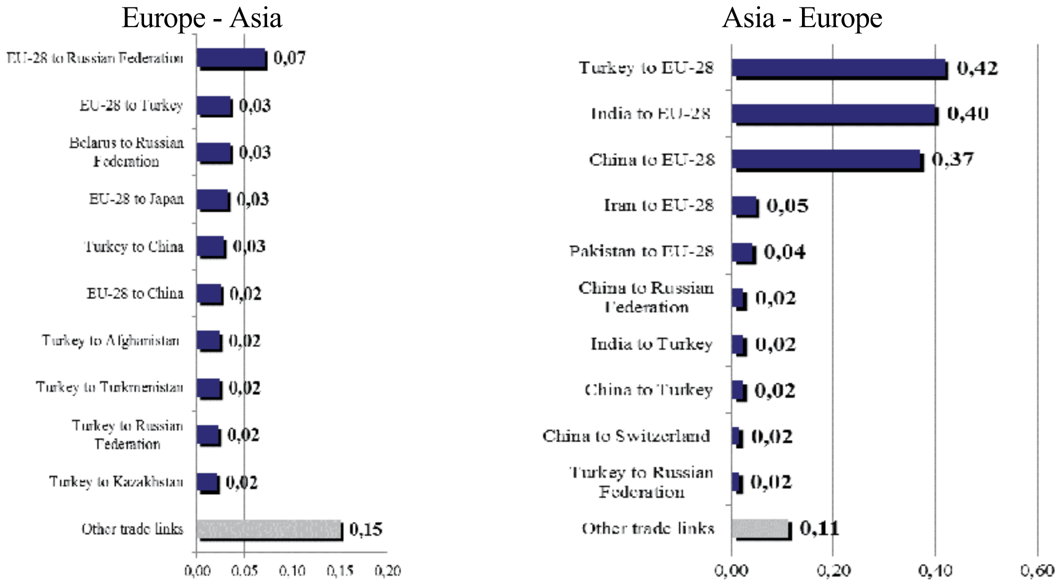


Figure A171 - Top 10 trade partners in 2015, Billions United States Dollars



HS 58. Fabrics; special woven fabrics, tufted textile fabrics, lace, tapestries, trimmings, embroidery

Figure A172 - Volume of trade 2011–2015, Billions United States Dollars

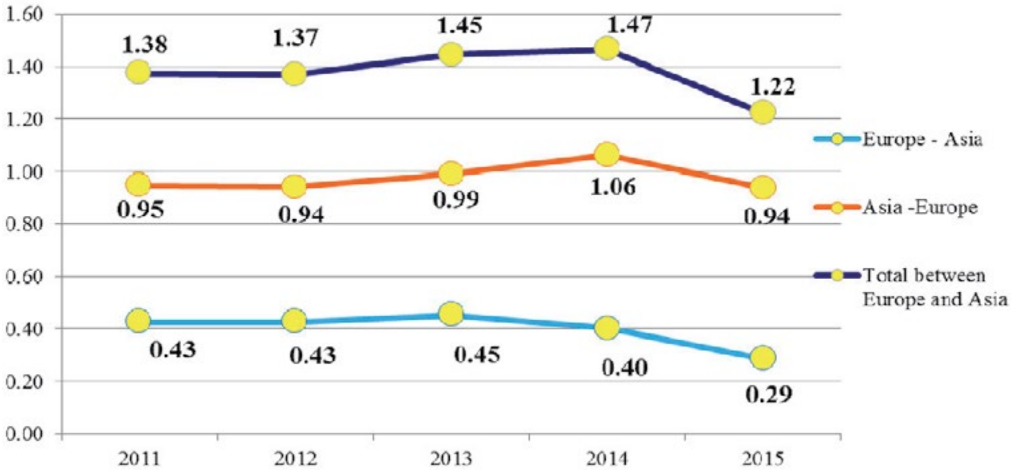


Figure A173 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

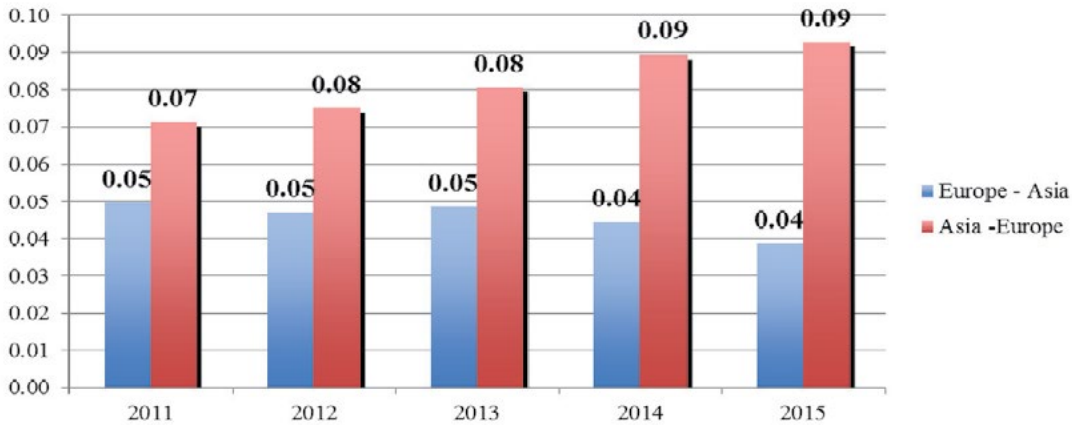
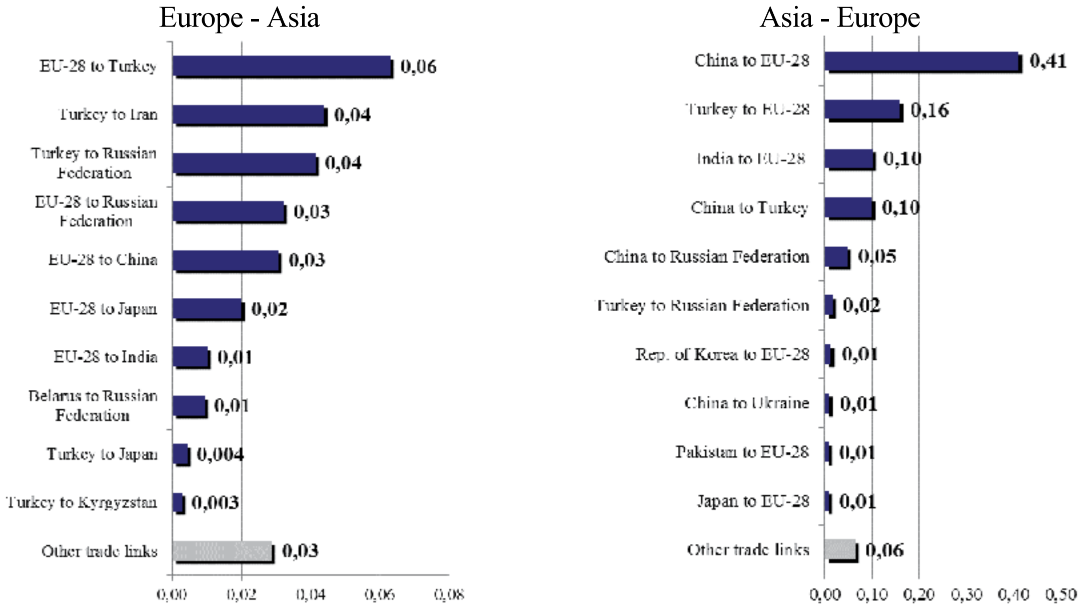


Figure A174 - Top 10 trade partners in 2015, Billions United States Dollars



HS 59. Textile fabrics; impregnated, coated, covered or laminated; textile articles of a kind suitable for industrial use

Figure A175 - Volume of trade 2011–2015, Billions United States Dollars

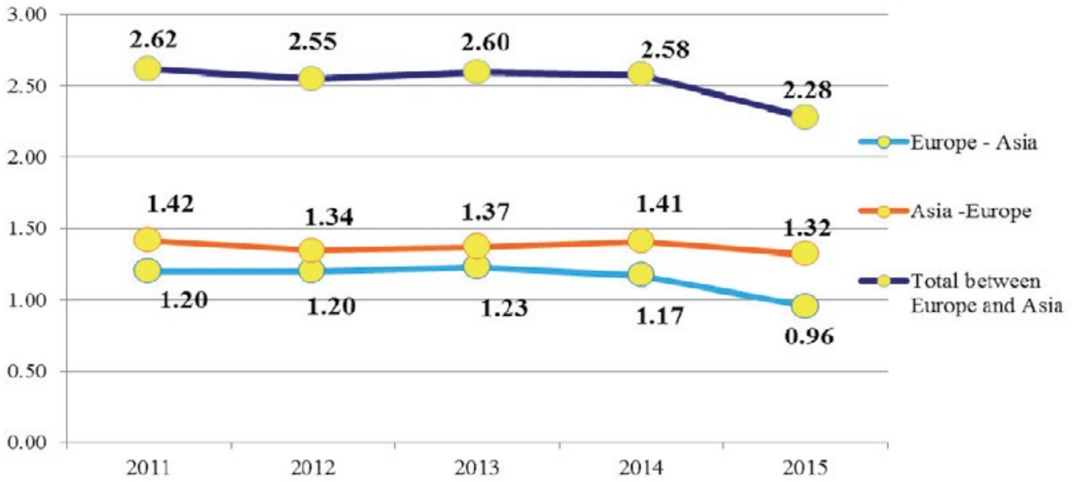


Figure A176 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

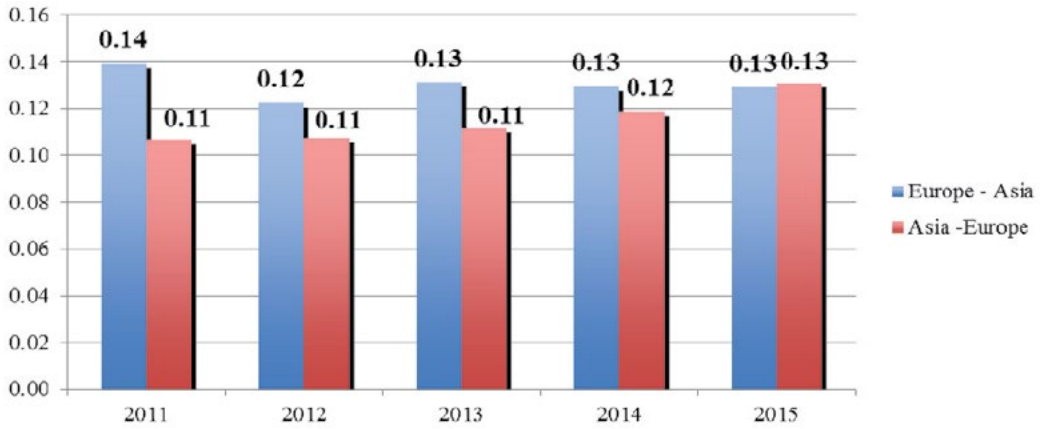
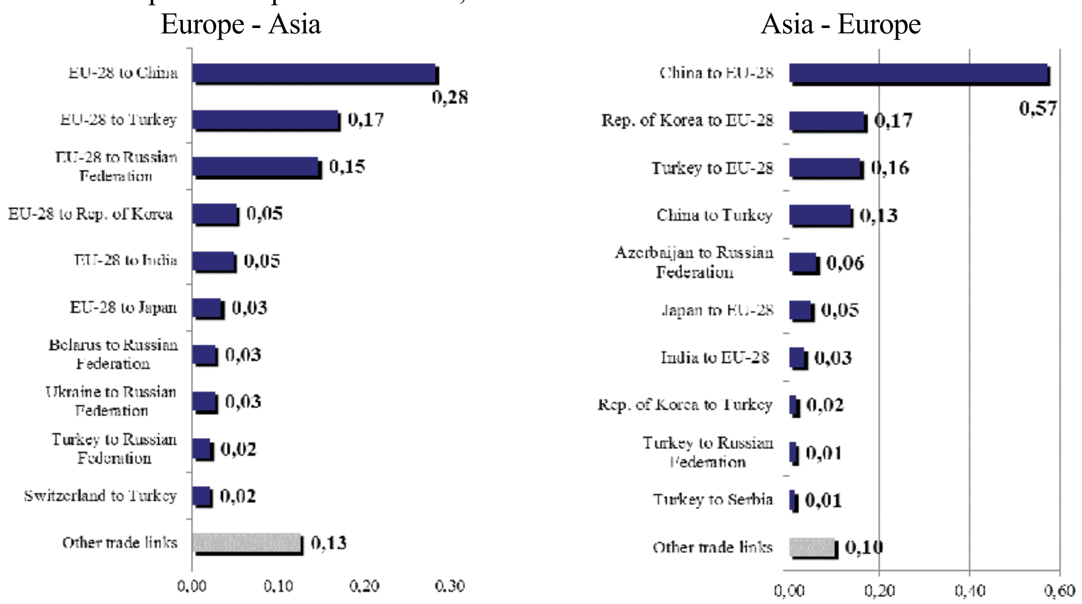


Figure A177 - Top 10 trade partners in 2015, Billions United States Dollars



HS 60. Fabrics; knitted or crocheted

Figure A178 - Volume of trade 2011–2015, Billions United States Dollars

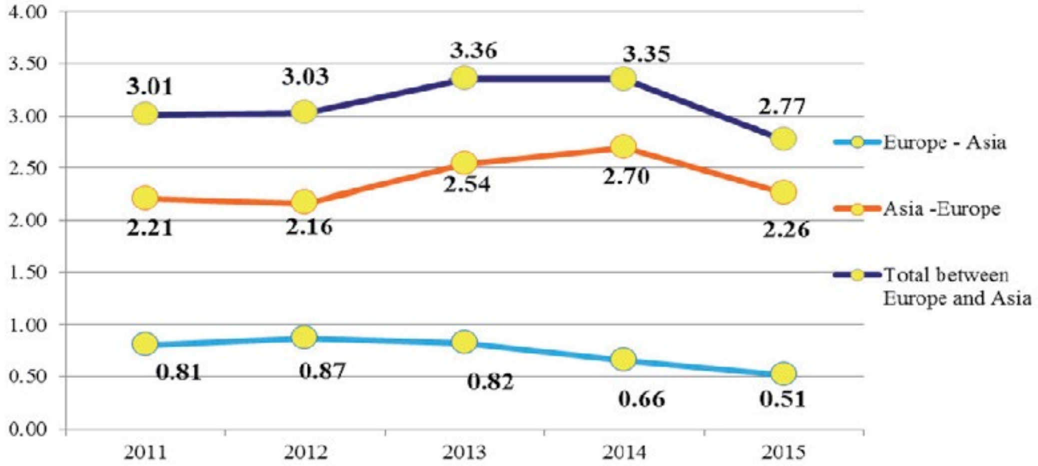


Figure A179 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

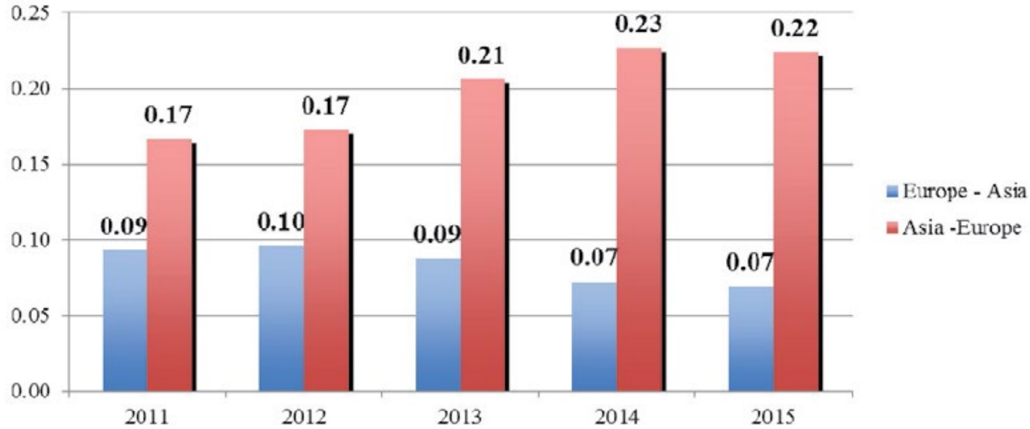
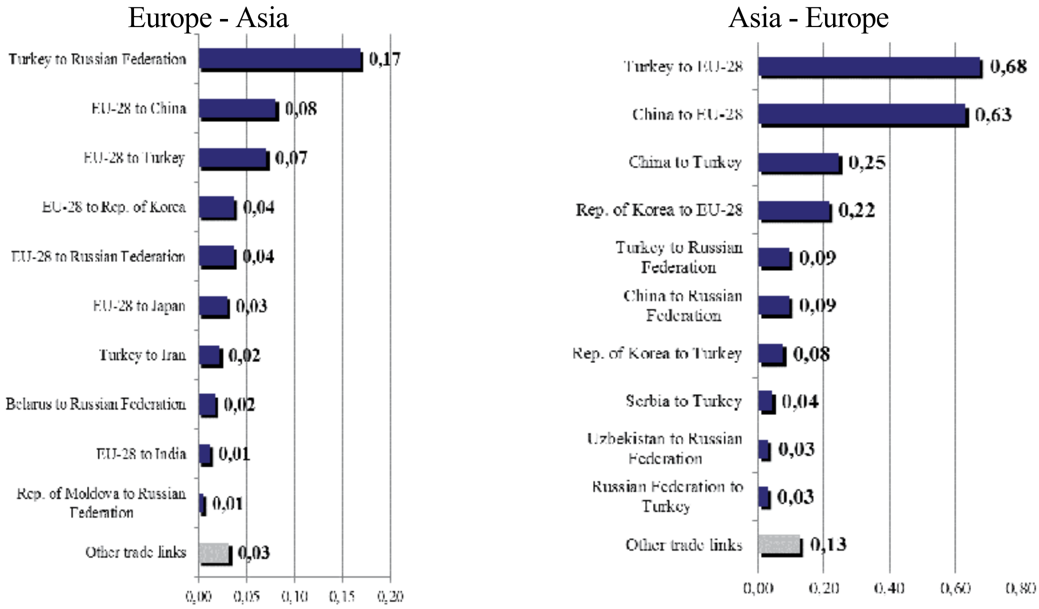


Figure A180 - Top 10 trade partners in 2015, Billions United States Dollars



HS 61. Apparel and clothing accessories; knitted or crocheted

Figure A181 - Volume of trade 2011–2015, Billions United States Dollars

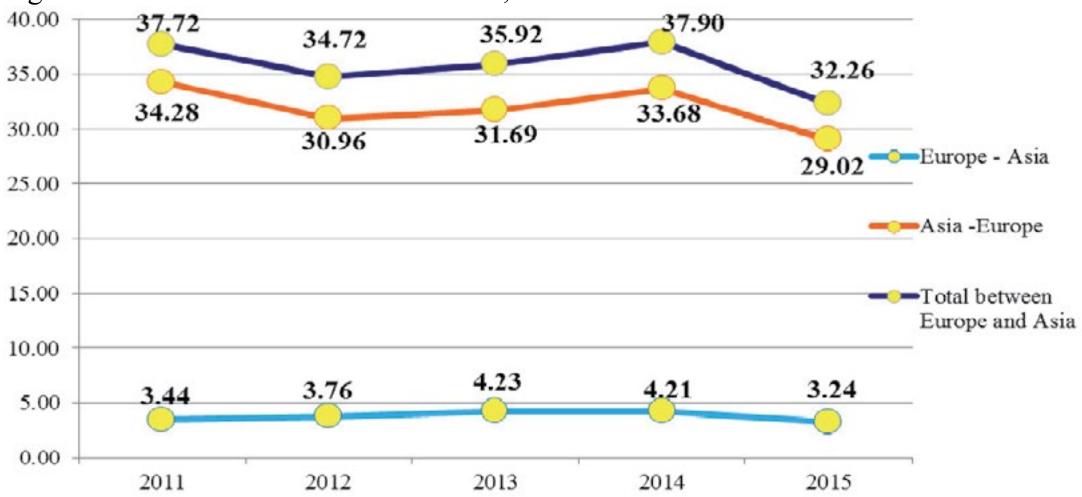


Figure A182 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

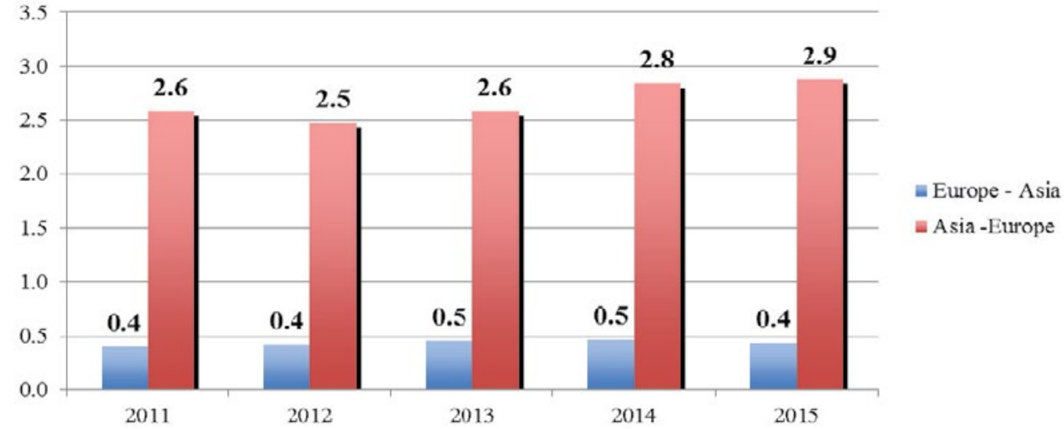
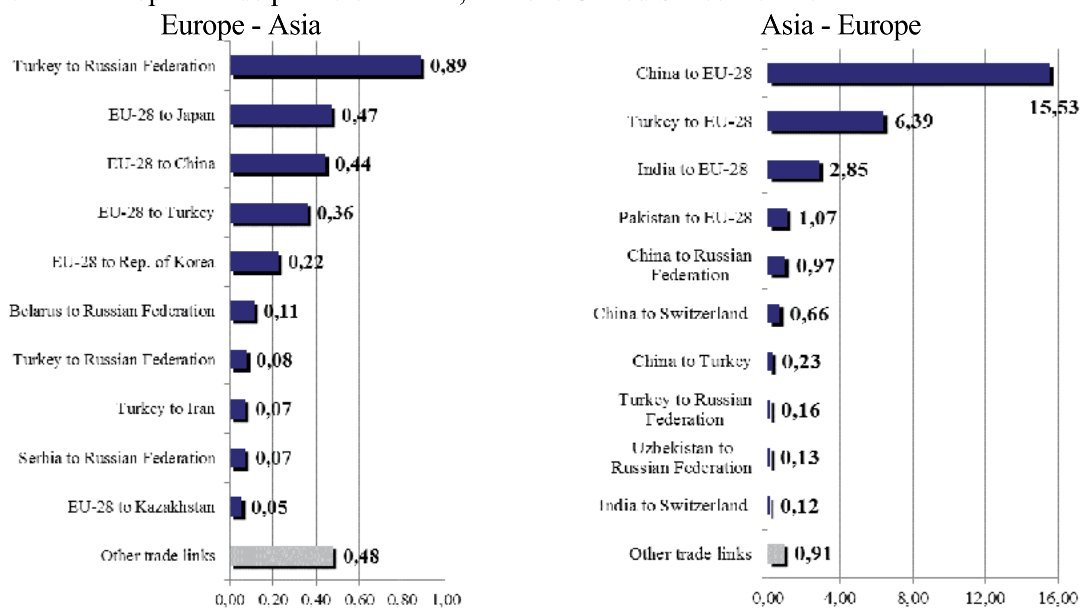


Figure A183 - Top 10 trade partners in 2015, Billions United States Dollars



HS 62. Apparel and clothing accessories; not knitted or crocheted

Figure A184 - Volume of trade 2011–2015, Billions United States Dollars

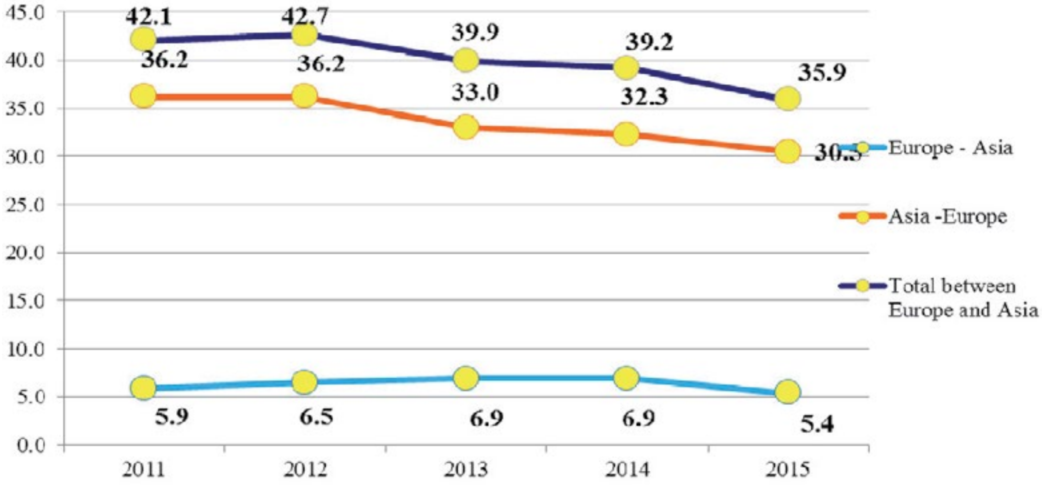


Figure A185 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

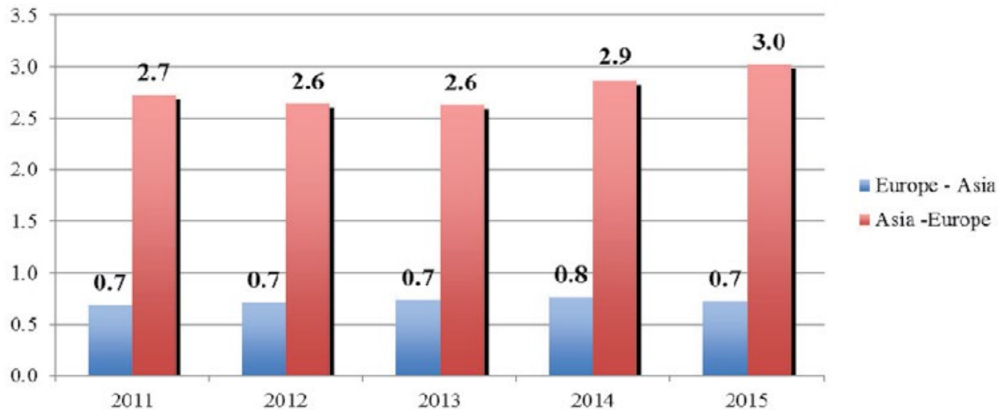
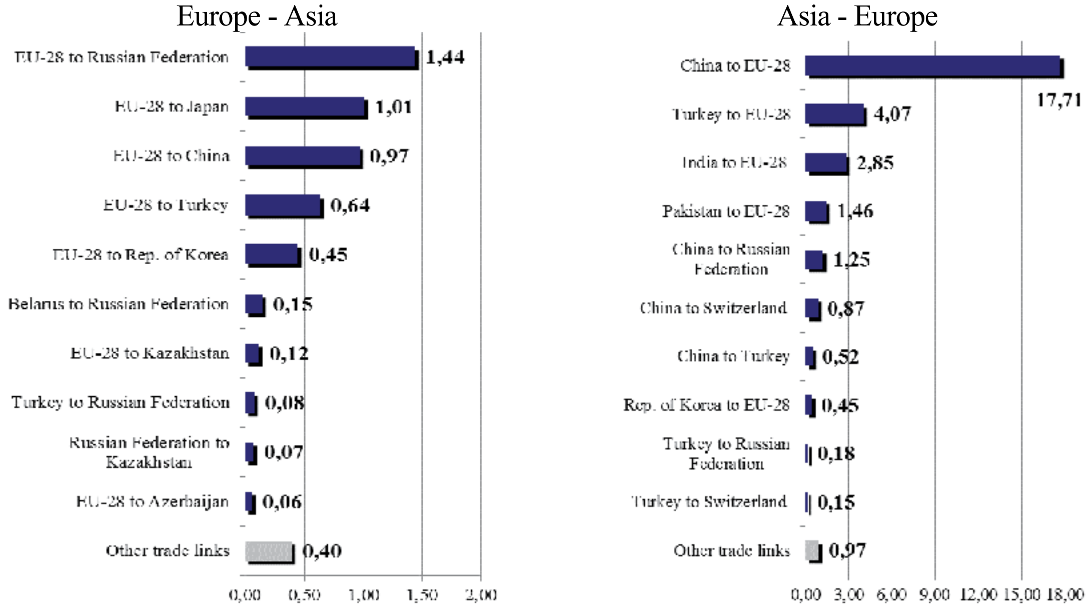


Figure A186 - Top 10 trade partners in 2015, Billions United States Dollars



HS 63. Textiles, made up articles; sets; worn clothing and worn textile articles; rags

Figure A187 - Volume of trade 2011–2015, Billions United States Dollars

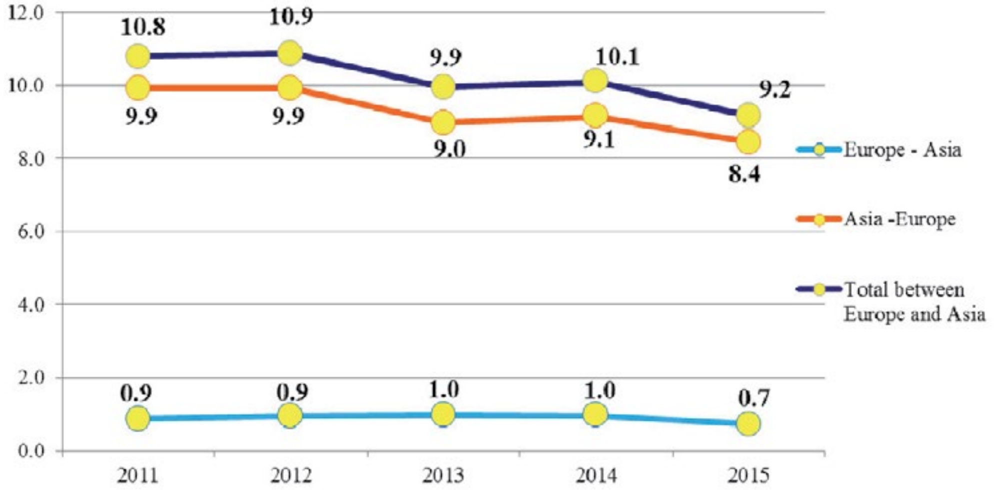


Figure A188 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

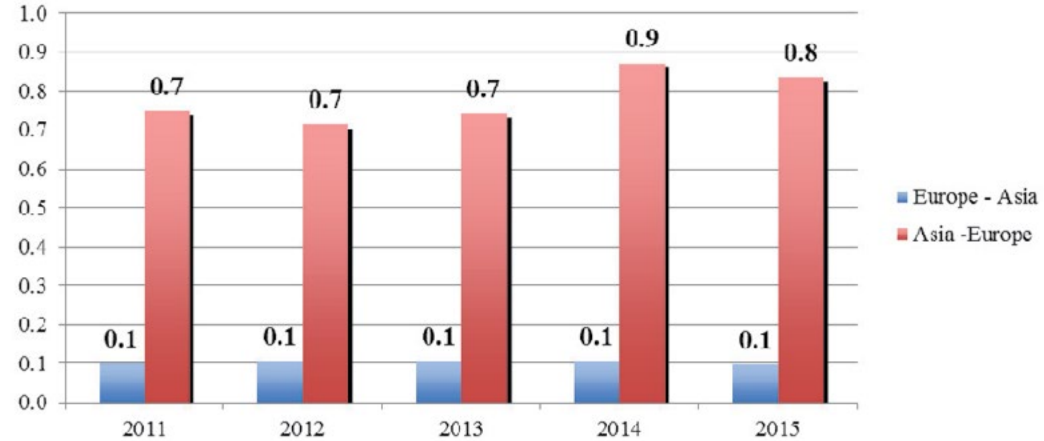
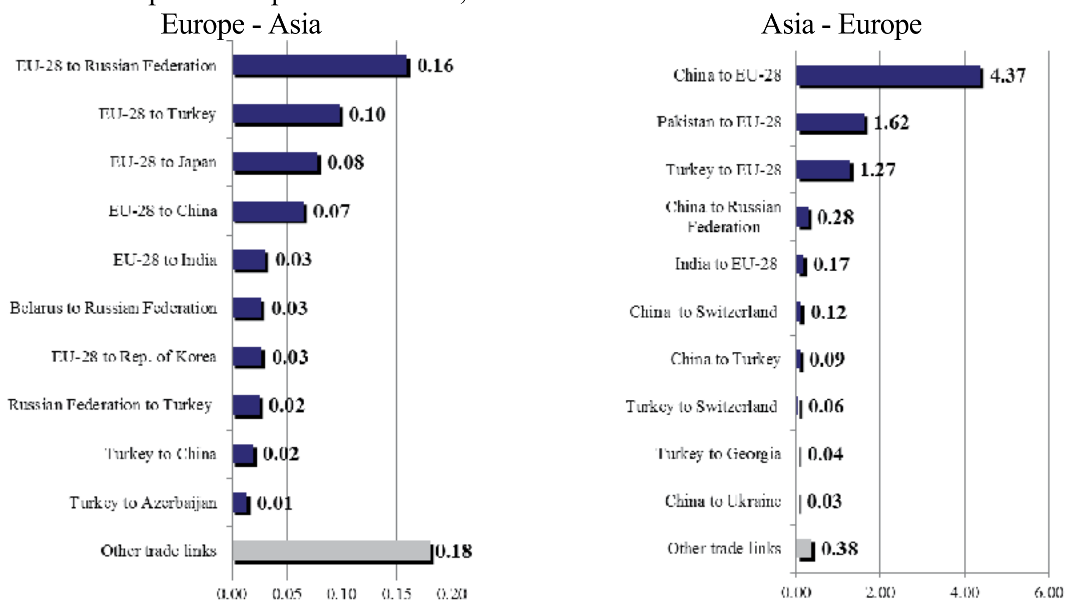


Figure A189 - Top 10 trade partners in 2015, Billions United States Dollars



HS 64. Footwear; gaiters and the like; parts of such articles

Figure A190 - Volume of trade 2011–2015, Billions United States Dollars

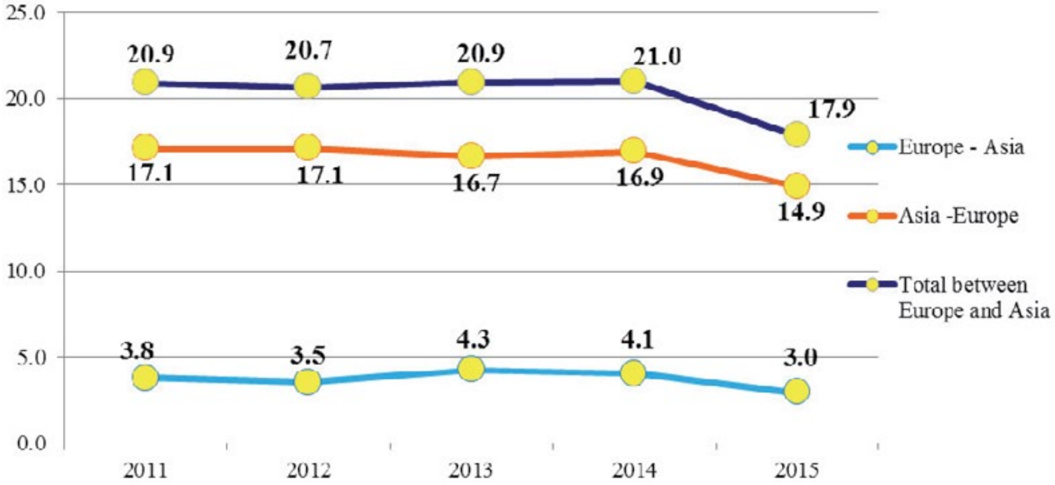


Figure A191 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

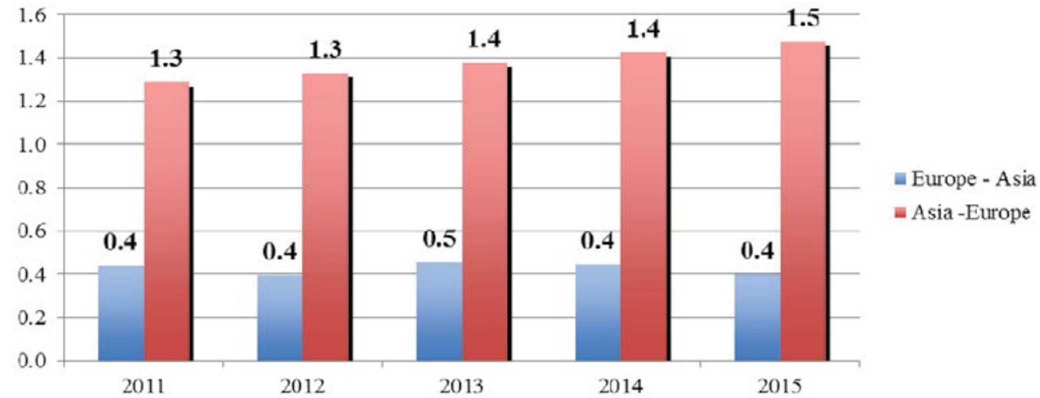
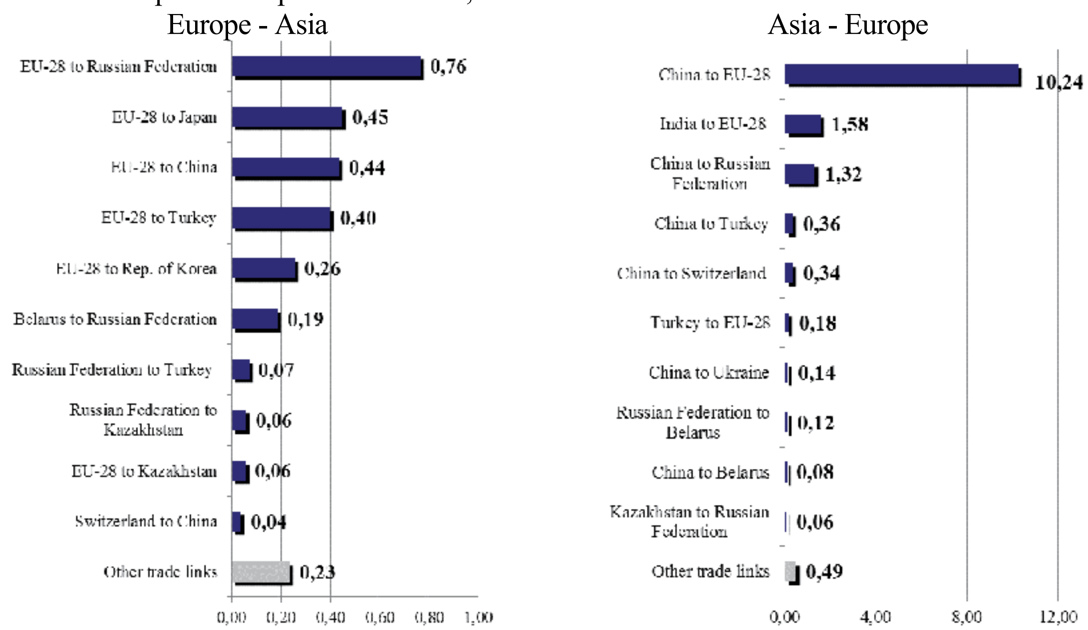


Figure A192 - Top 10 trade partners in 2015, Billions United States Dollars



HS 65. Headgear and parts thereof

Figure A193 - Volume of trade 2011–2015, Billions United States Dollars

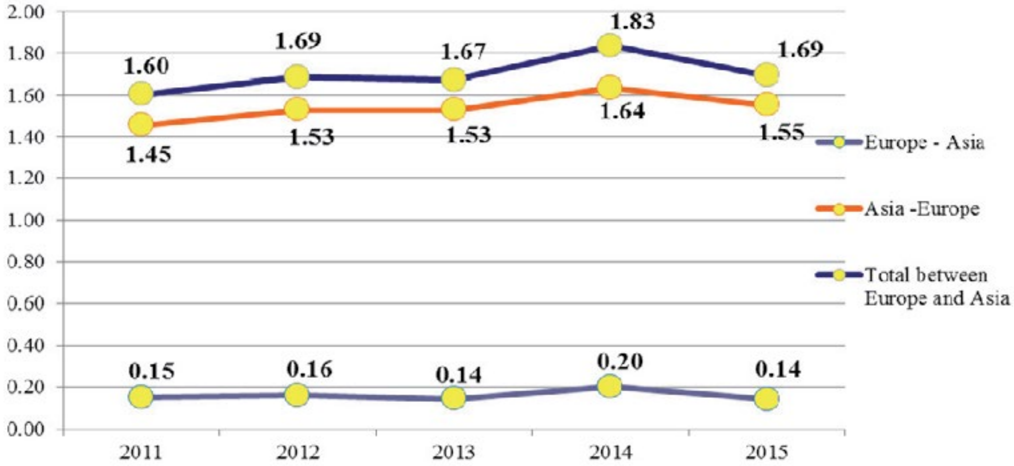


Figure A194 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

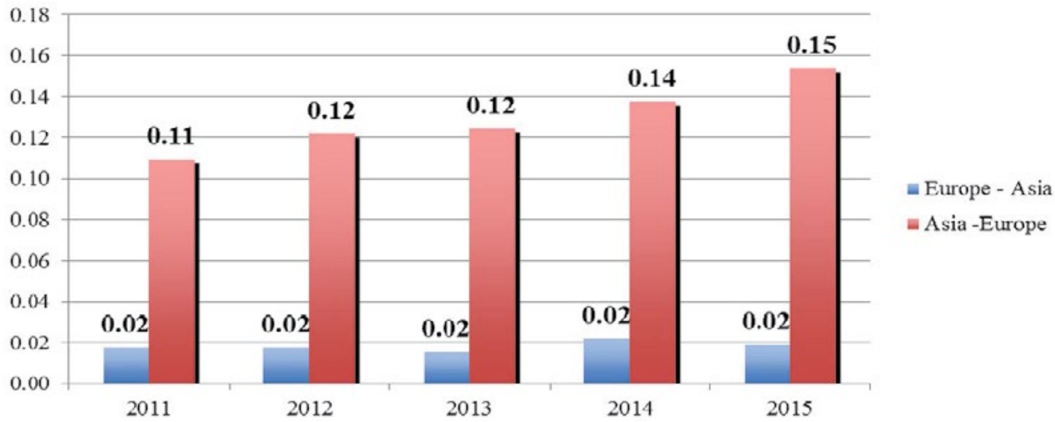
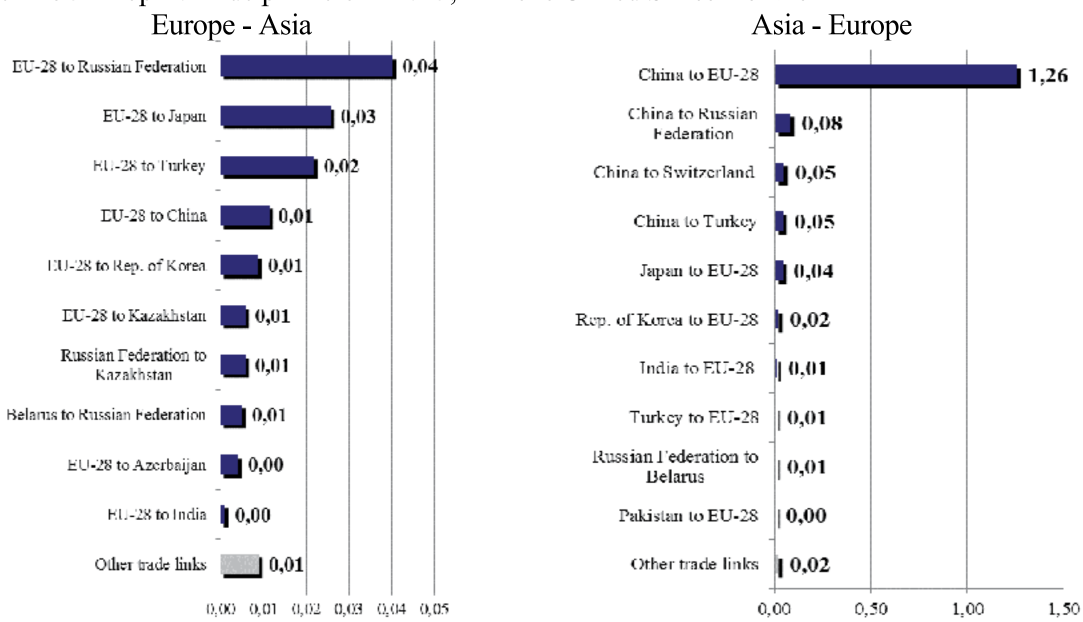


Figure A195 - Top 10 trade partners in 2015, Billions United States Dollars



HS 66. Umbrellas, sun umbrellas, walking-sticks, seat sticks, whips, riding crops; and parts thereof

Figure A196 - Volume of trade 2011–2015, Billions United States Dollars

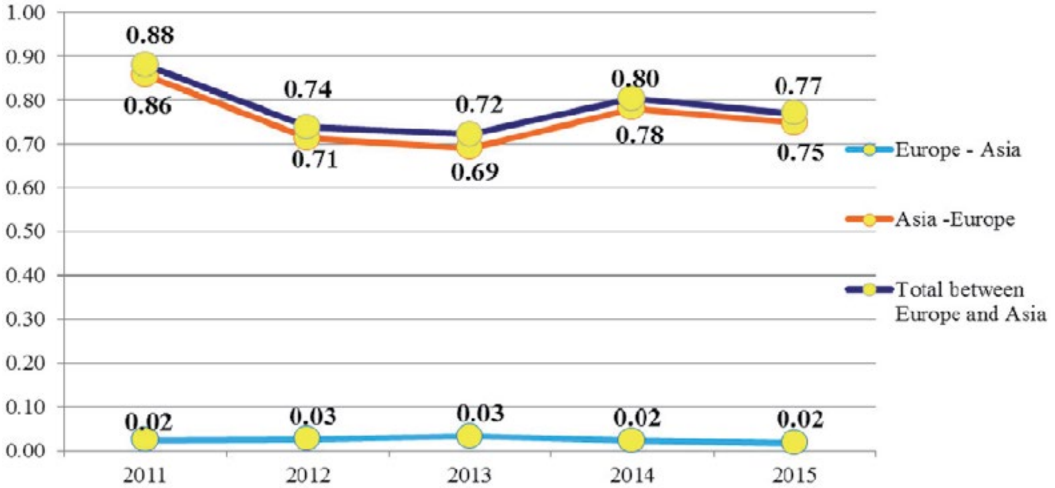


Figure A197 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

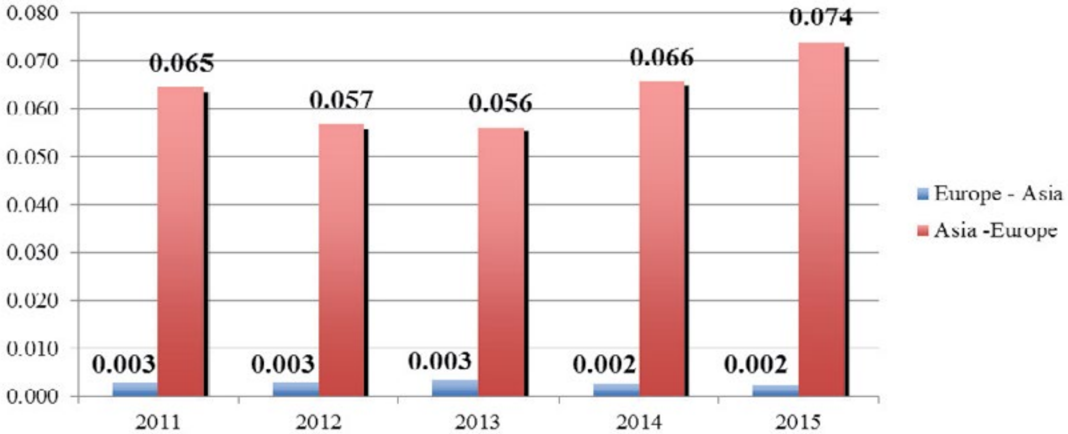
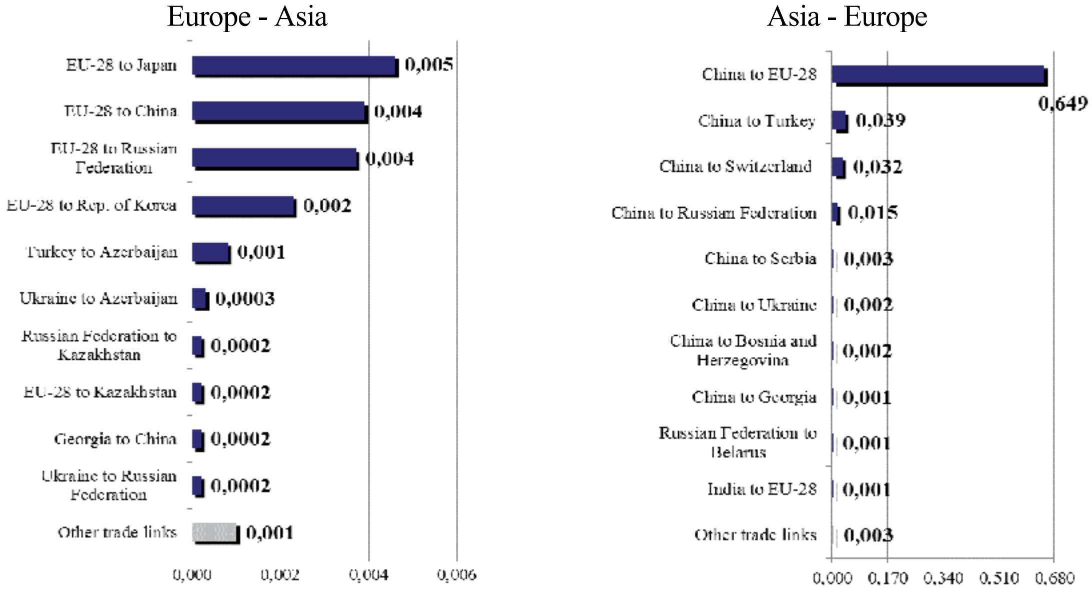


Figure A198 - Top 10 trade partners in 2015, Billions United States Dollars



HS 67. Feathers and down, prepared; and articles made of feather or of down; artificial flowers; articles of human hair

Figure A199 - Volume of trade 2011–2015, Billions United States Dollars

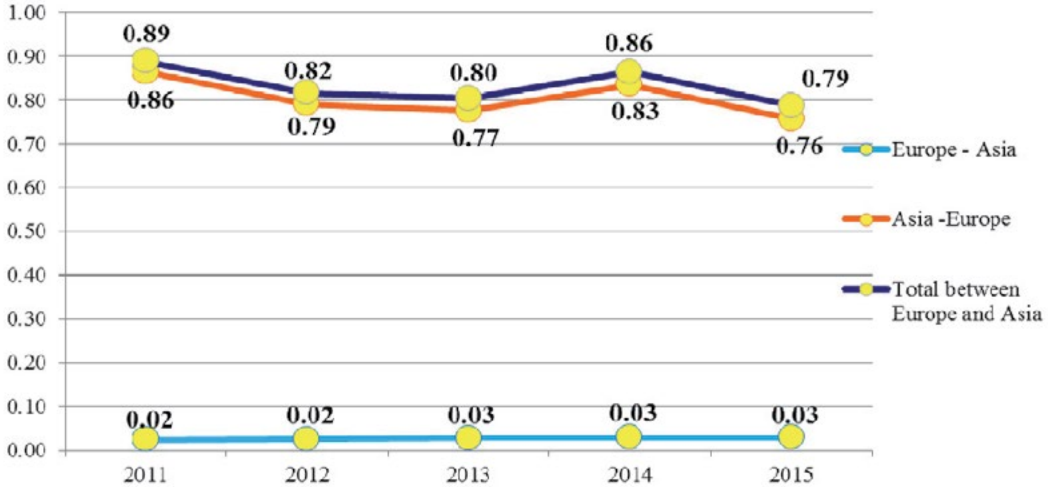


Figure A200 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

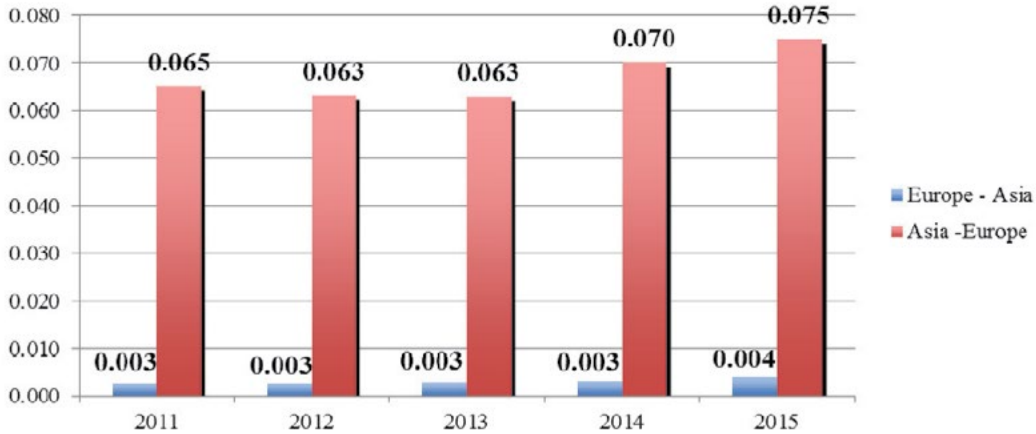
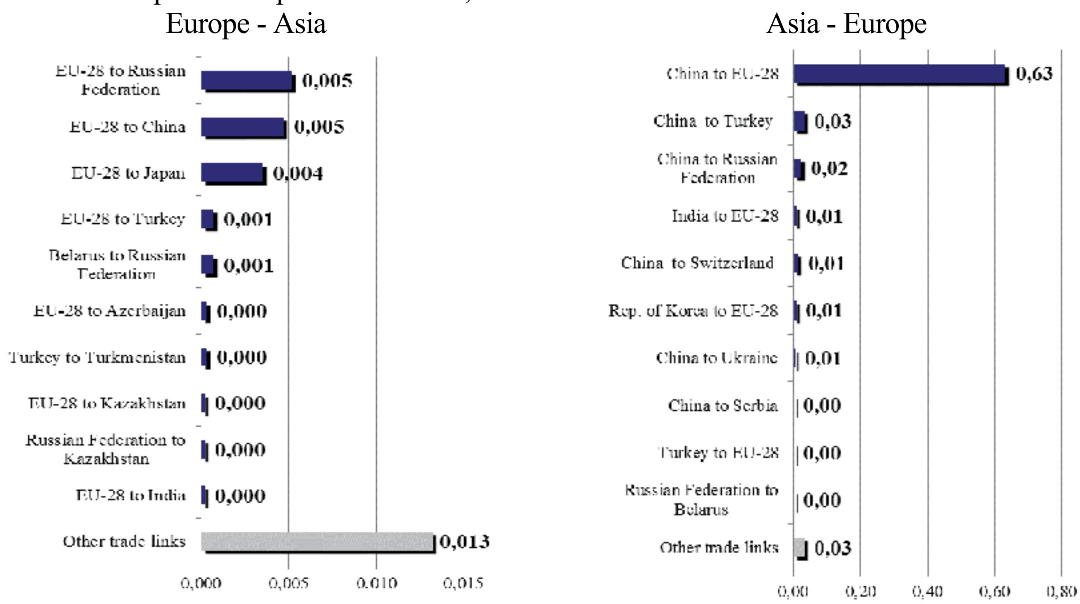


Figure A201 - Top 10 trade partners in 2015, Billions United States Dollars



HS 68. Stone, plaster, cement, asbestos, mica or similar materials; articles thereof

Figure A202 - Volume of trade 2011–2015, Billions United States Dollars

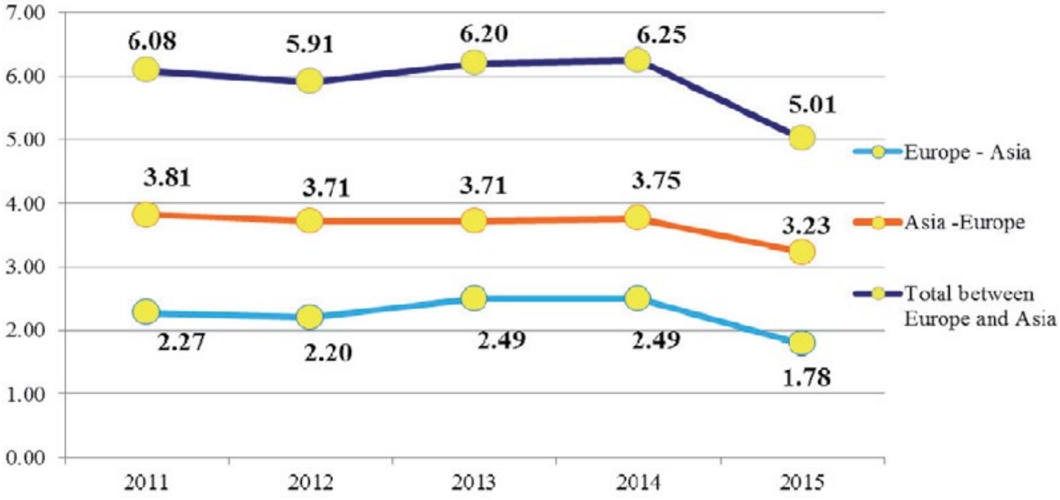


Figure A203 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

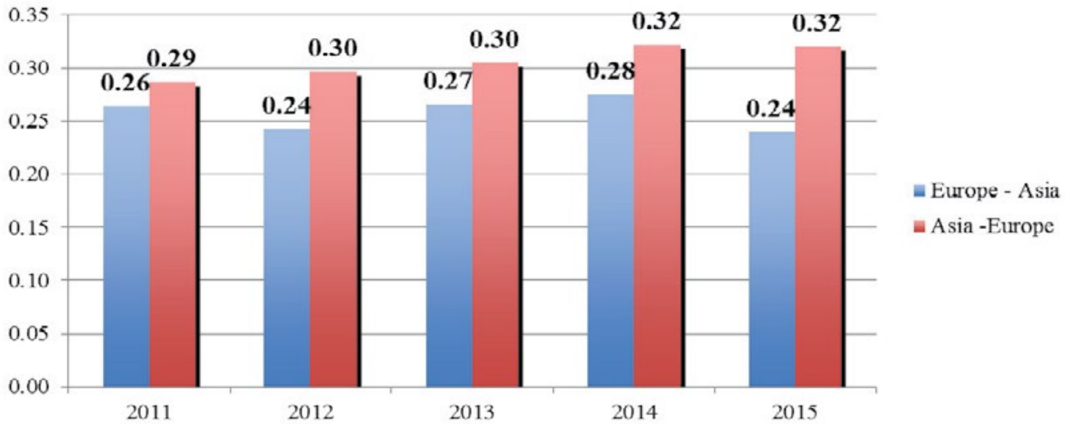
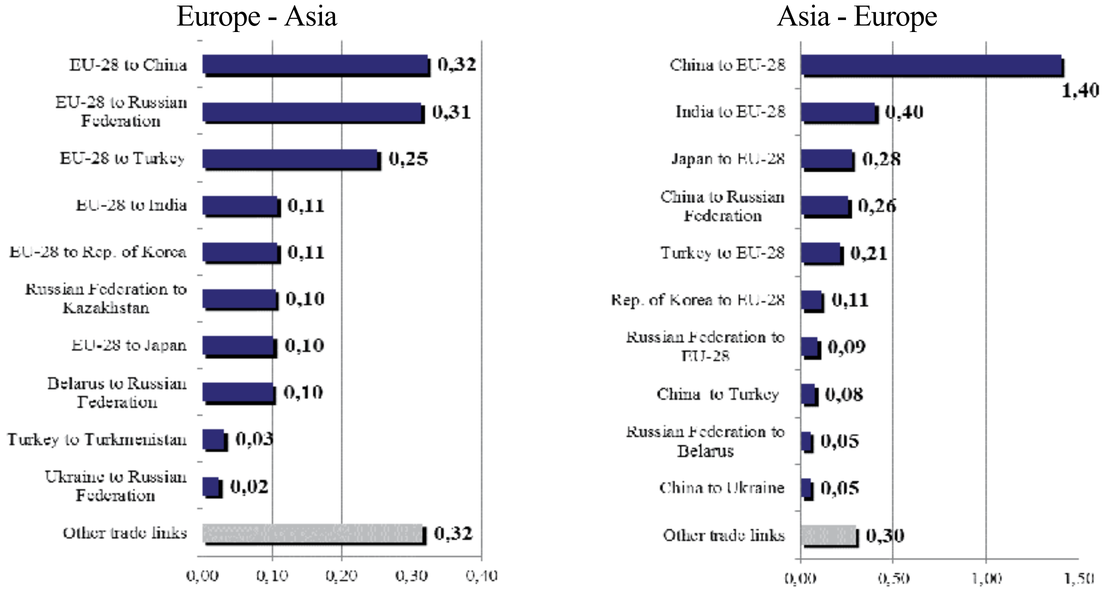


Figure A204 - Top 10 trade partners in 2015, Billions United States Dollars



HS 69. Ceramic products

Figure A205 - Volume of trade 2011–2015, Billions United States Dollars

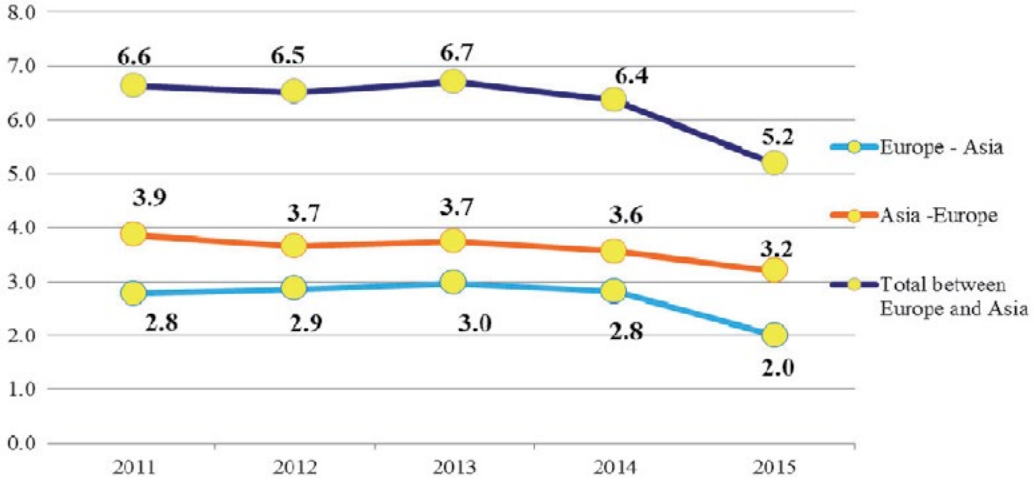


Figure A206 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

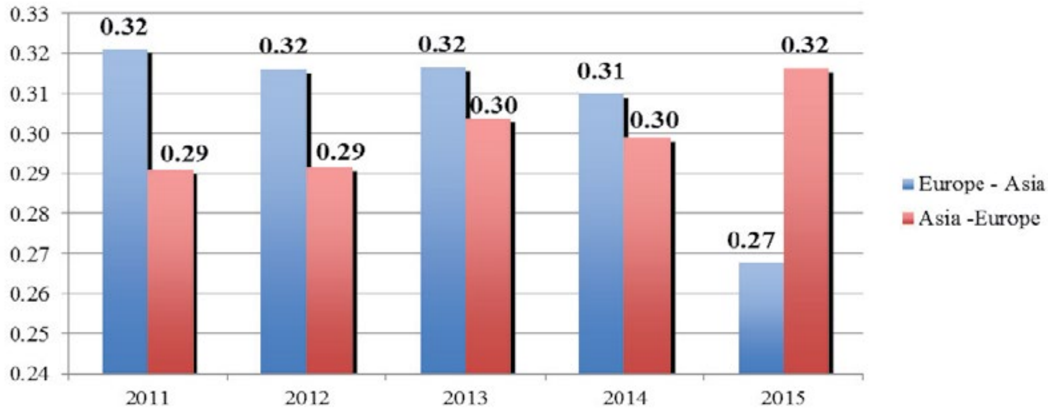
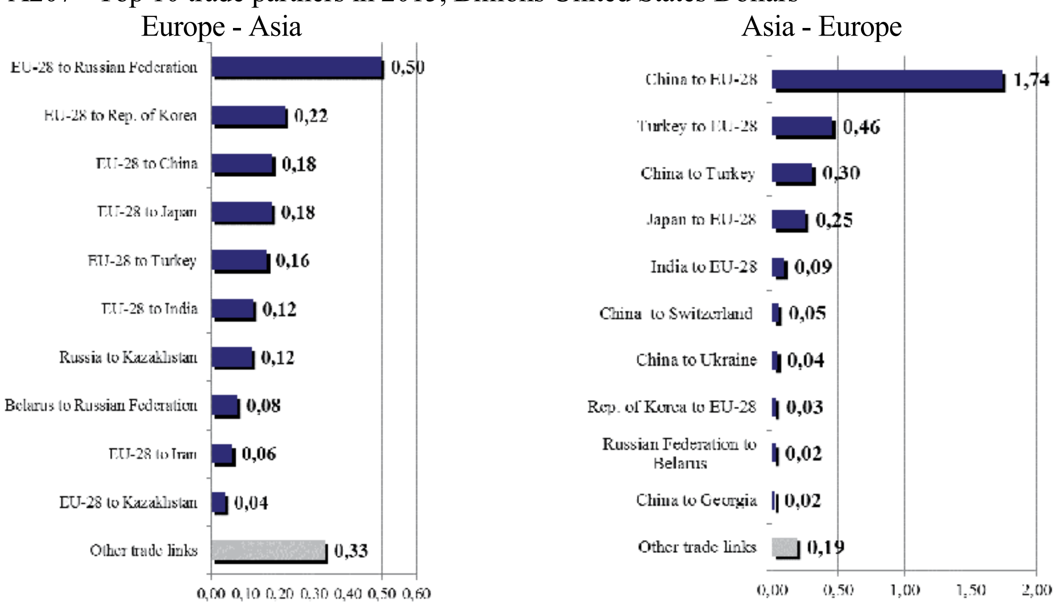


Figure A207 - Top 10 trade partners in 2015, Billions United States Dollars



HS 70. Glass and glassware

Figure A208 - Volume of trade 2011–2015, Billions United States Dollars

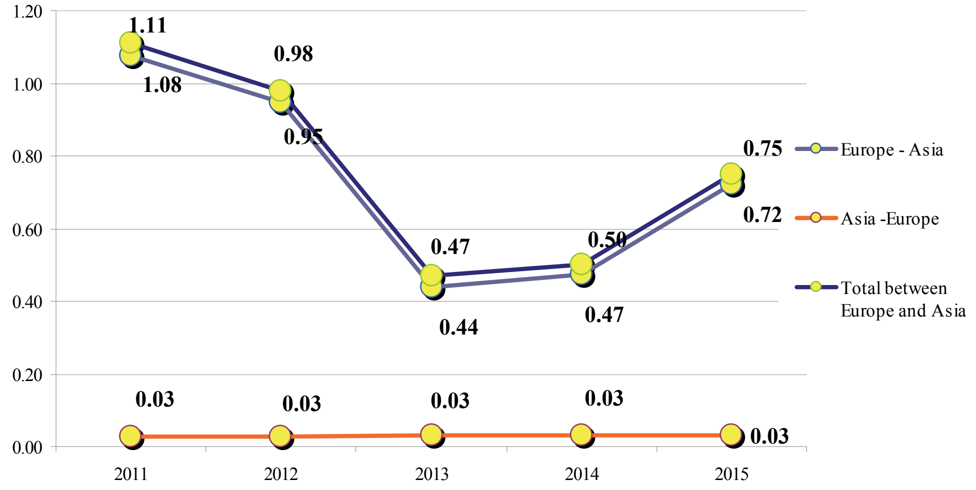


Figure A209 - Glass and glassware: Total volume of trade between Europe and Asia, 2011–2015, per cent

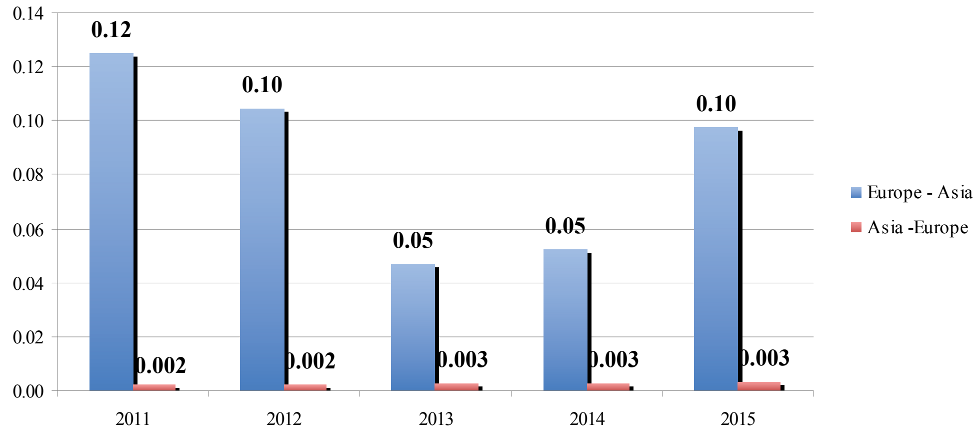
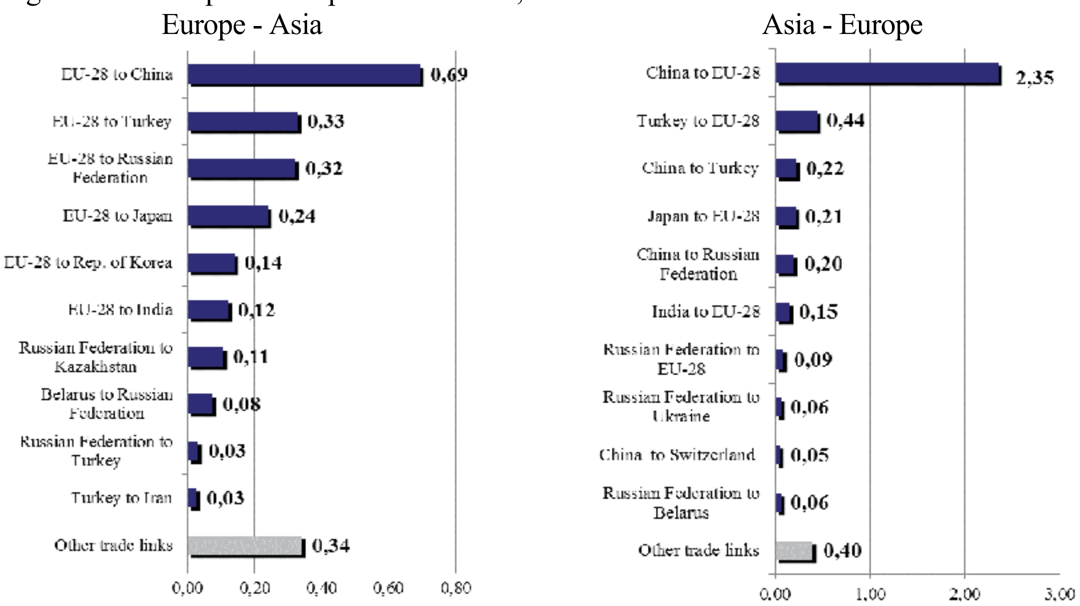


Figure A210 - Top 10 trade partners in 2015, Billions United States Dollars



HS 71. Natural, cultured pearls; precious, semi-precious stones; precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin

Figure A211 - Volume of trade 2011–2015, Billions United States Dollars

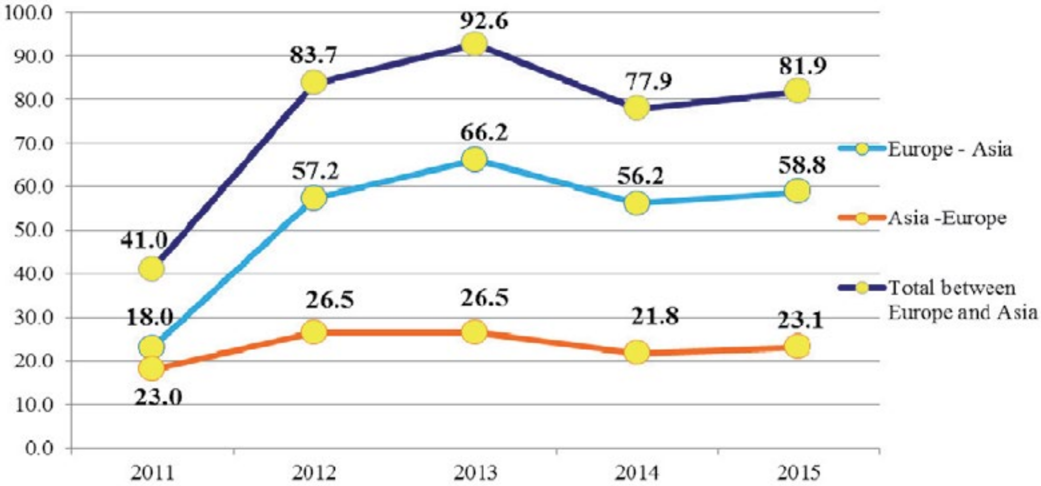


Figure A212 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

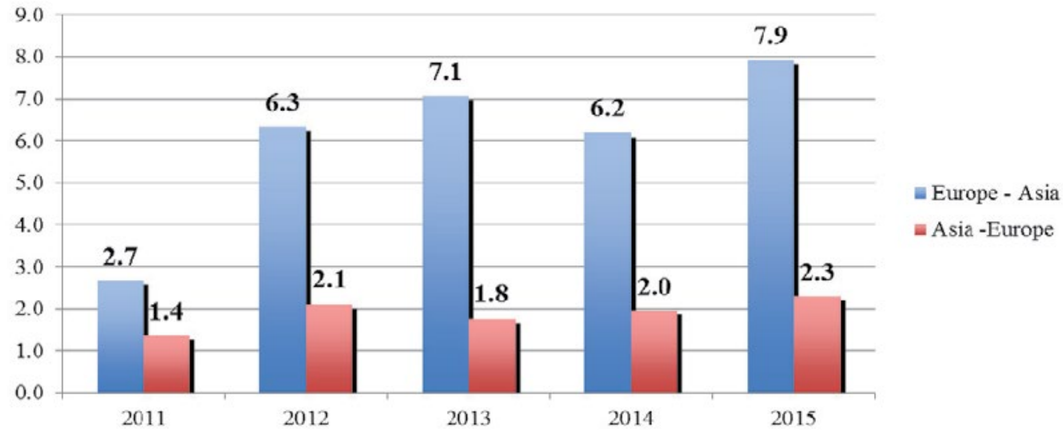
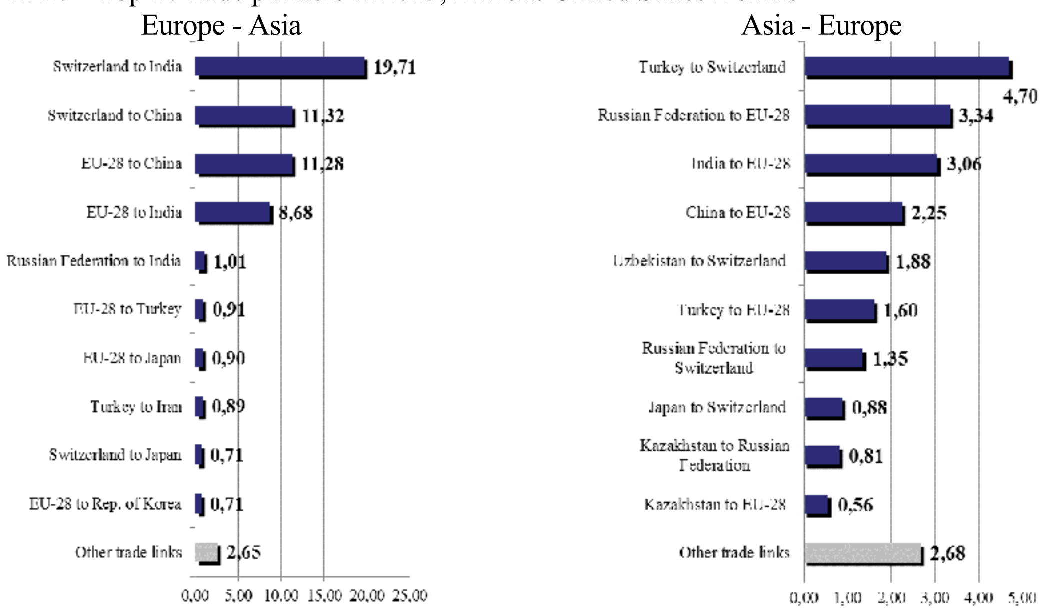


Figure A213 - Top 10 trade partners in 2015, Billions United States Dollars



HS 72. Iron and steel

Figure A214 - Volume of trade 2011–2015, Billions United States Dollars

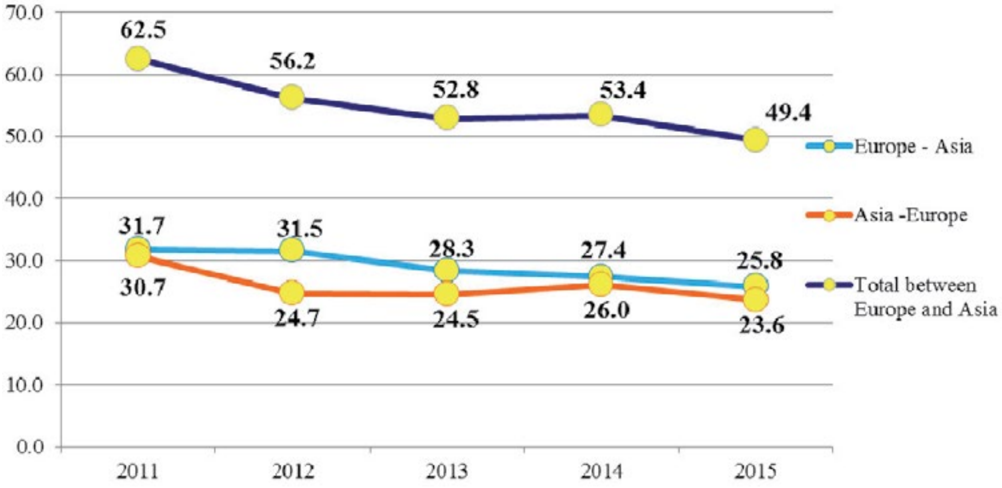


Figure A215 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

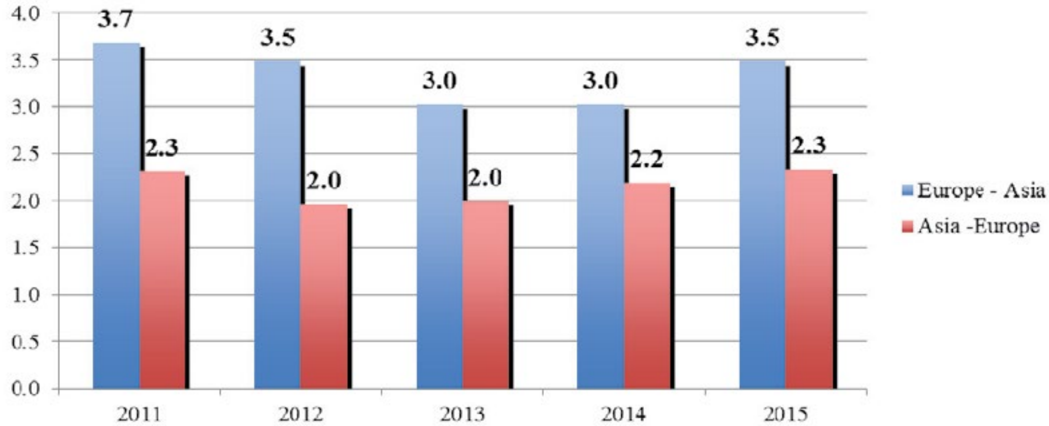
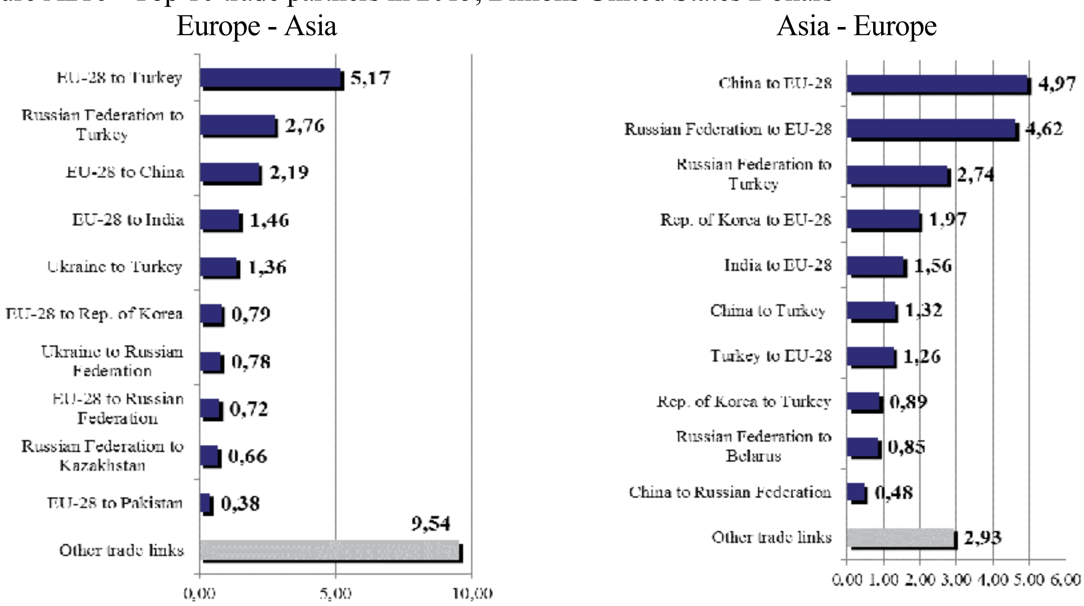


Figure A216 - Top 10 trade partners in 2015, Billions United States Dollars



HS 73. Iron or steel articles

Figure A217 - Volume of trade 2011–2015, Billions United States Dollars

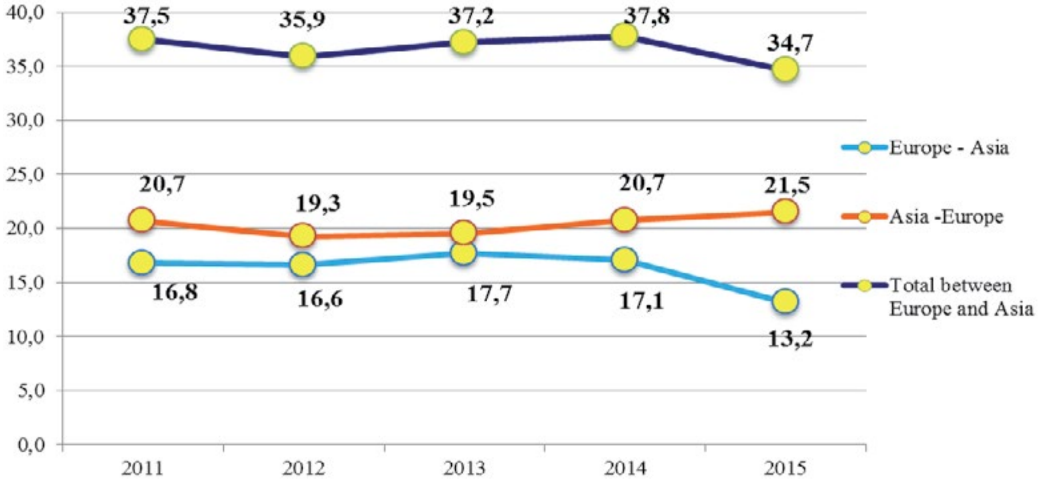


Figure A218 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

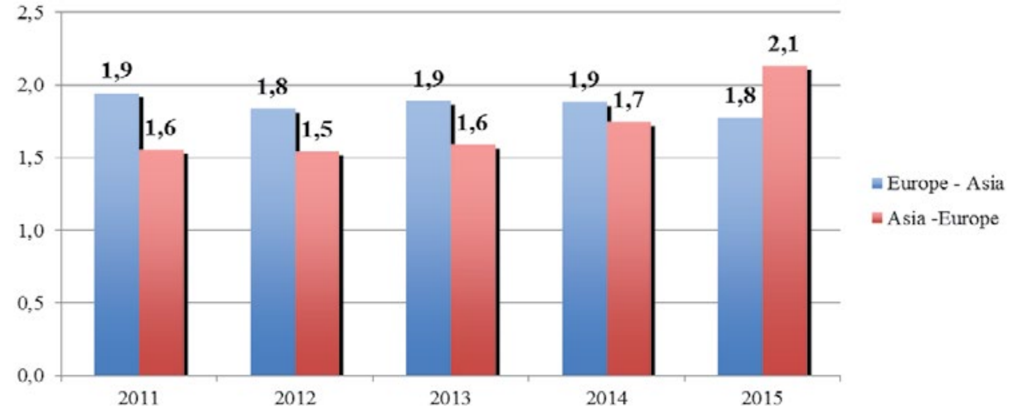
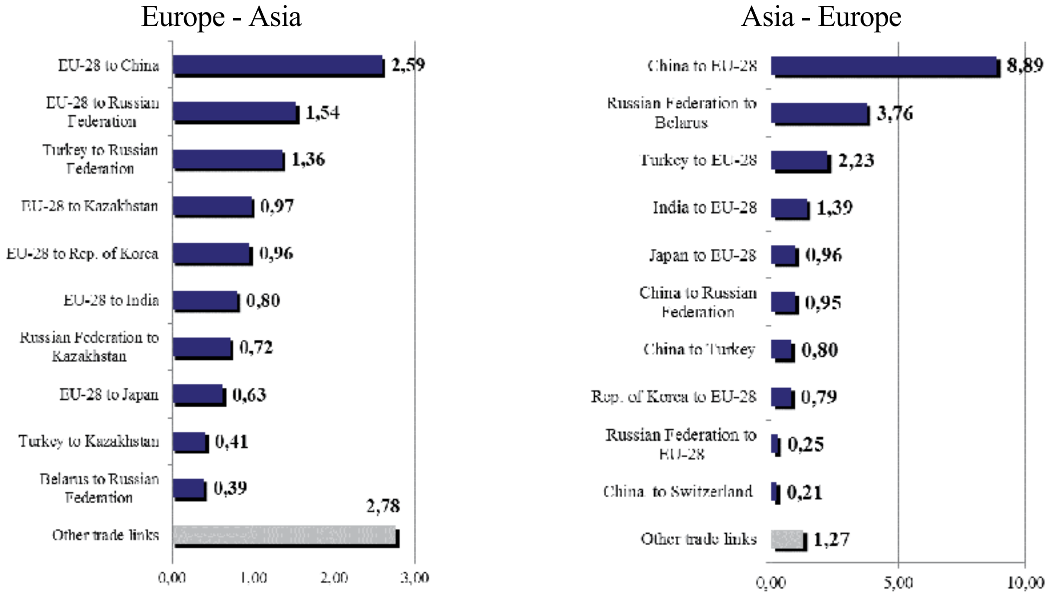


Figure A219 - Top 10 trade partners in 2015, Billions United States Dollars



HS 74. Copper and articles thereof

Figure A220 - Volume of trade 2011–2015, Billions United States Dollars

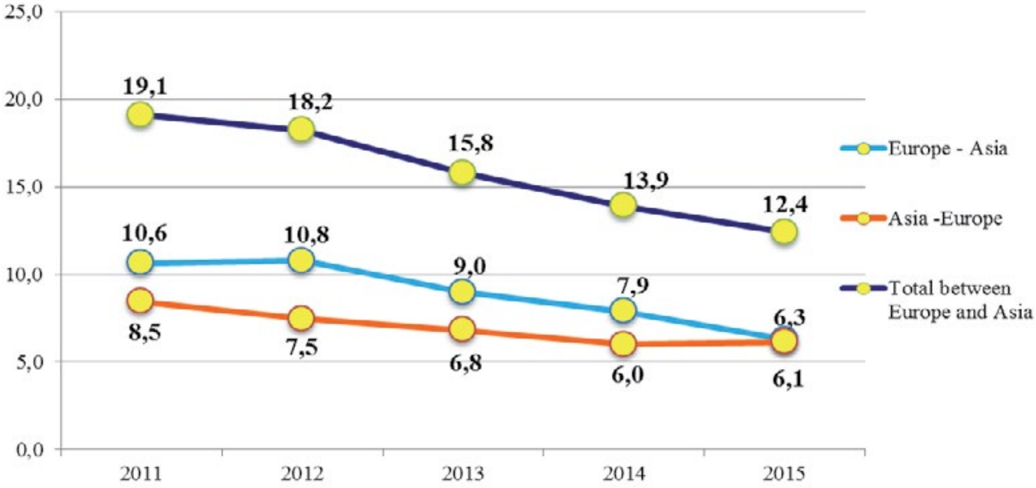


Figure A221 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

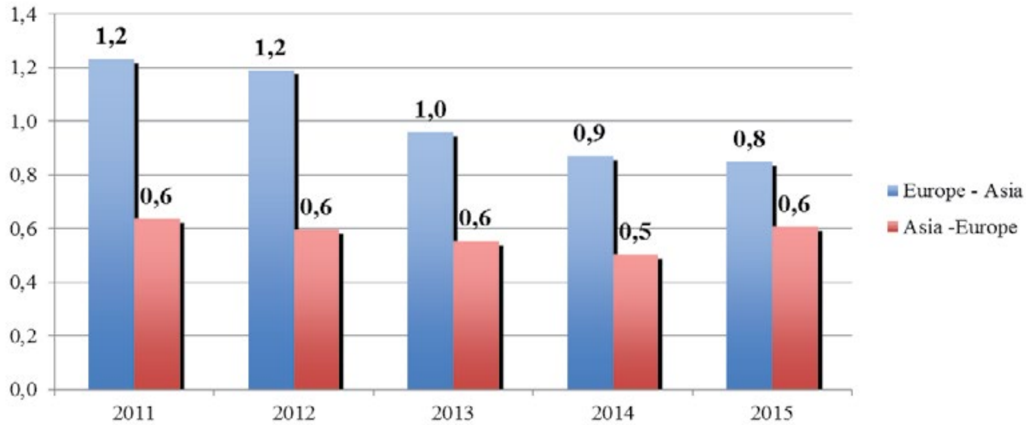
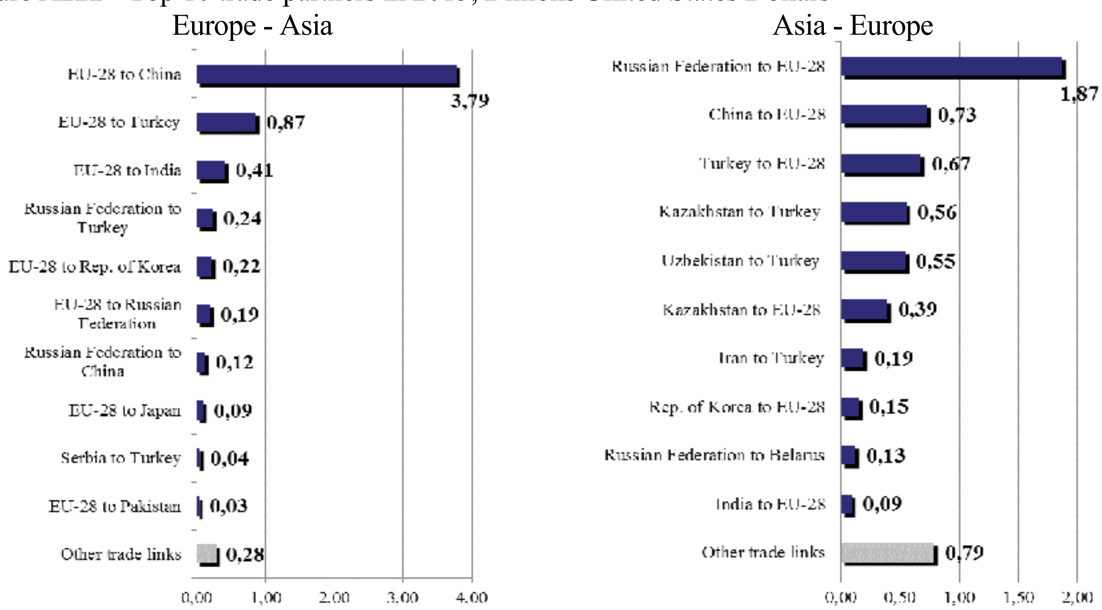


Figure A222 - Top 10 trade partners in 2015, Billions United States Dollars



HS 75. Nickel and articles thereof

Figure A223 - Volume of trade 2011–2015, Billions United States Dollars

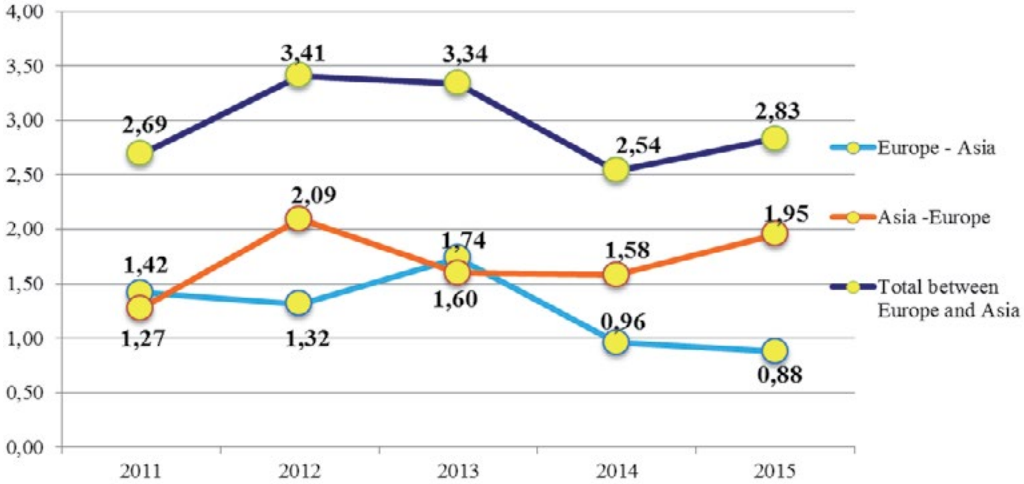


Figure A224 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

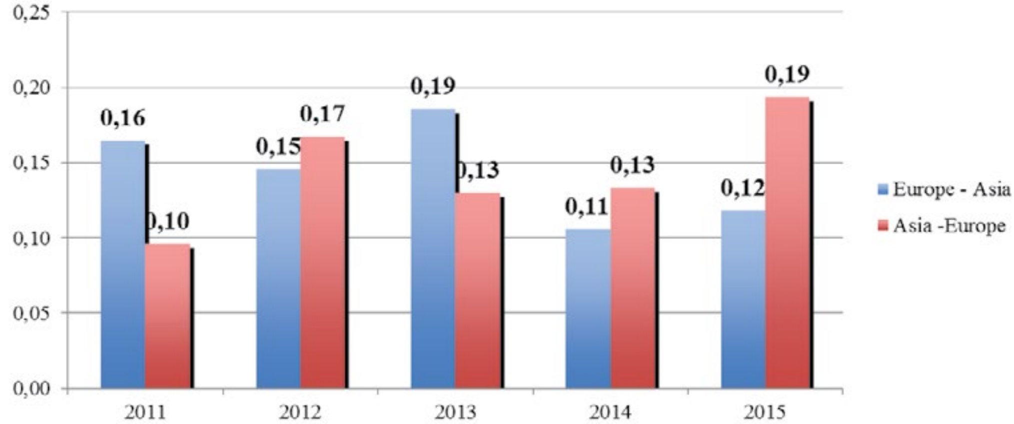
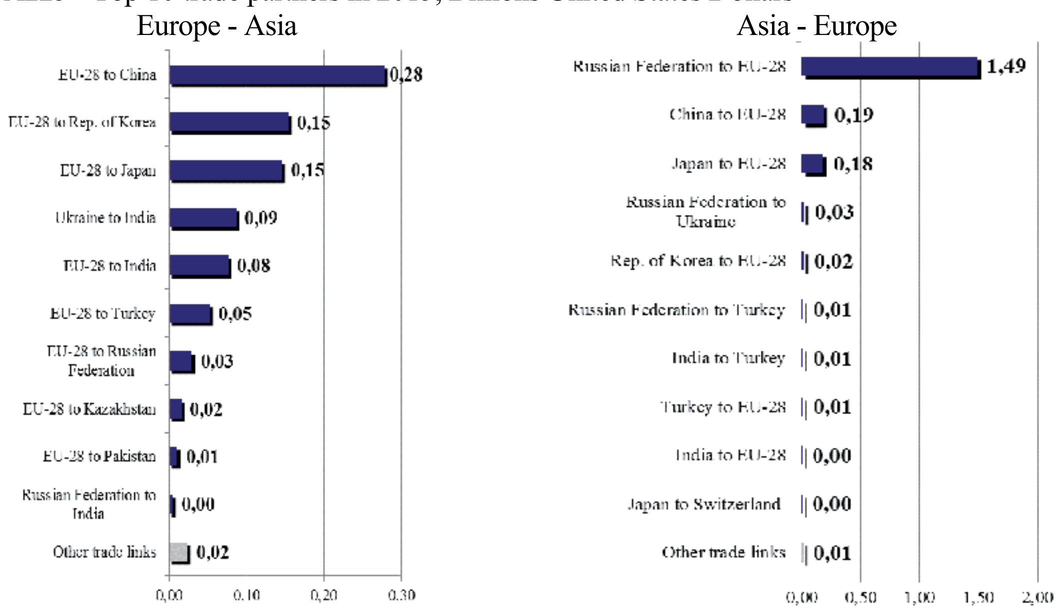


Figure A225 - Top 10 trade partners in 2015, Billions United States Dollars



HS 76. Aluminium and articles thereof

Figure A226 - Volume of trade 2011–2015, Billions United States Dollars

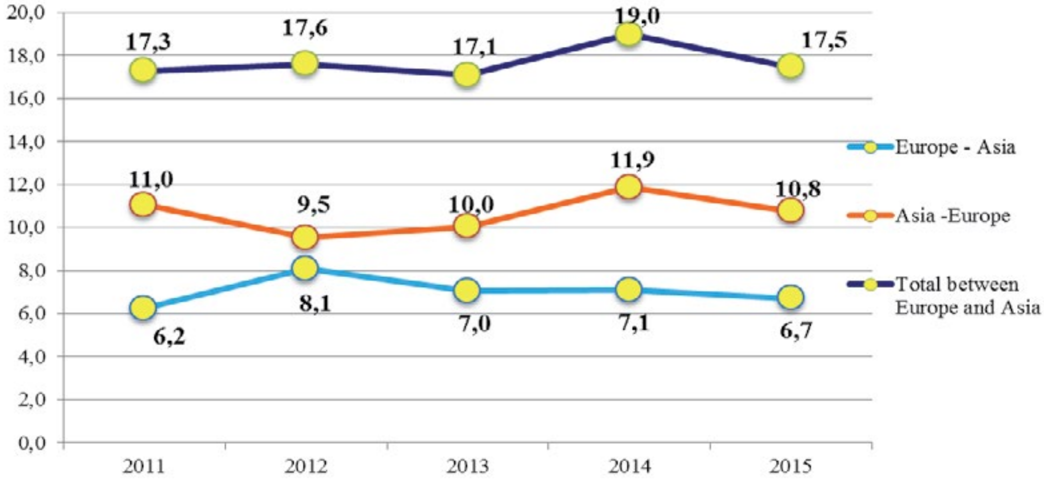


Figure A227 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

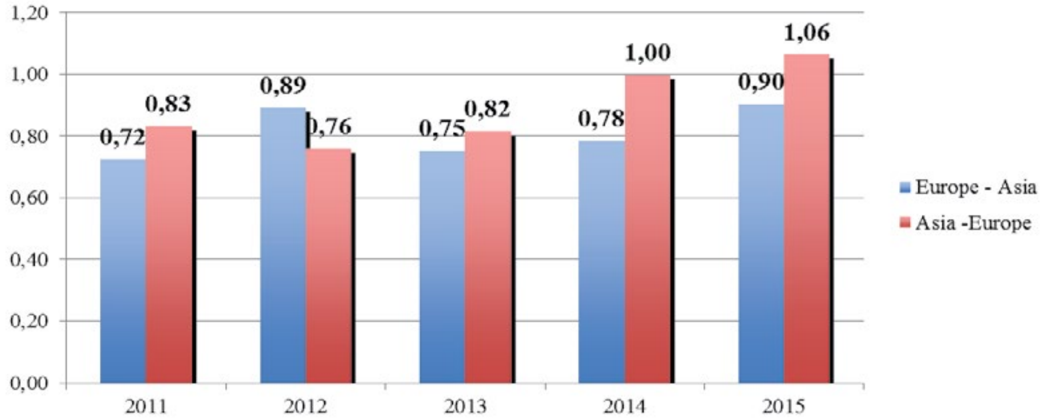
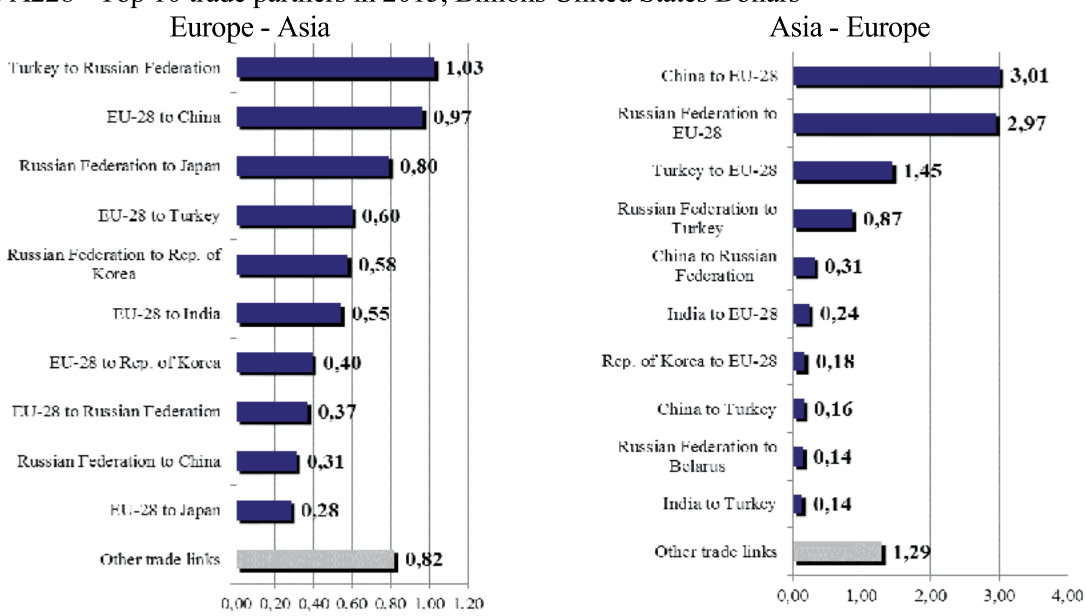


Figure A228 - Top 10 trade partners in 2015, Billions United States Dollars



HS 78. Lead and articles thereof

Figure A229 - Volume of trade 2011–2015, Billions United States Dollars

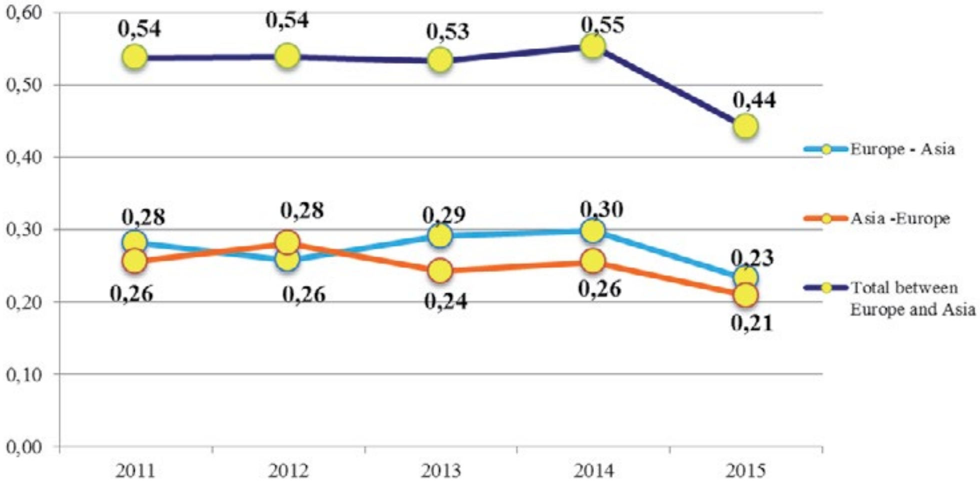


Figure A230 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

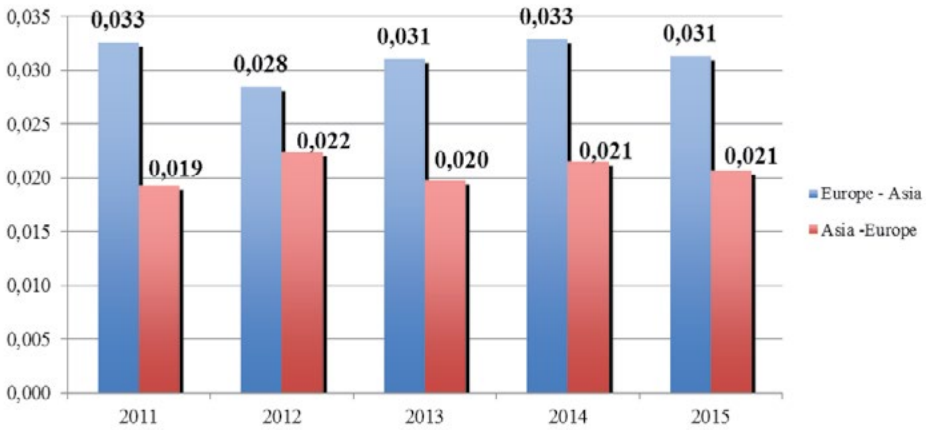
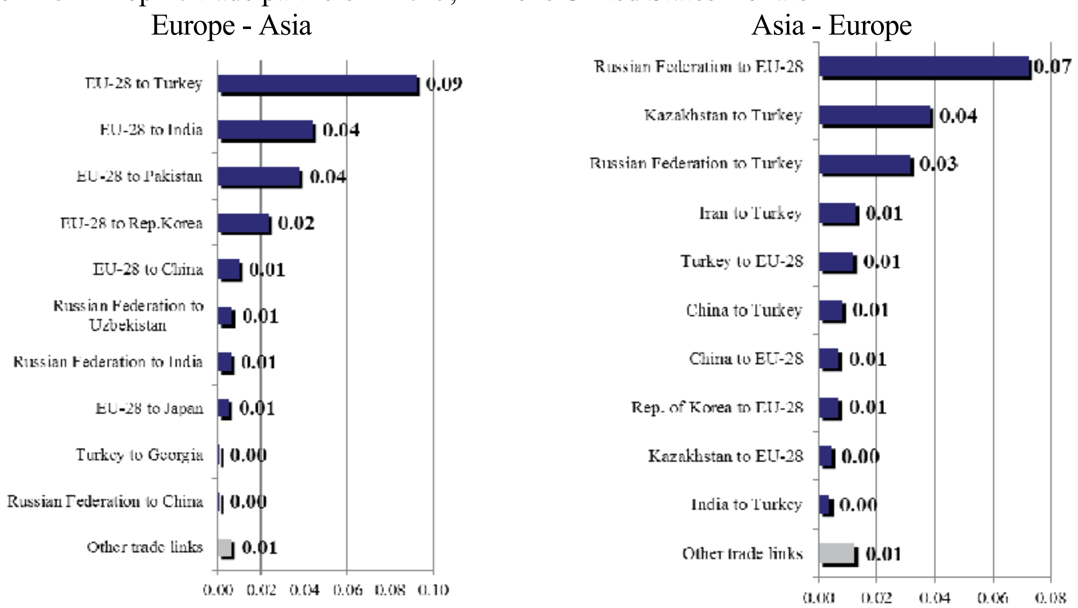


Figure A231 - Top 10 trade partners in 2015, Billions United States Dollars



HS 79. Zinc and articles thereof

Figure A232 - Volume of trade 2011–2015, Billions United States Dollars

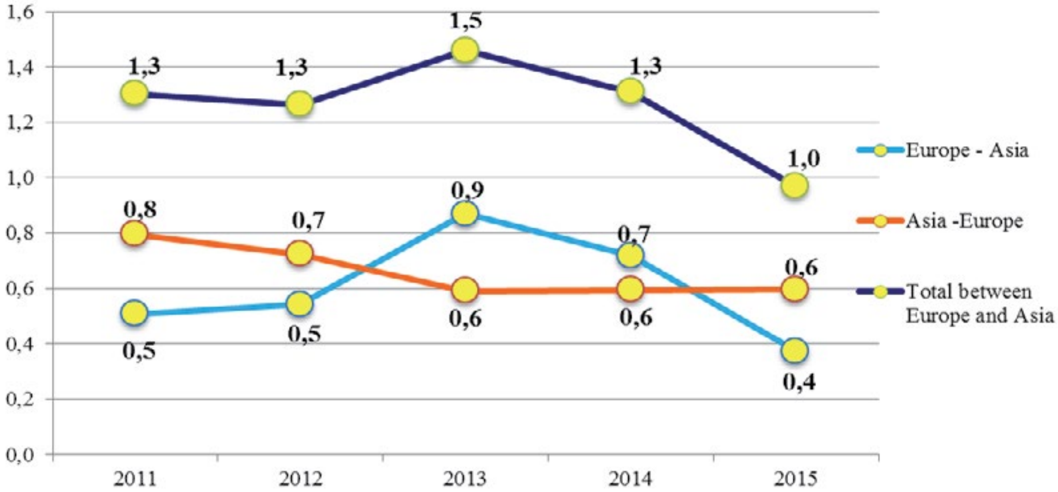


Figure A233 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

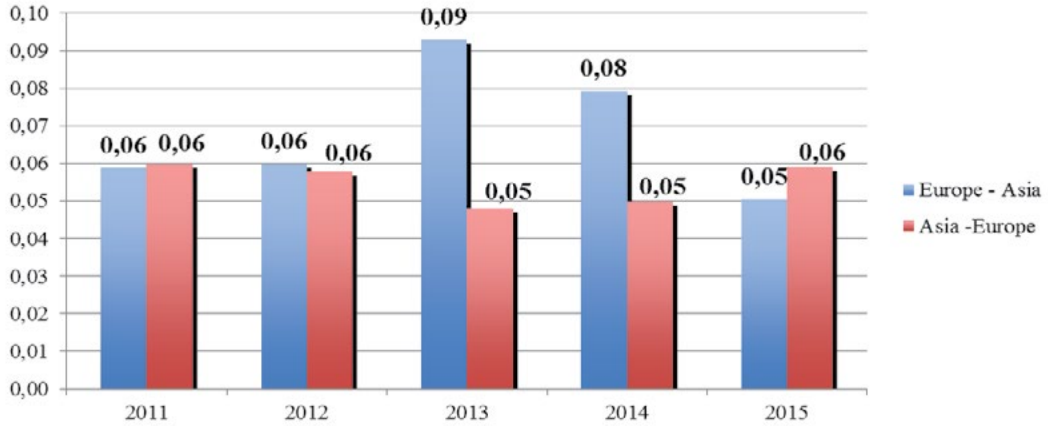
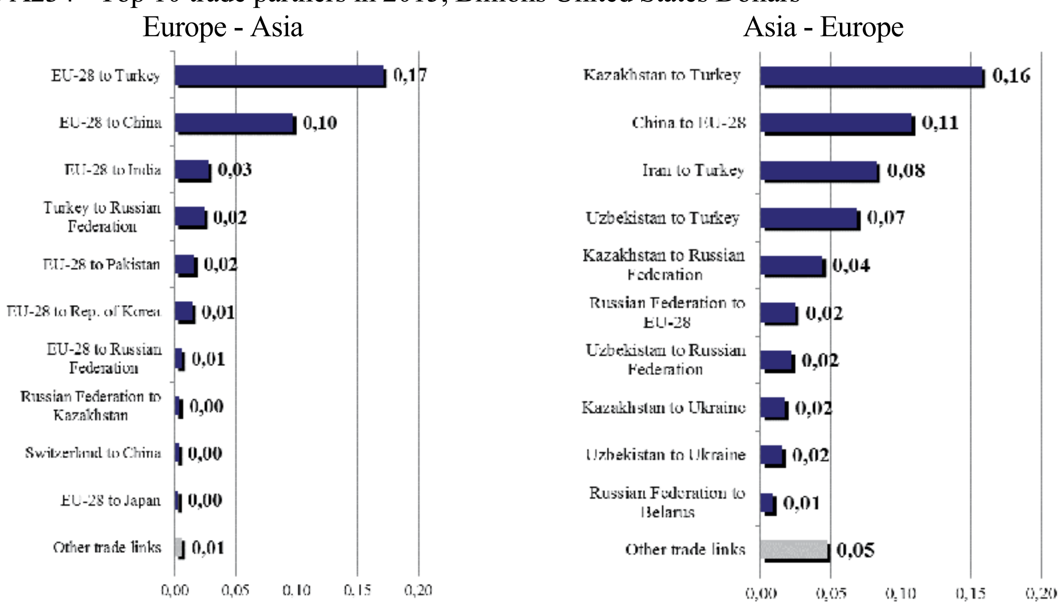


Figure A234 - Top 10 trade partners in 2015, Billions United States Dollars



HS 80. Tin; articles thereof

Figure A235 - Volume of trade 2011–2015, Billions United States Dollars

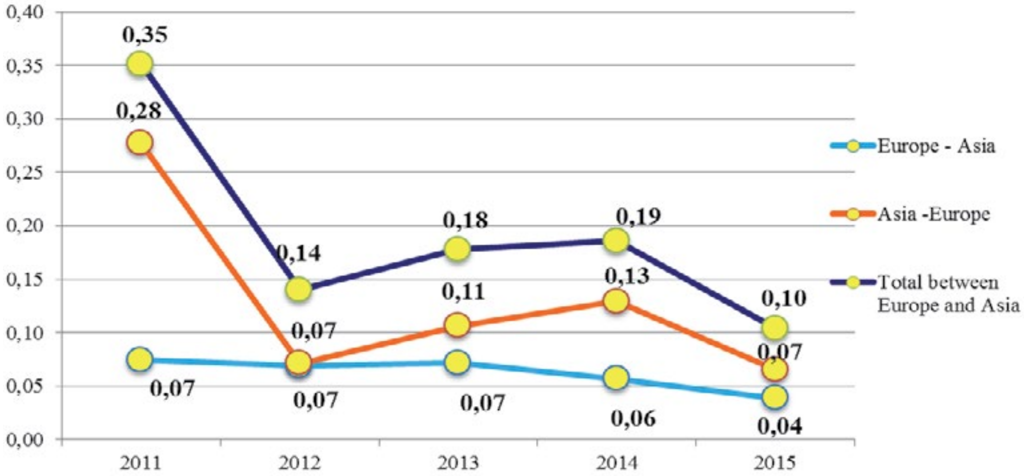


Figure A236 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

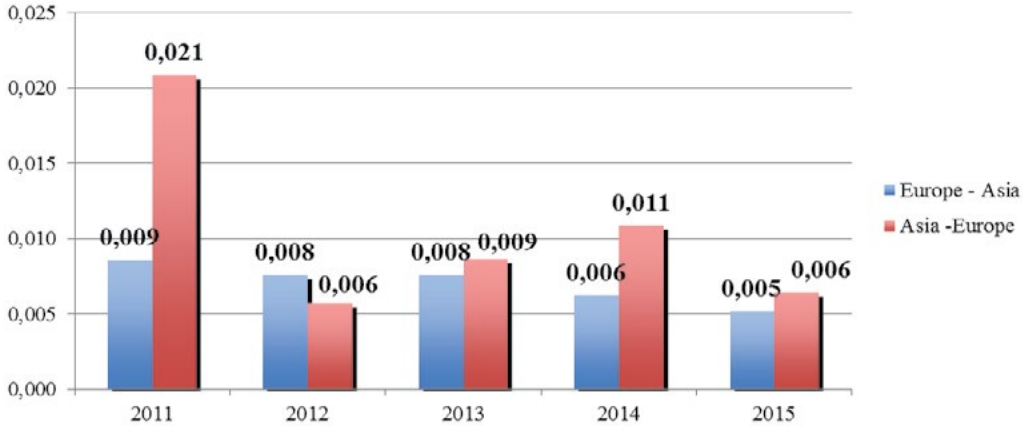
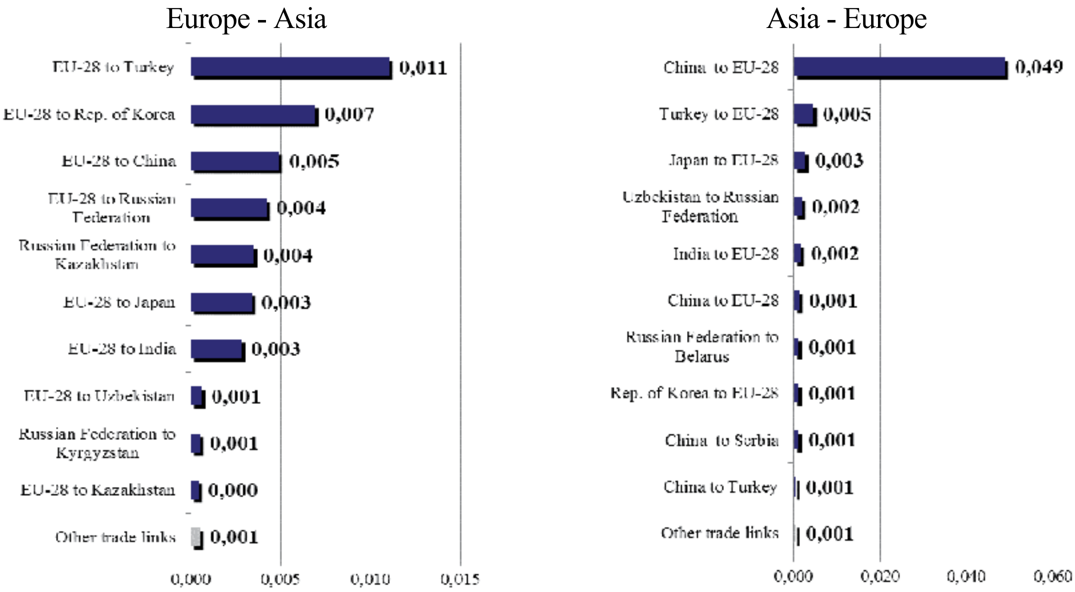


Figure A237 - Top 10 trade partners in 2015, Billions United States Dollars



HS 81. Metals; i.e., cermets and articles thereof

Figure A238 - Volume of trade 2011–2015, Billions United States Dollars

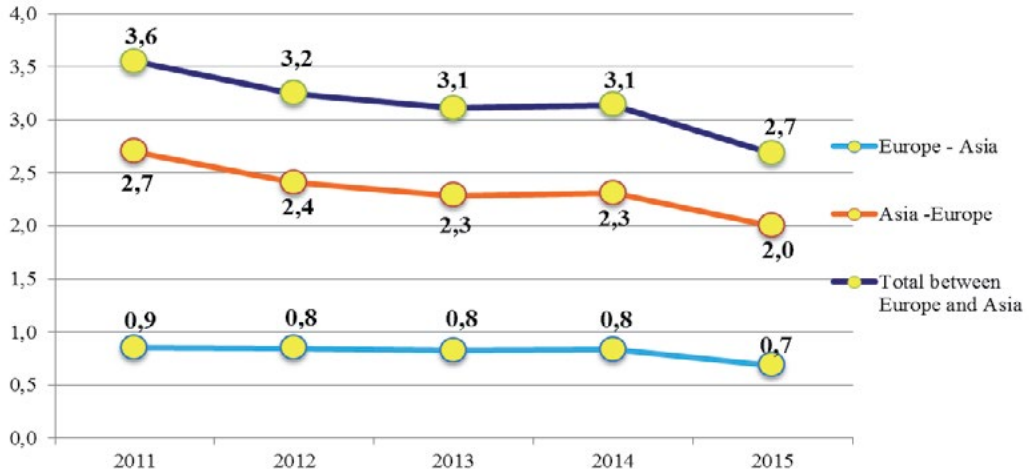


Figure A239 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

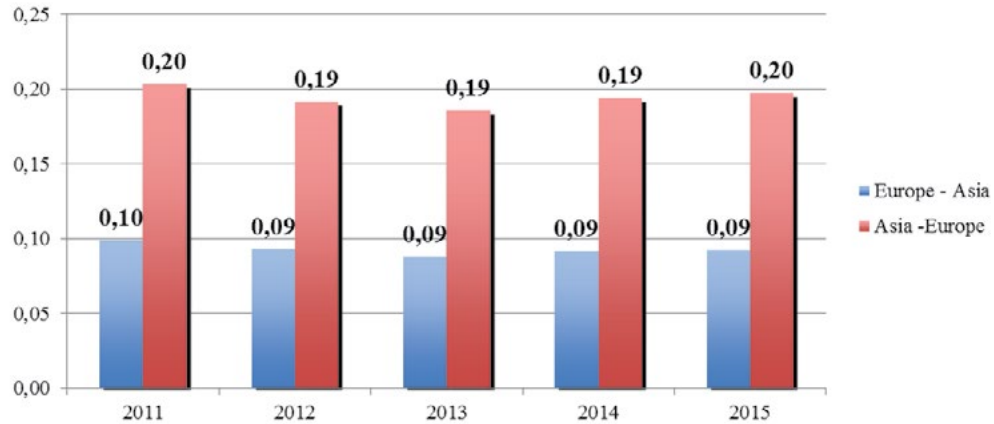
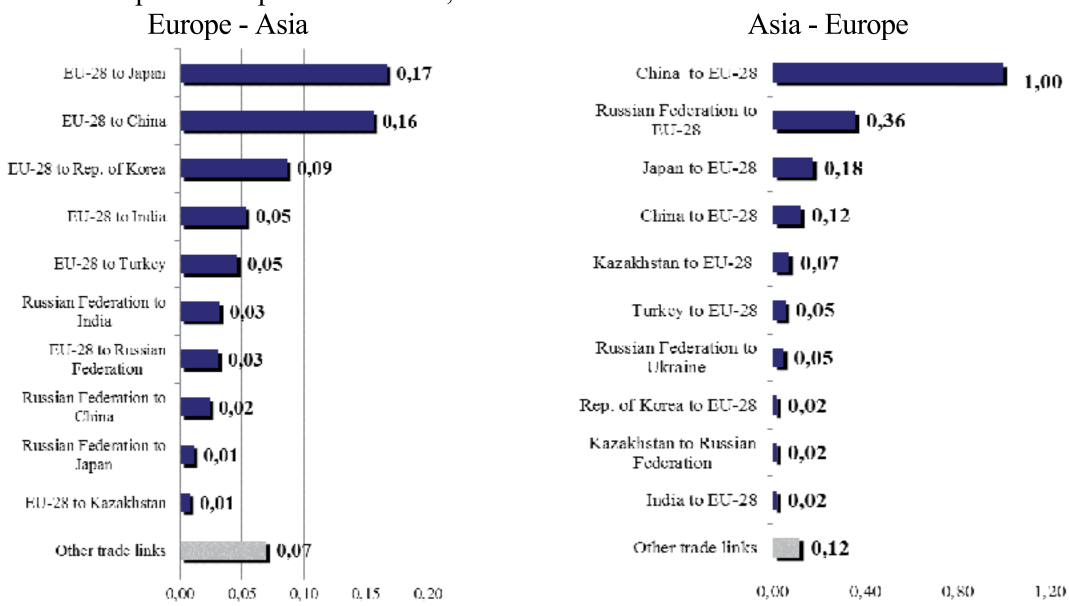


Figure A240 - Top 10 trade partners in 2015, Billions United States Dollars



HS 82. Tools, implements, cutlery, spoons and forks, of base metal; parts thereof, of base metal

Figure A241 - Volume of trade 2011–2015, Billions United States Dollars

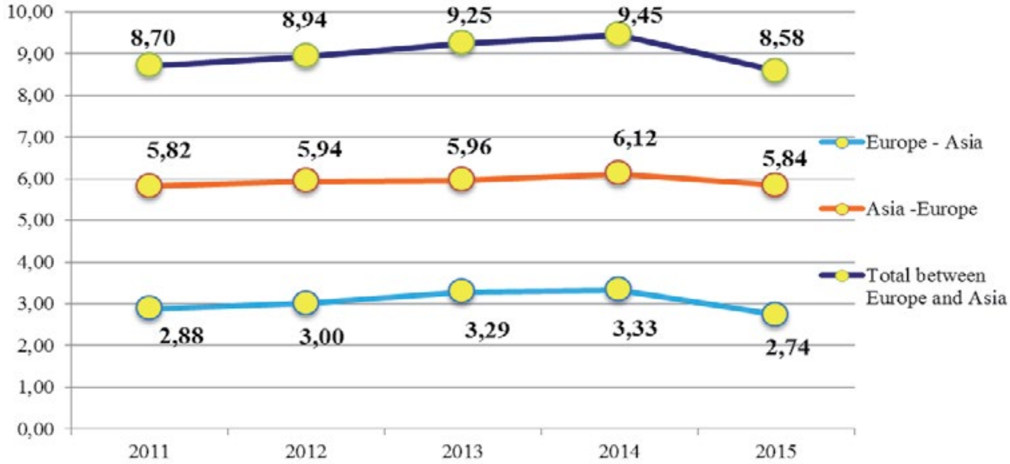


Figure A242 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

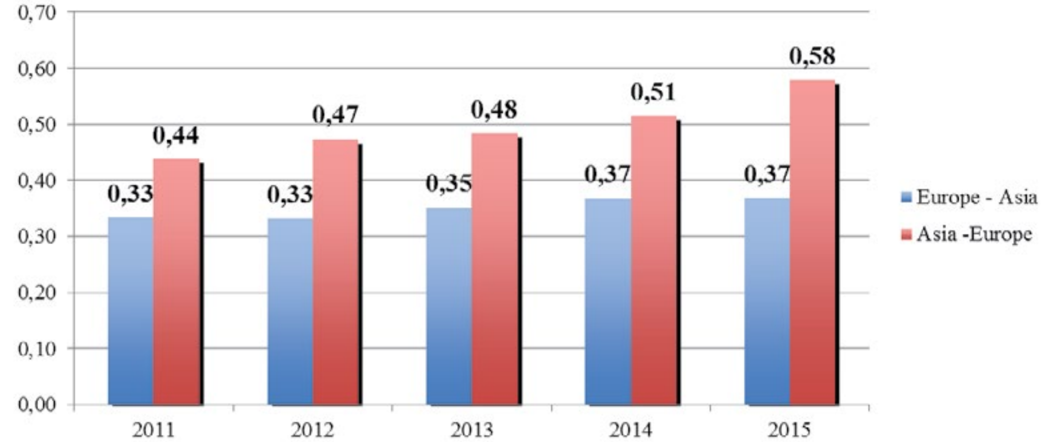
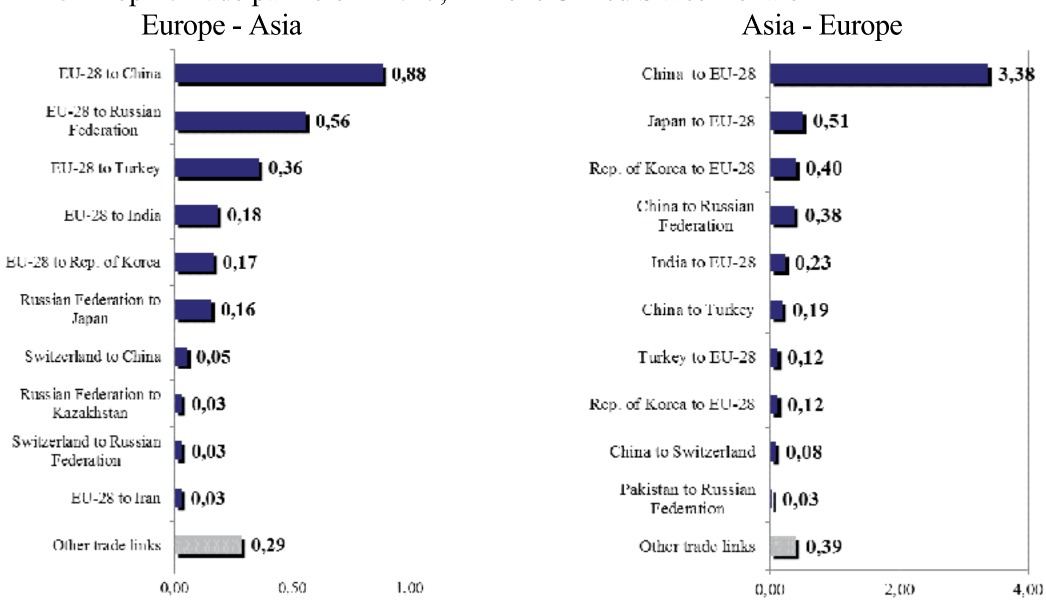


Figure A243 - Top 10 trade partners in 2015, Billions United States Dollars



HS 83. Metal; miscellaneous products of base metal

Figure A244 - Volume of trade 2011–2015, Billions United States Dollars

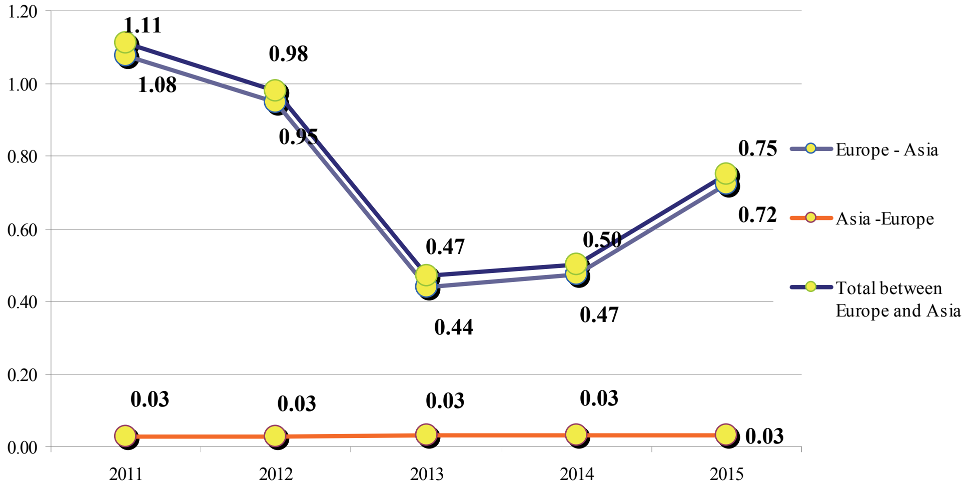


Figure A245 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

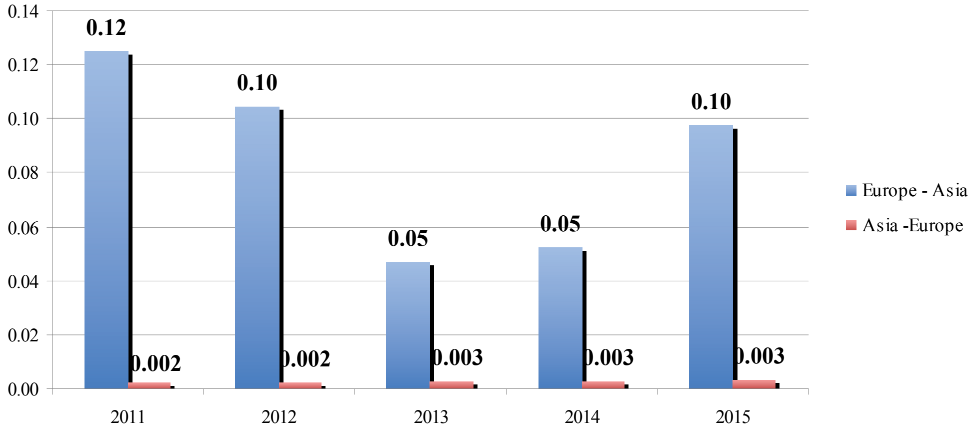
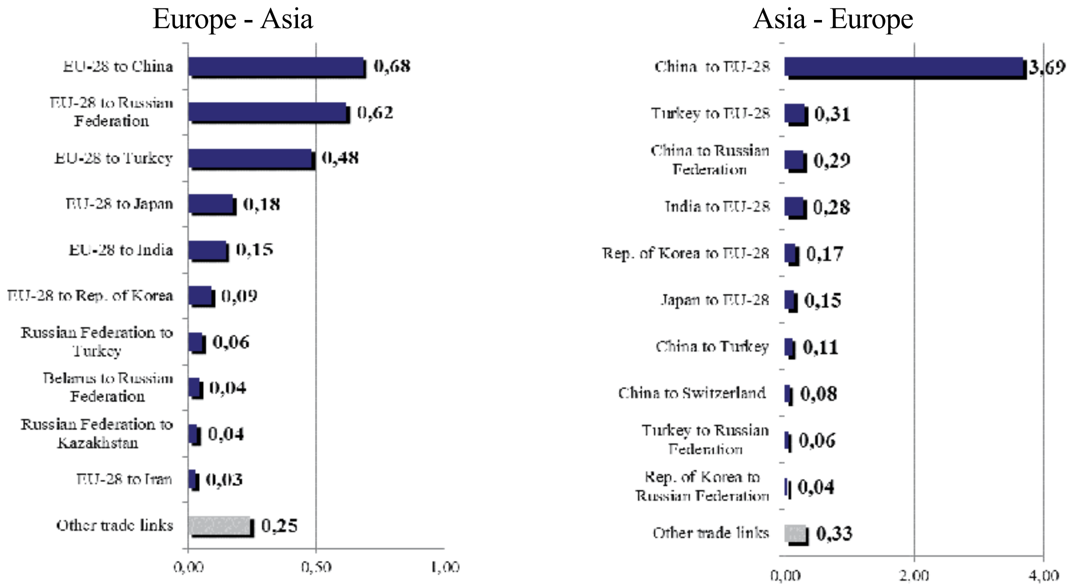


Figure A246 - Top 10 trade partners in 2015, Billions United States Dollars



HS 84. Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof

Figure A247 - Volume of trade 2011–2015, Billions United States Dollars

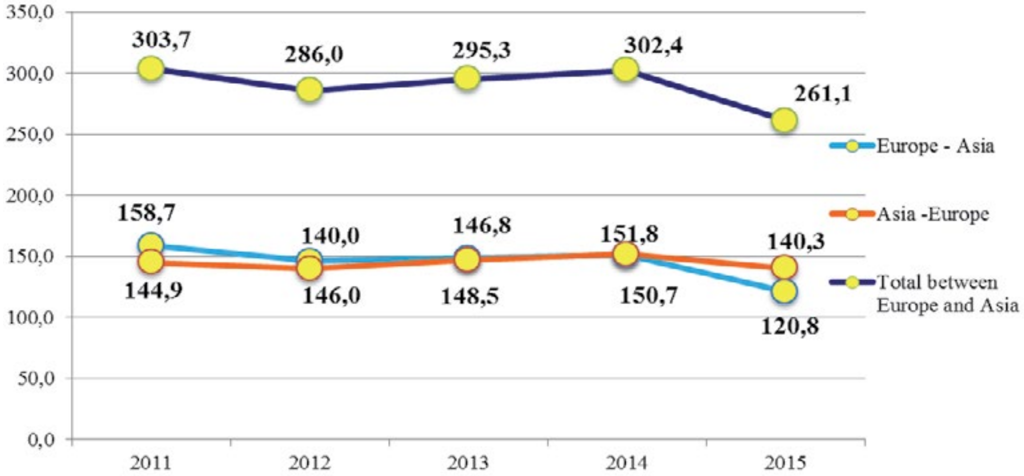


Figure A248 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

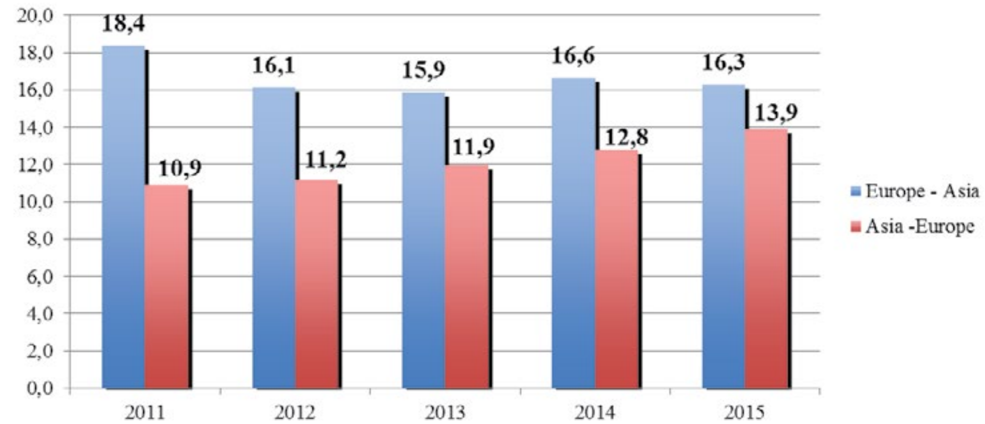
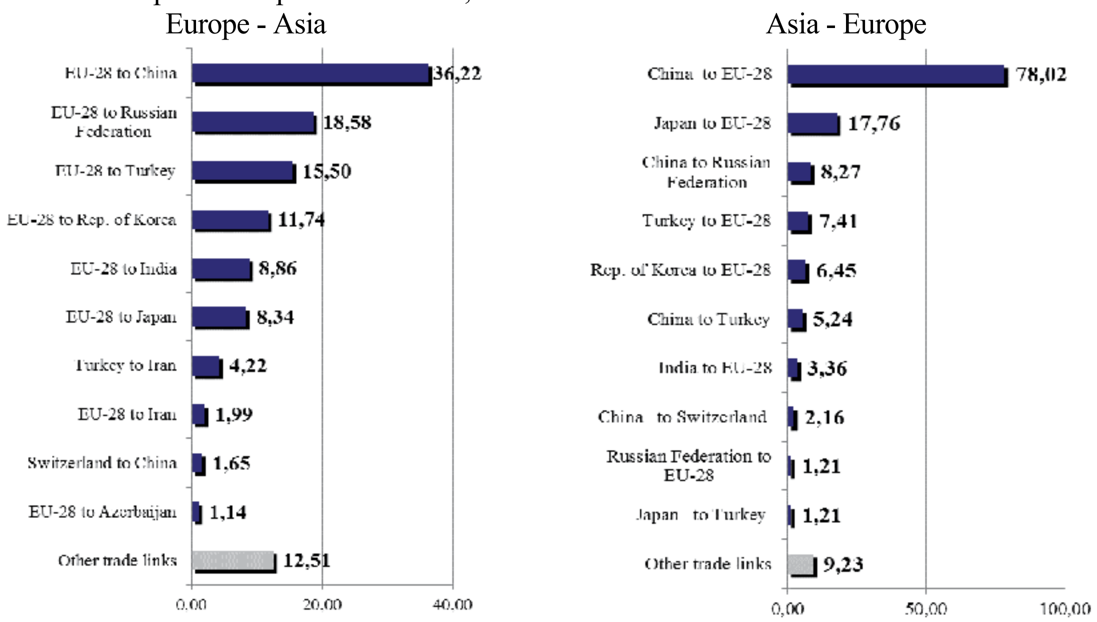


Figure A249 - Top 10 trade partners in 2015, Billions United States Dollars



HS 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

Figure A250 - Volume of trade 2011–2015, Billions United States Dollars

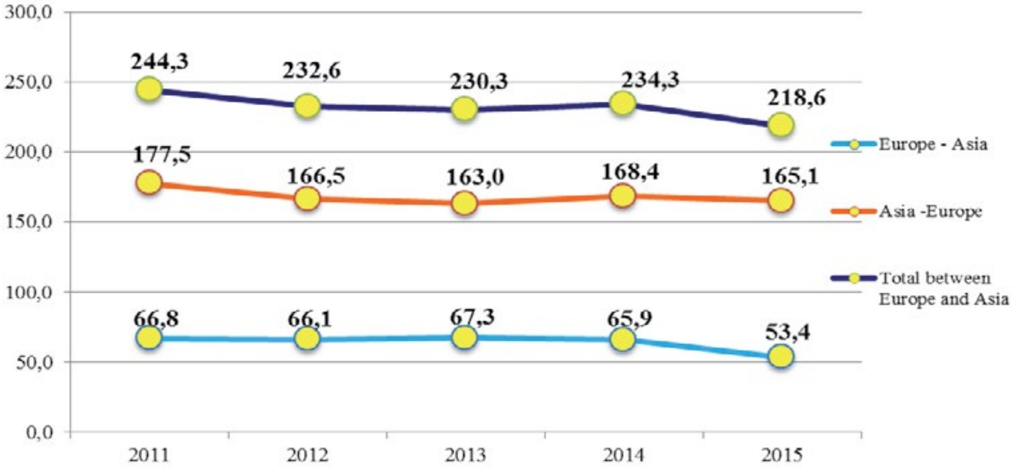


Figure A251 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

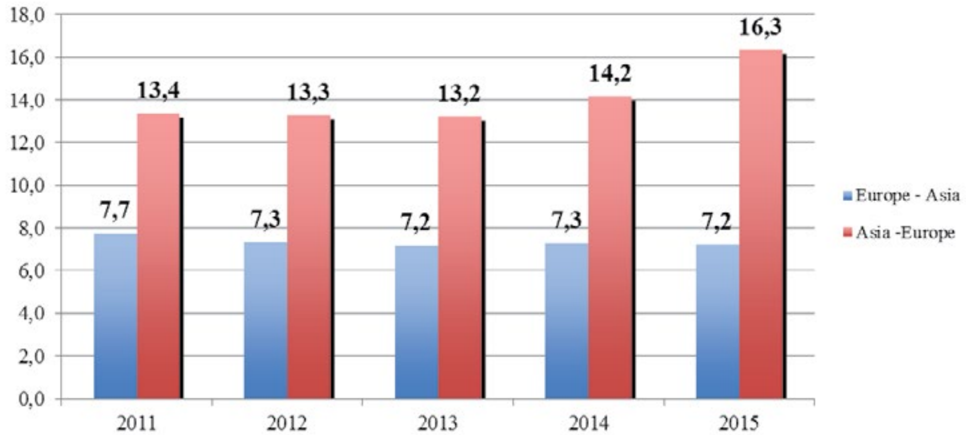
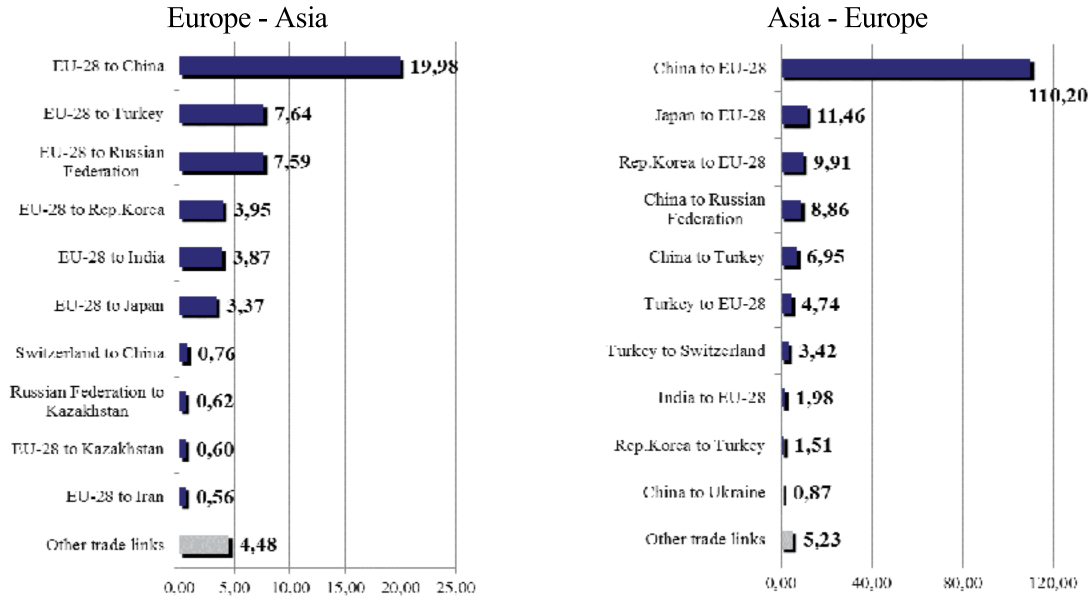


Figure A252 - Top 10 trade partners in 2015, Billions United States Dollars



HS 90. Optical, photographic, cinematographic, measuring, checking, medical or surgical instruments and apparatus; parts and accessories

Figure A253 - Volume of trade 2011–2015, Billions United States Dollars

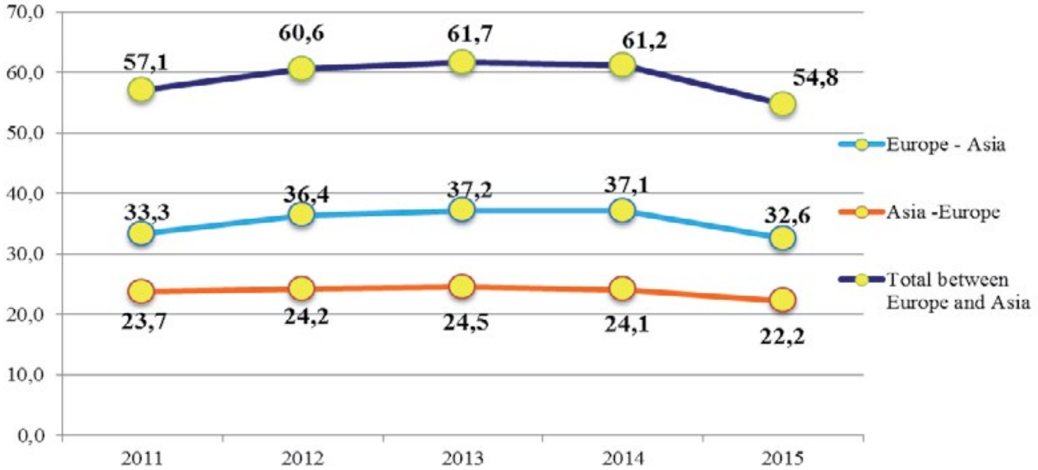


Figure A254 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

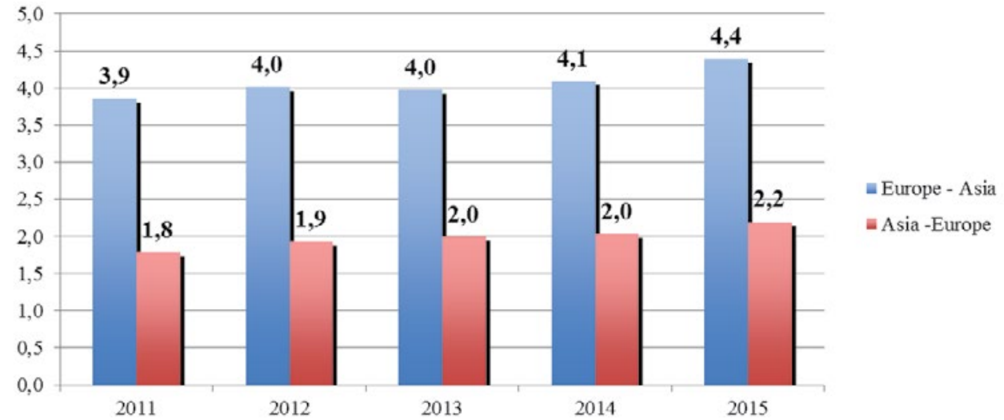
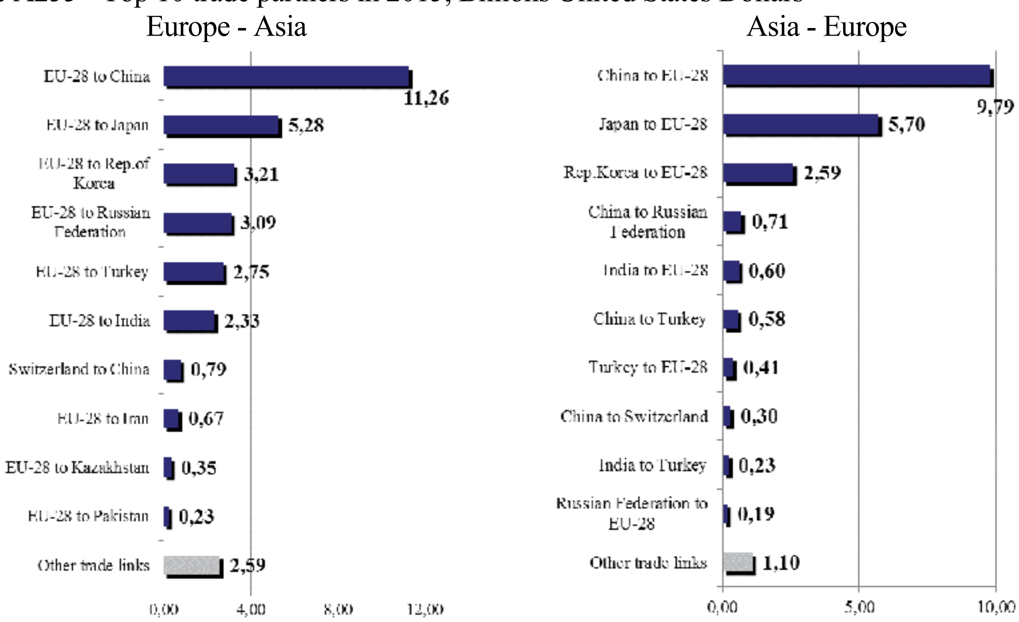


Figure A255 - Top 10 trade partners in 2015, Billions United States Dollars



HS 91. Clocks and watches and parts thereof

Figure A256 - Volume of trade 2011–2015, Billions United States Dollars

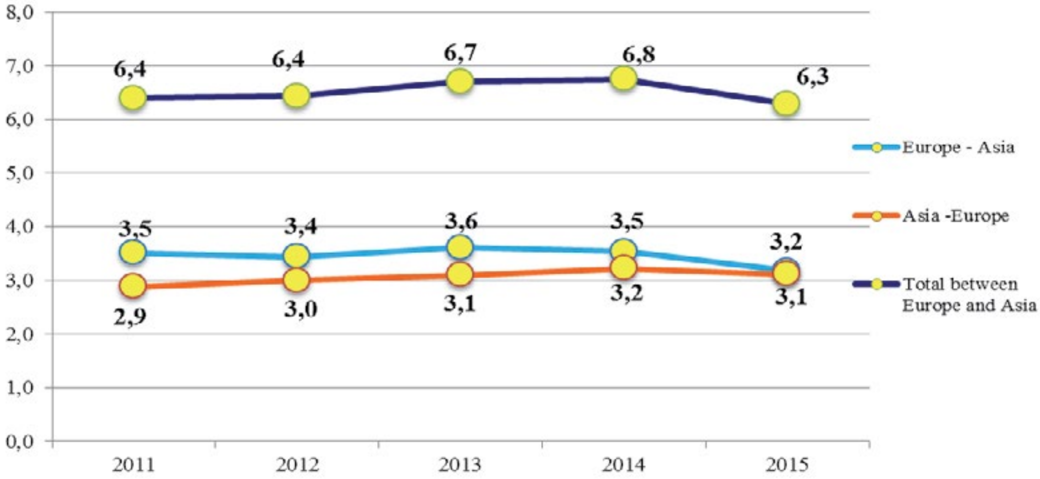


Figure A257 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

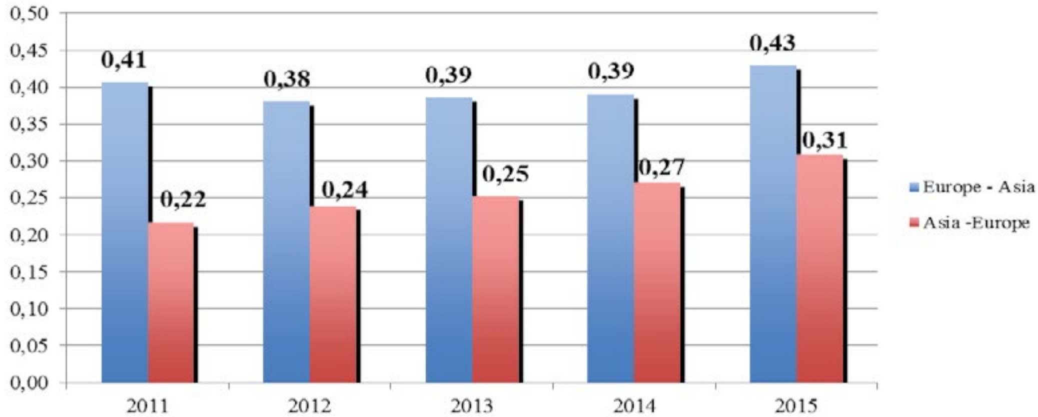
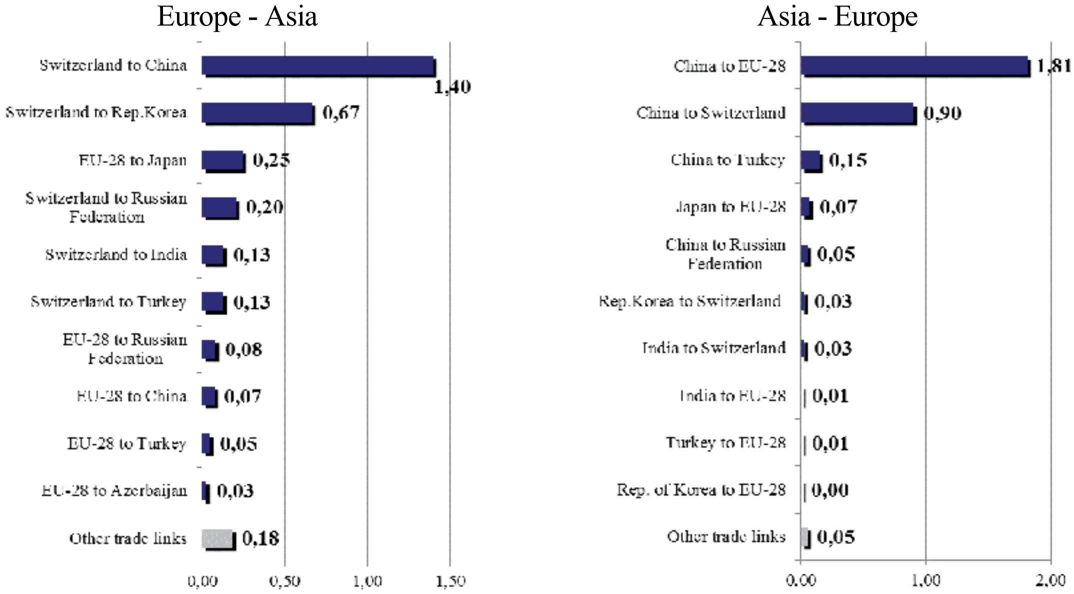


Figure A258 - Top 10 trade partners in 2015, Billions United States Dollars



HS 92. Musical instruments; parts and accessories of such articles

Figure A259 - Volume of trade 2011–2015, Billions United States Dollars

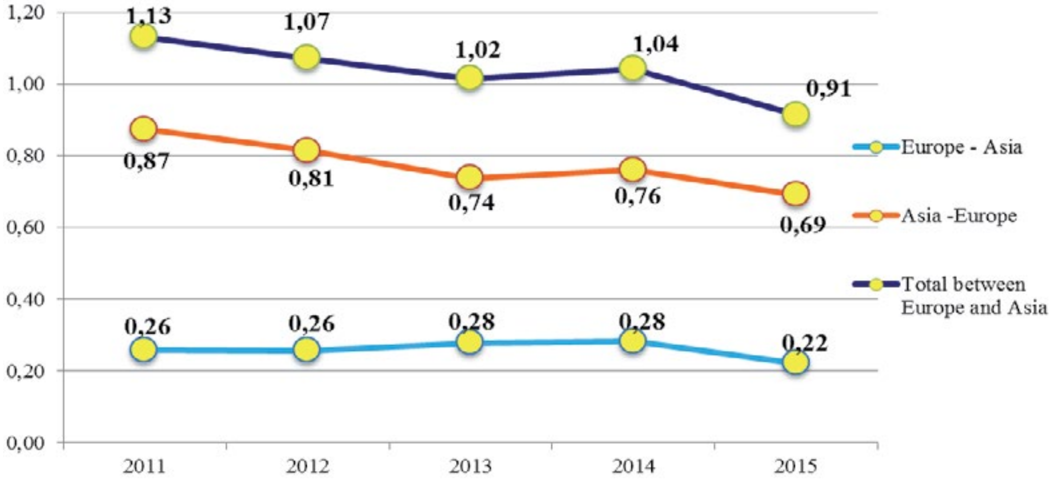


Figure A260 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

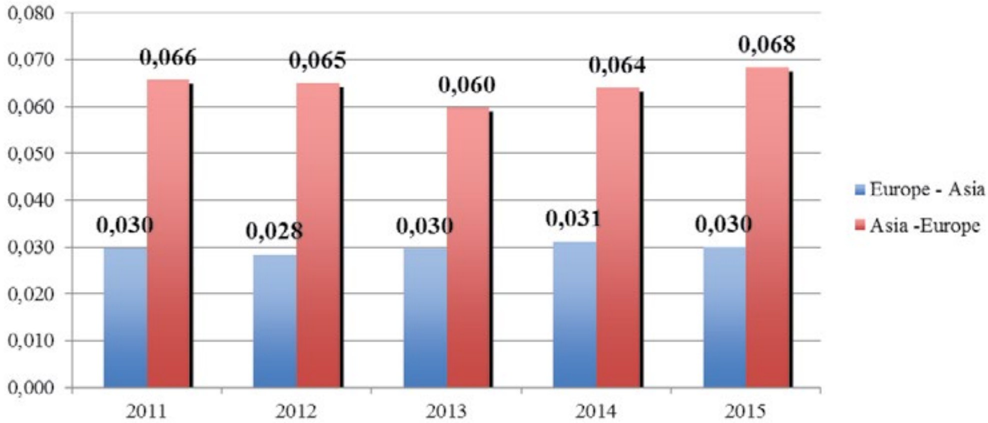
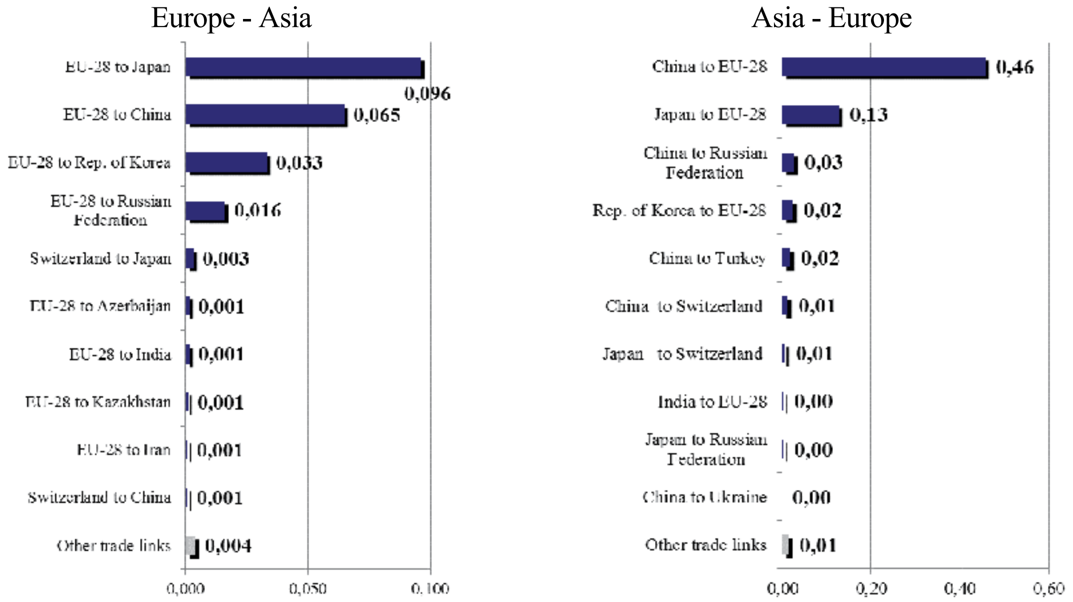


Figure A261 - Top 10 trade partners in 2015, Billions United States Dollars



HS 94. Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, n.e.c.; illuminated signs, illuminated name-plates and the like; prefabricated buildings

Figure A262 - Volume of trade 2011–2015, Billions United States Dollars

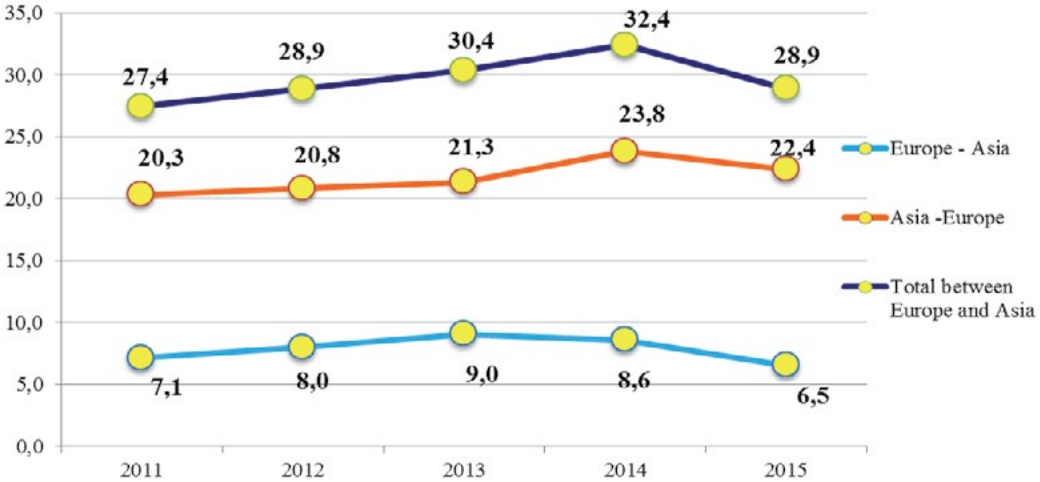


Figure A263 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

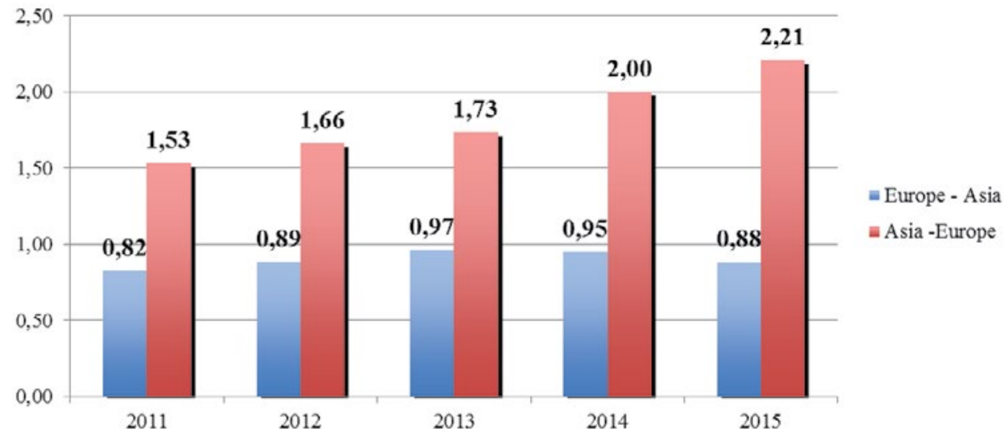
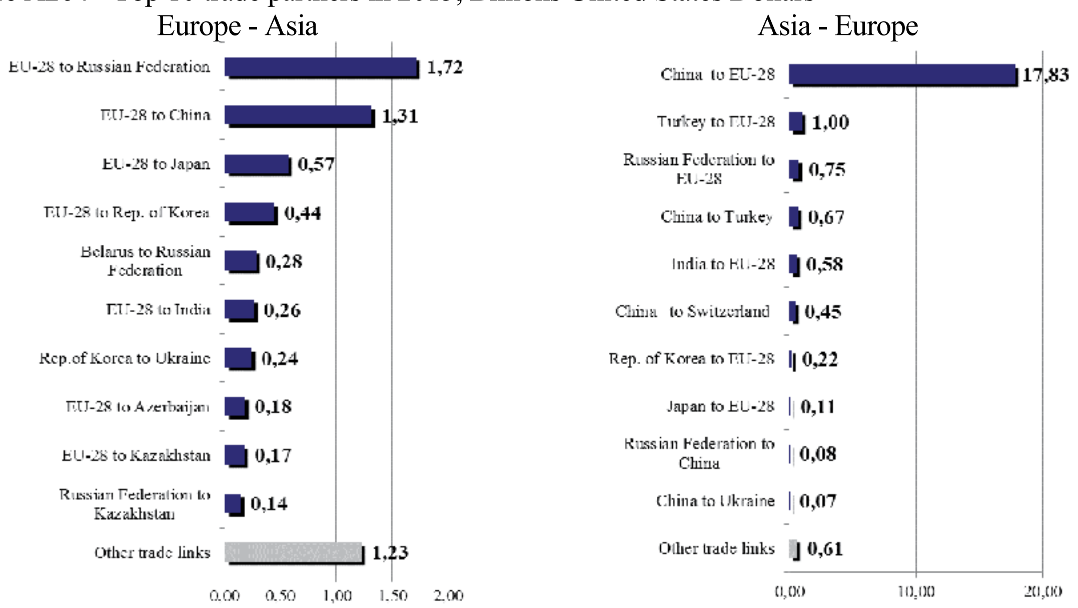


Figure A264 - Top 10 trade partners in 2015, Billions United States Dollars



HS 95. Toys, games and sports requisites; parts and accessories thereof

Figure A265 - Volume of trade 2011–2015, Billions United States Dollars

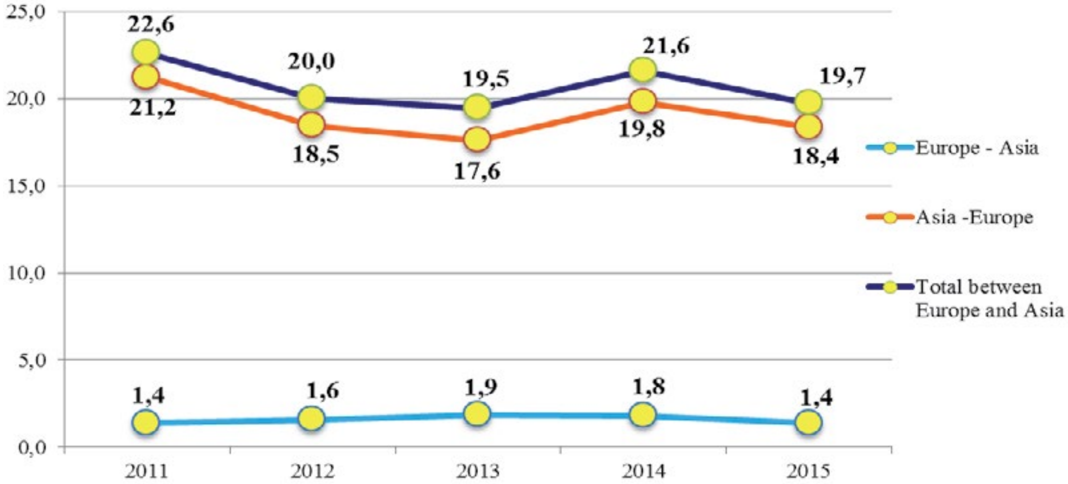


Figure A266 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

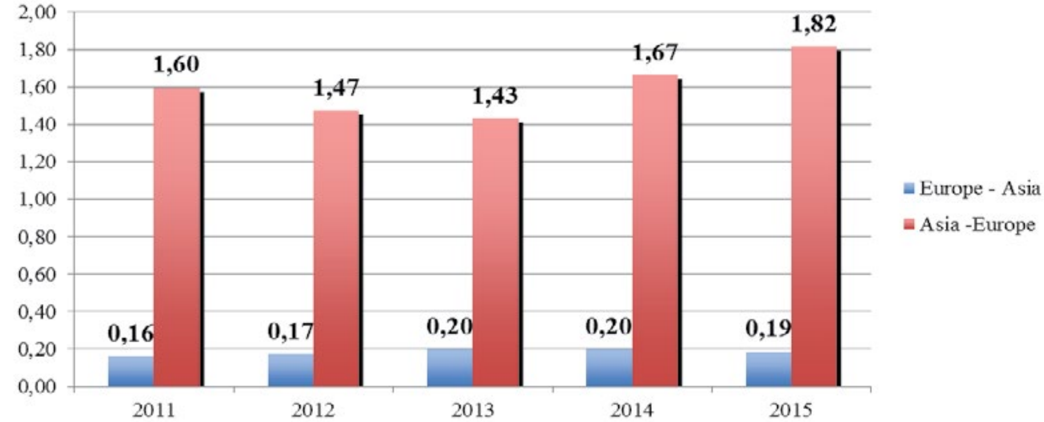
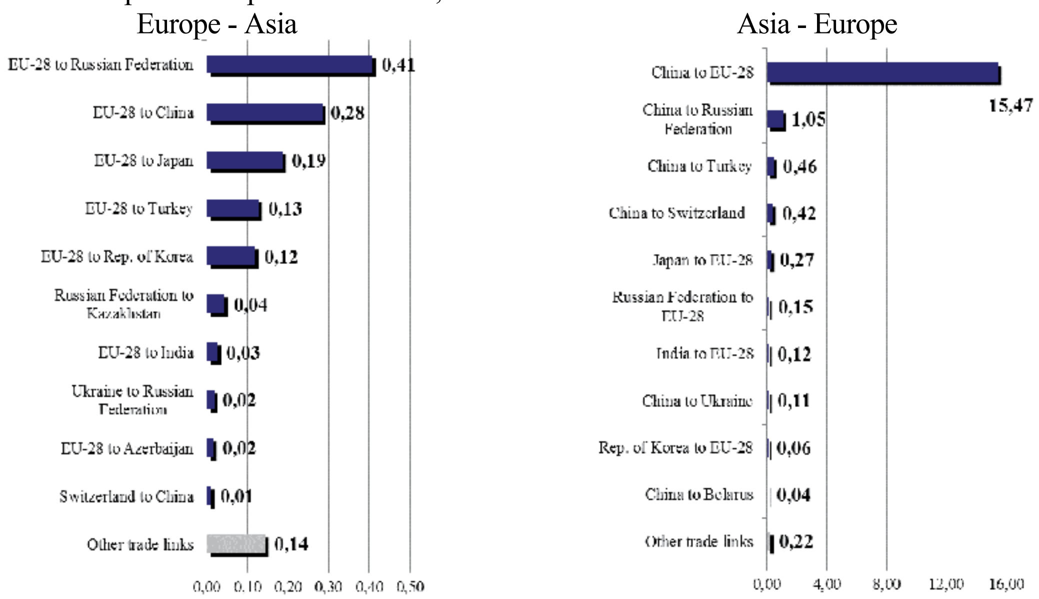


Figure A267 - Top 10 trade partners in 2015, Billions United States Dollars



HS 96. Miscellaneous manufactured articles

Figure A268 - Volume of trade 2011–2015, Billions United States Dollars

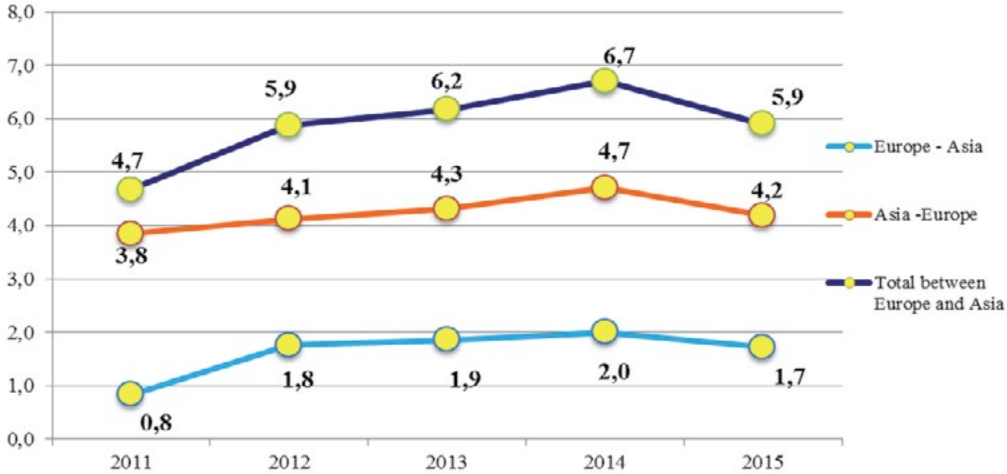


Figure A269 - The share of this commodity group in total volume of trade between Europe and Asia, 2011–2015, per cent

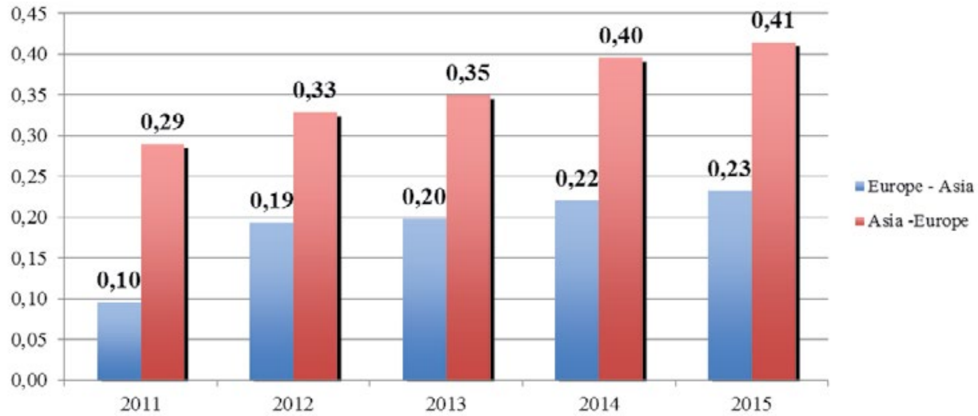
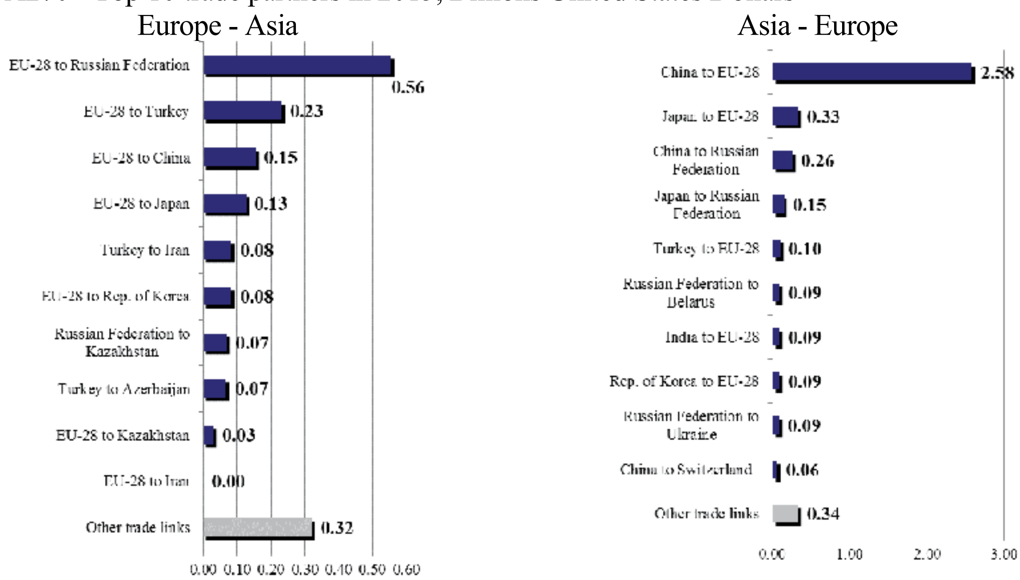


Figure A270 - Top 10 trade partners in 2015, Billions United States Dollars



Euro-Asian Transport Links (EATL)
Phase 3 Report

The United Nations Economic Commission for Europe has a long history of support for developing transport connections between Europe and Asia. The EATL project, Phase I (2002–2007), Phase II (2008–2012) and Phase III (2013–2017) made transport between Europe and Asia a reality. The identification of routes, the prioritization of infrastructure investment projects, the development of a Geographical Information System (GIS) database, the analysis of non-physical obstacles to transport, the comparison study between maritime and inland transport, the organization of numerous national capacity-building workshops on transport facilitation as well as the efforts to operationalize those corridors by preparing common time schedules and tariffs, have all helped to lay the foundation for a more efficient Euro-Asian transport network. Phase III gathered 38 countries from Europe and Asia and concluded that road and rail transportation along Euro-Asian corridors is supplementing rather than competing with maritime transport, providing alternative delivery options, especially for high value and time-sensitive cargo, including in the context of growing e-commerce between Europe and Asia. During Phase III of the project, Governments in the EATL region have consistently worked on addressing the physical and non-physical obstacles to international transport on the EATL routes. Yet some key challenges remain, including: Missing or outdated road & railway links and inter-modal/transhipment infrastructure on some segments; Cumbersome border crossing, customs and transit procedures due to a lack of access to & implementation of UN legal instruments; Lack of harmonized operating and technical inter-operability standards for railway infrastructure & rolling stock; Different legal regimes for railway transport contracts; as well as discrepancies between West and Eastbound cargo traffic on EATL routes, the lack of efficient corridor specific public-private sector coordination platforms, work plans and key performance indicators. The work towards untapping the economic and trade potential of the Euro-Asian landlocked region has been undertaking. More efforts are needed to enhance the operationalisation of EATL and ECE will continue playing a leading role in this regard.

Information Service
United Nations Economic Commission for Europe

Palais des Nations
CH - 1211 Geneva 10, Switzerland
Telephone: +41(0)22 917 12 34
E-mail: unece_info@un.org
Website: http://www.unece.org

United Nations publication
Sales No. E.19.II.E.9
ISBN 978-92-1-117187-7

Layout and Printing at United Nations, Geneva – 1836270 **(E)** – January 2019 – 597 – **ECE/TRANS/265**