

UNECE

Euro-Asian Transport Linkages

Operationalisation of inland transport between Europe and Asia



UNITED NATIONS

Contents

<u>Acronyms and abbreviations</u>	X
<u>Introduction</u>	2
PART I. <u>Euro-Asian Trade Routes and Freight Flows</u>	8
I.1. <u>Economics and trade in the Euro-Asian Transport Links region</u>	8
I.1.1. <u>General Overview</u>	8
I.1.2. <u>East Asia</u>	11
I.1.3. <u>South-Eastern Europe</u>	12
I.1.4. <u>Commonwealth of Independent States</u>	14
I.1.5. <u>Conclusions</u>	16
I.2. <u>Euro-Asian trade flows and inland transport</u>	17
I.2.1. <u>Main commodity groups</u>	17
I.2.2. <u>Main trade partners</u>	22
I.3. <u>Euro-Asian transport flows</u>	32
I.3.1. <u>Overview</u>	32
I.3.2. <u>Liner shipping</u>	33
I.3.3. <u>Railway transport</u>	38
I.3.4. <u>Road transport</u>	78
I.3.5. <u>Air transport</u>	81
I.3.6. <u>Seaports and hinterland connections on EATL corridors</u>	87
I.3.7. <u>Infrastructure of Euro-Asian Transport Links railway routes</u>	90
I.3.8. <u>Infrastructure of Euro-Asian Transport Link roads</u>	95
I.3.9. <u>Air transport infrastructure and logistics</u>	99
I.3.10. <u>Logistic centres and dry ports in Euro-Asian Transport Links</u>	100
I.3.11. <u>Conclusions</u>	101
I.4. <u>Duration and Costs of modes of transport between Europe and Asia on selected Euro-Asian routes</u>	103
PART II. <u>Projects and Studies in the Euro-Asian Transport Links Region</u>	120
II.1. <u>Overview</u>	120
II.1.1. <u>The United Nations Economic Commission for Europe</u>	120
II.1.2. <u>United Nations Economic and Social Commission for Asia and the Pacific</u>	122
II.1.3. <u>United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and the Small Island Developing States</u>	123

II.1.4.	United Nations Conference on Trade and Development	124
II.1.5.	Special Programme for the Economies of Central Asia	124
II.1.6.	European Union	125
II.1.7.	EurAsian Economic Union	126
II.1.8.	Silk Road Economic Belt	127
II.1.9.	Organization for Security and Co-operation in Europe	128
II.1.10.	Organisation for Co-operation between Railways	129
II.1.11.	Organization of the Black Sea Economic Cooperation	131
II.1.12.	Trans-Caspian International Transport Initiative	132
II.1.13.	Economic Cooperation Organization	133
II.1.14.	Organization for Democracy and Economic Development	134
II.1.15.	World Bank	134
II.1.16.	Central Asia Regional Economic Cooperation	135
II.1.17.	Islamic Development Bank	137
II.1.18.	European Bank for Reconstruction and Development	138
II.1.19.	International Road Transport Union	138
II.1.20.	International Union of Railways	139
II.1.21.	Coordinating Council on Trans-Siberian Transportation	140
II.1.22.	Global Partnership for Sustainable Transport	140
II.2.	Joint projects of international organizations	141
II.3.	Most important national programmes and projects	143
PART III.	Main Obstacles Hampering Euro-Asian Transport Link Development	158
III.1.	General overview	158
III.2.	Border crossings on Euro-Asian Transport Link routes	159
III.2.1.	Border crossing infrastructure	159
III.2.2.	Border crossing processes and procedures	160
III.3.	Road transport	161
III.4.	Rail transport	163
III.5.	Intermodal transport	164
III.6.	Public and private interests, cross-country cooperation	165
III.7.	Conclusions	165
PART IV.	The Future of Euro-Asian Transport Links	168
PART V.	Conclusions and Recommendations	178
	Endnotes	188
	References	192
ANNEX	Trade Flows Between Europe and Asia	197

List of Tables

Table 1.1	<u>Economic growth by main trade partners in Europe and Asia, 2013–2016 and forecast for 2017–2018</u>	8
Table 1.2	<u>Growth in merchandise trade volume by Europe and Asia, 2013–2016 and forecast for 2017–2018</u>	10
Table 1.3	<u>Rates of growth of real GDP in China, Mongolia and the Republic of Korea, in 2013–2016 and forecast for 2017–2018</u>	12
Table 1.4	<u>Changes in value and volume of export and import of goods by countries of Eastern Asia in 2013–2016 and forecast for 2017–2018</u>	12
Table 1.5	<u>Growth of real GDP in selected countries of South-Eastern Europe in 2013–2016 and forecast for 2017–2018</u>	13
Table 1.6	<u>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</u>	13
Table 1.7	<u>Growth of real GDP in CIS member States and Georgia, in 2013–2016 and forecast for 2017–2018</u>	14
Table 1.8	<u>EATL countries: Bilateral and multilateral trade agreements</u>	15
Table 1.9	<u>Export and import of goods in CIS countries, 2013–2016 and forecast for 2017–2018</u>	15
Table 1.10	<u>Cargo for Euro-Asian inland transport</u>	17
Table 1.11	<u>Import of goods to Asia from selected European countries in 2010</u>	24
Table 1.12	<u>Export of goods from Asia to selected European countries in 2010</u>	24
Table 1.13	<u>Import of goods to Asia from selected European countries in 2011</u>	25
Table 1.14	<u>Export of goods from Asia to selected European countries in 2011</u>	25
Table 1.15	<u>Import of goods to Asia from selected European countries in 2012</u>	26
Table 1.16	<u>Export of goods from Asia to selected European countries in 2012</u>	26
Table 1.17	<u>Import of goods to Asia from selected European countries in 2013</u>	27
Table 1.18	<u>Export of goods from Asia to selected European countries in 2013</u>	27
Table 1.19	<u>Import of goods to Asia from selected European countries in 2014</u>	28
Table 1.20	<u>Export of goods from Asia to selected European countries in 2014</u>	28
Table 1.21	<u>Import of goods to Asia from selected European countries in 2015</u>	29
Table 1.22	<u>Export of goods from Asia to selected European countries in 2015</u>	29
Table 1.23	<u>Volume of goods transported between the European Union and China by mode of transport, 2011–2016</u>	32

Table 1.24	<u>Average value of one tonne transported between the European Union and China by modes of transport, 2011–2016</u>	32
Table 1.25	<u>Port-to-port freight index list on trade routes China – Europe shipping lines, 6 April 2017.</u>	37
Table 1.26	<u>Container freight markets and rates on trade routes Far East – Europe</u>	37
Table 1.27	<u>Volume of international goods transport by rail between selected neighbouring countries in the EATL region in 2015</u>	38
Table 1.28	<u>Container services to/from China by DB Schenker and Trans-Eurasia Logistics</u>	40
Table 1.29	<u>Block Container Trains, Europe – China, in 2014.</u>	41
Table 1.30	<u>Block trains routes and container services on the railways of OSJD member States.</u>	55
Table 1.31	<u>Bilateral/multilateral agreements on cargo flows by road transport between Europe and Asia</u>	79
Table 1.32	<u>Historical and forecast air cargo annual growth rates</u>	82
Table 1.33	<u>EATL system seaports and their relation to EATL routes.</u>	88
Table 1.34	<u>Biggest Western European container terminals served Europe – Asia shipping lines and their throughput, 2013, 2014 and 2015</u>	89
Table 1.35	<u>Biggest Asian container terminals served Europe – Asia shipping lines and their throughput, 2013, 2014 and 2015</u>	89
Table 1.36	<u>EATL Rail Routes: number of gauge changes and ferry crossings</u>	91
Table 1.37	<u>EATL road routes</u>	96
Table 1.38	<u>Top airports served Euro-Asian cargo flows, 2011–2016.</u>	100
Table 1.39	<u>Selected results of the comparative analysis of maritime and inland Euro-Asian routes (EATL phase II study)</u>	104
Table 1.40	<u>Value of time options</u>	104
Table 1.41	<u>Comparison of routes considering the value of time</u>	104
Table 1.42	<u>Regionalization of trade between the European Union and the 'Chinese regions' percentage</u>	106
Table 1.43	<u>NSTR/1 commodity classification and value of time for commodity groups</u>	107
Table 1.44	<u>Main model parameters for 2010 and 2020</u>	107
Table 1.45	<u>Estimated 2010 and 2020 rail corridor and maritime volumes between China and the European Union</u>	108
Table 1.46	<u>Route 1a components</u>	109
Table 1.47	<u>Route 1b components</u>	110
Table 1.48	<u>Route 2a components</u>	111
Table 1.49	<u>Route 2b components</u>	111
Table 1.50	<u>Route 3b components</u>	112
Table 1.51	<u>Route 4b components</u>	113
Table 1.52	<u>Silk Road Economic Belt Transport corridors and their potential</u>	117
Table 4.1	<u>Strengths - Weaknesses - Opportunities - Threats (SWOT) matrix for further EATL development.</u>	173

List of Figures

Figure 1.1	<u>Growth in volume of world merchandise trade and real GDP, 2005–2015</u>	10
Figure 1.2	<u>Volume of merchandise exports and imports by Europe and Asia in 2012–2016, seasonally adjusted indices</u>	11
Figure 1.3	<u>Trade in goods between selected European and Asian countries in 2010–2015</u>	23
Figure 1.4	<u>Share of trade in goods between selected European and Asian countries in 2011–2015</u>	23
Figure 1.5	<u>Trade in containerised goods between selected European and Asian countries in 2011–2015</u>	30
Figure 1.6	<u>The share of containerised goods in total volume of trade between selected European and Asian countries in 2011–2015</u>	30
Figure 1.7	<u>Market share by mode of transport in cargo flows (in tonnes) between the European Union and China, 2011–2016</u>	33
Figure 1.8	<u>Containerised cargo flows on major East–West container trade routes, 1995–2016</u>	34
Figure 1.9	<u>Containerised cargo flows between Asia and Europe, 2009–2016</u>	34
Figure 1.10	<u>Market share by alliance on the Far East-Europe shipping lines, April 2016</u>	36
Figure 1.11	<u>Container Global Aggregated Price Index, January 2013 – October 2016</u>	36
Figure 1.12	<u>China forwarders freight index, China-Europe shipping lines, 2010–2017</u>	37
Figure 1.13	<u>TransContainer Service Europe – China</u>	42
Figure 1.14	<u>Container Service, Suzhou (China) – Warsaw (Poland) by TransContainer</u>	42
Figure 1.15	<u>Container Service Hamburg – Beijing</u>	42
Figure 1.16	<u>Container Service from the Republic of Korea – Europe</u>	43
Figure 1.17	<u>FELB Technology of Container transport between China and Europe</u>	44
Figure 1.18	<u>Suzhou (China) – Europe Container Services by RZD Logistics</u>	45
Figure 1.19	<u>Asia – Europe Container Services by RZDL and FELB</u>	45
Figure 1.20	<u>Regular intermodal China – Europe Services by DB Schenker Rail AG and Trans Eurasia Logistics GmbH</u>	46
Figure 1.21	<u>Rail Network of DB Schenker Rail AG</u>	47
Figure 1.22	<u>Regular intermodal services between China and Hungary/Austria</u>	47
Figure 1.23	<u>Regular FESCO intermodal transport</u>	49

Figure 1.24	<u>Mongolian Vector Container Block Train Route</u>	50
Figure 1.25	<u>COSCO Logistics railway routes</u>	51
Figure 1.26	<u>Wuhan-Europe freight trains</u>	52
Figure 1.27	<u>Number of block trains routes in OSJD member States, in 2016</u>	54
Figure 1.28	<u>Volume of international road transport between Kazakhstan and European countries in 2011–2016</u>	81
Figure 1.29	<u>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</u>	81
Figure 1.30	<u>Total air cargo traffic carried by freight planes on the Euro-Asian routes in comparison with other main transcontinental air transport markets</u>	83
Figure 1.31	<u>Volume of Euro-Asian air cargo traffic, in 1995–2015</u>	83
Figure 1.32	<u>Annual growth of air cargo flows between Asia and Europe in 1998–2013</u>	84
Figure 1.33	<u>Air cargo structure by main commodity groups between Asia and Europe in 2015</u>	84
Figure 1.34	<u>Euro-Asian air cargo market forecast up to 2033 by Boeing</u>	85
Figure 1.35	<u>Asian-Euro air cargo market forecast up to 2033 by Boeing</u>	86
Figure 1.36	<u>Scheme of Imam Khomeini port (Iran (Islamic Republic of)) – Bazargan (border with Turkey) corridor as a section of EATL 8, EATL 5 rail routes</u>	94
Figure 1.37	<u>Australian road vehicle types</u>	99
Figure 1.38	<u>Eurokombi concept</u>	99
Figure 1.39	<u>Structure of time/costs considered in the EATL phase II study</u>	104
Figure 1.40	<u>Transport routes in the CEFIR study</u>	106
Figure 1.41	<u>Time – distance diagram for routes 1a and 1b</u>	110
Figure 1.42	<u>Cost – distance diagram for routes 1a and 1b</u>	110
Figure 1.43	<u>Time – distance diagram for routes 2a and 2b</u>	111
Figure 1.44	<u>Cost – distance diagram for routes 2a and 2b</u>	112
Figure 1.45	<u>Time – distance diagram for routes 3a and 3b</u>	112
Figure 1.46	<u>Cost – distance diagram for routes 3a and 3b</u>	113
Figure 1.47	<u>Time – distance diagram for routes 4a and 4b</u>	114
Figure 1.48	<u>Cost – distance diagram for routes 4a and 4b</u>	114
Figure 2.1	<u>Map of TEN-T network extension to Turkey</u>	125
Figure 2.2	<u>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</u>	128
Figure 2.3	<u>CAREC corridors</u>	136
Figure 2.4	<u>Transit rail corridor in Mongolia</u>	146
Figure 2.5	<u>Time of railway transit via territory of Mongolia in 2015</u>	146
Figure 2.6	<u>Via Carpatia Transport Corridor Project</u>	147
Figure 3.1	<u>Average border crossing times, Uzbekistan road BCP, 2013</u>	159
Figure 3.2	<u>Average border crossing costs for selected BCP, 2015</u>	160

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 Freightling 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 Agreement
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