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Rünno Lumiste, Gunnar Prause

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Herausgeber: Prof. Dr. Jost W. Kramer
Fakultät für Wirtschaftswissenschaften
Hochschule Wismar
University of Applied Sciences – Technology, Business and Design
Philipp-Müller-Straße
Postfach 12 10
D – 23966 Wismar
Telefon: ++49/(0)3841/753 441
Fax: ++49/(0)3841/753 131
E-Mail: jost.kramer@hs-wismar.de

Vertrieb: HWS-Hochschule Wismar Service GmbH
Phillipp-Müller-Straße
Postfach 12 10
23952 Wismar
Telefon:++49/(0)3841/753-574
Fax: ++49/(0) 3841/753-575
E-Mail: info@hws-wismar.de
Homepage: http://cms.hws-wismar.de/service/wismarer-diskussions-brpapiere.html

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1. Introduction and structure of study

Despite recent decrease of trade volumes caused by global financial crises, the East-West trade in Baltic Sea region is expected to continue to increase. The East West Transport Corridor (EWTC) is considered to be the transport corridor with the fastest developing traffic in the East-West direction having more traffic than many other corridors in the BSR. E.g., ferry connection between Karlsham and Klaipeda in the corridor carries today all Ro-Ro traffic between Sweden and Lithuania and the link Sassnitz-Baltijsk has the potential to become an important link between Russia and the core of EU. Increased environmental issues, heavy and growing traffic in the EWTC requires immediate actions to develop efficient and environmental friendly transport solutions to meet the market demands, in particular taking into consideration the low share of inter-modal transport in the EWTC. Moreover, the EWTC has the potential to become an important East-West trade route between Europe, Russia, Belarus and Far East as testified by fast growing freight volumes in the corridor.

However, the efficiency of the EWTC is handicapped by a number of obstacles, e.g. in hard infrastructure and low supply of services, i.e. inter-modal and ITS services. The low quality of the facilities provided by transport hubs, port-hinterland connections and traffic externalities (e.g. rising congestion, air emissions and fatal accidents) are essential problems in the corridor for logistic service providers and for cargo owners. In that respect, further development and reduction of bottlenecks in the road and rail networks, new Motorways of the Sea services, business cooperation, new ITS services, capacity building actions and steering mechanisms for more environmental friendly transports are important issues to be addressed for achieving long term sustainable transport solutions.

EWTC complies with many of the transport actions mentioned in the draft Baltic Strategy. The East West Transport Corridor (EWTC) links Minsk,Vilnius, Klaipeda/Kaliningrad with Denmark (Esbjerg) via south Sweden and with Germany via port of Sassnitz. The transport corridor includes several TEN-T ports, road and railway links, parts of the Nordic Triangle and Corridor IX B/D in Lithuania/Kaliningrad region. The EWTC is also part of the Northern Transport Axis. The EWTC II project intends:

- to develop the logistic hubs as growth centres,
- to strengthen railway concepts,
- to improve accesses to hubs and increase human capabilities.

The ambition of the EWTC is also to create an innovative testing ground based on a “green corridor” concept as described in the EU “Freight Logistics” Action Plan" that could serve as a best practise case in the European perspective. Among other things, it includes deployment of advanced ITS services as well as development and testing of an information broker system. The

long term goal here is to develop the EWTC into an efficient "green transport corridor" that will be able to meet European policies and market demands for growing freight transport.

The project intends also to apply some decision support tools in analysing options for achieving a green corridor status by forecasting the corridor development in form of a number of scenarios that will be set for the 2030 year perspective. This activity will be coordinated with two other running projects: i.e. TransBaltic and Scandria. The capacity studies, simulations and optimisation of the scenarios would consider the best utilization of the infrastructure and terminals to accommodate the traffic flows. One focus area will be the Öresund Fixed Link due to infrastructure capacity problems. The main findings and results will be visualised.

Structurally, the project consists of six Work Packages that are dedicated to various aspects of the green corridor development, resulting in EWTC Green Corridor Action Plan, guidelines, feasibility studies and design plans for concrete infrastructure improvements, variety of business plans and concepts, ICT-based tools and business plans as well as education programmes.

In the framework of the project a durable network of stakeholders, so called EWTC Association, will be developed. Furthermore, the project has an intention to unlock some rail and maritime transport investments based on studies and designs envisaged in the project lifetime. EWTC II plans to secure political support for the process towards the green corridor status and that the whole EWTC should become a part of the TEN-T network extended to Russia (Northern Axis) and Belarus. The EWTC will also strive to be included in the EU strategy/action plan for the Baltic Sea region. The partnership coming from Sweden, Germany, Denmark, Lithuania, and Belarus reflects a cross-sector approach with strong commitment from national, regional and local authorities, ports, universities and private stakeholders. Russian partners from Kaliningrad Oblast are integrated in the project partly funded by some ERDF funds.

The EWTC has gained a political support from the national transport ministries in Sweden, Denmark, Lithuania and Mecklenburg-Vorpommern and from

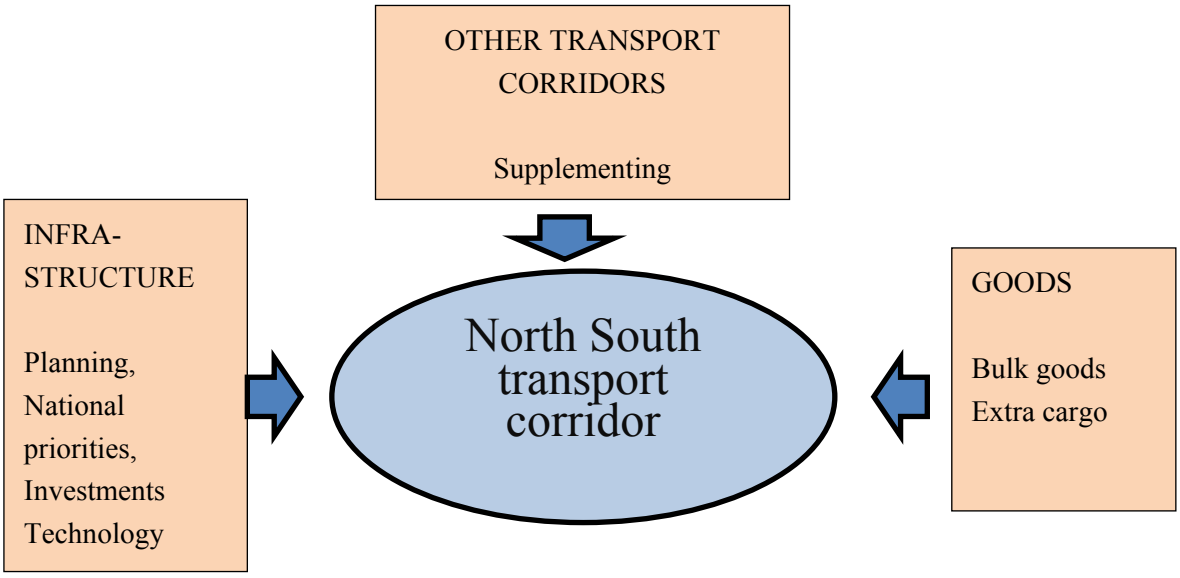
Euro-region Baltic. A special role in this context is dedicated to the Baltic States being well known as a location of several transport roots. Despite the fact that the most important Baltic transport routes are running in East-West direction there is also considerable North South traffic interacting with East West traffic.

Baltic States based North-South transport has its roots between Southern Finland and passes via Tallinn harbour to Latvia, Lithuania and Northern Poland. In the follow the North-South transport routes through Baltic States, shortly mentioned as North-South transportation corridor, will be investigated and its role in East-West transportation will be clarified. It turns out that these well established transit roots play a big economical, historical and cultural role in the European past. North-South transportation corridor creates additional business opportunities between Northern Baltics and Finland from one side and Central Europe and Black Sea region from the other side and links Baltic States and Finland via land roots with "core" Europe.

North-South transportation corridor can give additional impulses for the development of Eastern Europe. For a long time, this area has been considered as transition area between Russia and Western Europe and this region was "Cordon sanitaire" during the period between world wars. Instead of being buffer between confronting regions this area could become in the future again an active link between Russia and Central Europe giving economic impulses for further areas, especially for Northern Finland, Northern Sweden and Northern West Russia.

Current paper is organized into four parts. First part deals with railway and maritime traffic statistics in Estonia and Latvia. Second part investigates main transport roots, foreign trade of Latvia and Estonia and extra trade with Afghanistan. Third part of study describes potential future growth businesses, and fourth part potential investment projects along the transport corridor. Study has two high level interviews. There are different ways in dealing with transport roots or corridors. We tried to have holistic view to the development of North-South transport corridor. The main factors affecting the North-South transportation corridor through the Baltic States are shown in Figure 1. In following chapters we try to characterize those factors.

Figure 1: North-South transport corridor and factors affecting its development



2. Flows of goods between the Baltic States and the EWTC-area.

2.1. Goods in transit between the Baltic countries and Russia and Belarus

Estonia, Latvia and Lithuania are three Baltic States at the East coast of the Baltic Sea. They have land borders with Russian Federation (Estonia and Latvia), Belarus (Latvia, Lithuania), Poland (Lithuania) and Russian exclave Kaliningrad. All Baltic States are members of European Union.

Major trading partners of Estonia are Finland, Sweden, Russia, Latvia and Lithuania, whereas the major trading partners of Latvia are Lithuania, Estonia, Russia, Germany, and Sweden.

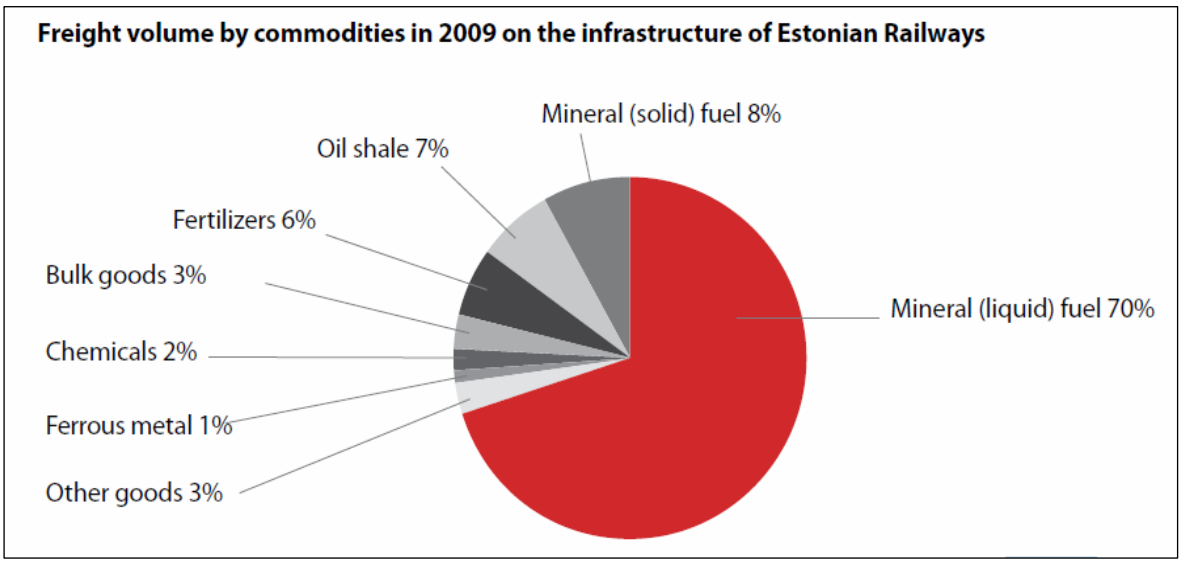
In the period of 1940-1990, Baltic States were controlled by Soviet Union. Compared to the other inland parts of the Soviet Union Baltic States had relatively well developed transport infrastructure, the main direction for transport infrastructure during Soviet period has been in East–West direction. However, due to the global competition, Cold War, and other factors Soviet Union lacked infrastructure modernization investments. After the joining of EU substantial investments into road construction and road modernization have been made.

2.1.1. Estonian railways

Estonia has two primary railway infrastructure companies Estonian Railways (EVR) and Edelaraudtee Ltd. Estonian Railways operates both infrastructure and cargo unit.

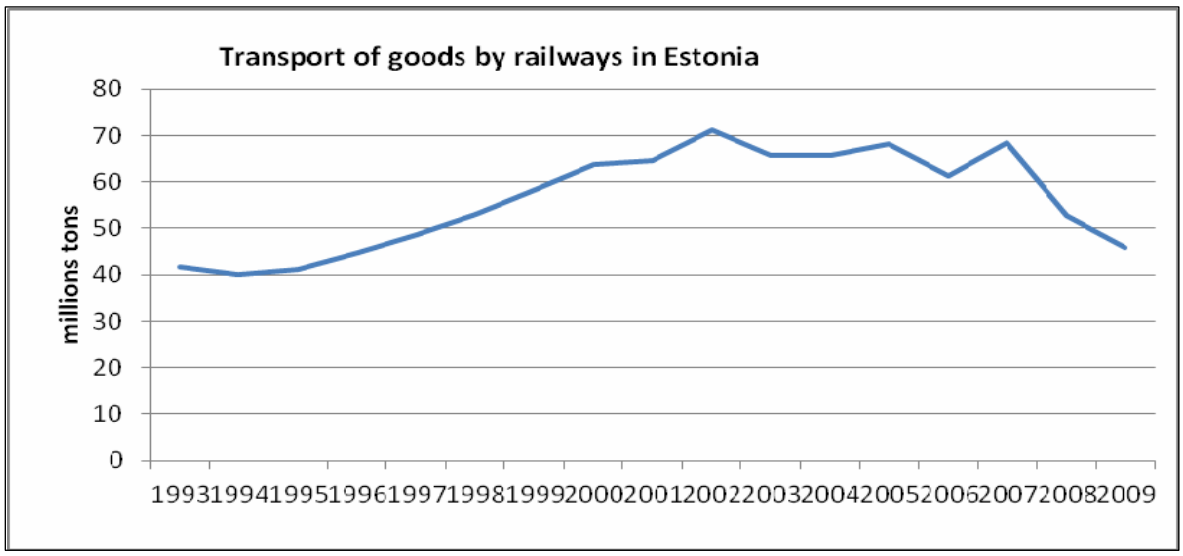
Among the commodity groups transported by Estonian Railways Ltd., the

biggest volume was provided by mineral fuel (as in the previous years), amounting to 17.573 million tons (when compared with 2008, the decline was 4%), followed by solid mineral fuel volumes of 2.033 million tons (+233%), the increase was effected at the expense of coal, oil shale of 1.861 million tons (-34%) (oil shale is transported on short distance between mines and power stations in North East of Estonia), fertilizers of 1.456 million tons (+76%), bulk goods of 0.863 million tons (-6%), chemicals of 0.462 million tons (-24%), ferrous metal of 0.324 million tons (-44%) and wood and wood products of 0.144 million tons (-64%).



Source: Estonian Railways Annual Report 2009.

Transport of transit goods (and all goods) has declining trend in general. It is expected that transit of mineral fuels will decline after completions of investments into Port Ust-Luuga (Russia). A growing sector in transit of goods is container transport. The container terminal in Muuga is operated by Muuga CT Ltd. Approximately 85-90% of goods transported by rail are transit goods and 15-10% local goods (primarily oil shale and wood).



2.1.2 Maritime transport via harbours

Primary port authority in Estonia is Port of Tallinn. In addition to Old City harbour and Paljassare harbour Port of Tallinn is owner of port of Muuga (13 km east of Tallinn) and Paldiski South harbour (40 kilometers west from Tallinn). Other major cargo ports of Estonia are Kunda (owned by Nordic Cement), Pärnu and Sillamäe. With the exceptation of Pärnu harbour all other major cargo ports are located in Northern Estonia not far from St.Petersburg-Tallinn- Paldiski railway.

Transport of goods through Estonian ports was strongly growing during the last decade of millennium (1990-2000). First decade of new century has shown milder growth with temporary setbacks caused by global economic crises. Several cargo ports and companies operating in those ports have been actively involved in finding diversified cargoes and developing value adding services like processing, re-packaging, etc. Initially, main transit cargoes from Russia to Estonian ports were oil products but economic actors have tried to diversify both incoming and outgoing cargoes. Oil products still account for more than half of goods.

Dynamics of transport via Estonian ports is shown in table 1.

Table 1: Transport of goods through ports (thousand tonnes)

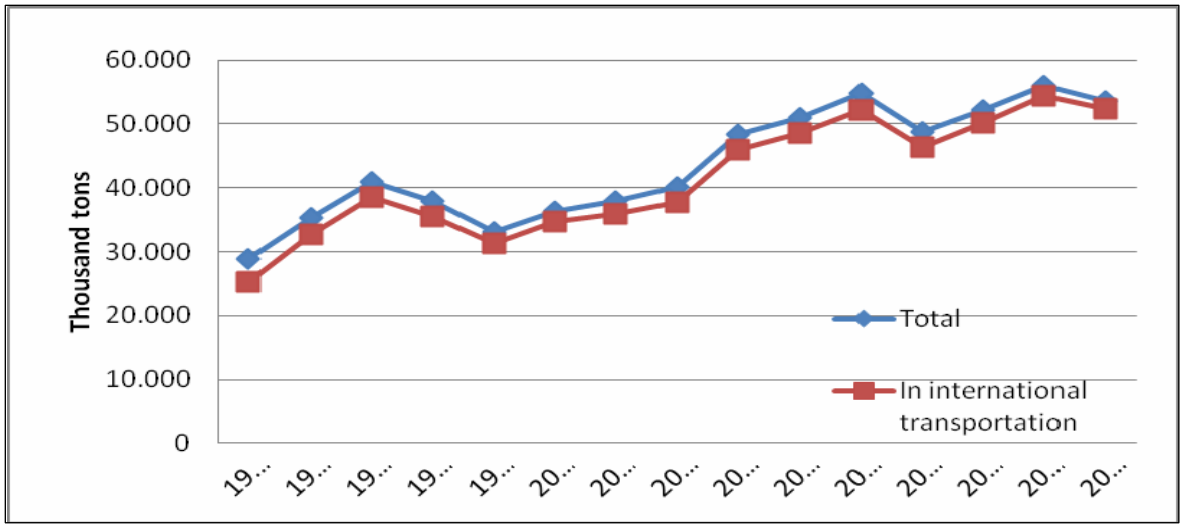
	Goods transport total	Outgoing goods (excl. transit)	Incoming goods (excl. transit)	Transit goods total	Loaded transit goods	Unloaded transit goods
1995	15708	3966	1842	9900	8406	1494
2000	39802	9358	3323	27116	25997	1119
2005	47115	6794	3644	36667	35856	811
2006	49742	6568	4390	38766	37032	1734
2007	44715	6671	5213	32816	30292	2524
2008	36217	6888	4670	24559	21312	3247
2009	38470	5801	4115	28483	23988	4495

Source: http://pub.stat.ee/px-web.2001/I_Databas/Economy/34Transport/16Water_transport/16Water_transport.asp.

2.1.3. Latvian Railway transport

Primary operator of railway traffic in Latvia is Latvian Railway (Latvijas dzelzceļa). Latvian Railway maintains both infrastructure and cargo traffic. Volume of cargo traffic has been steadily growing on Latvian railways. Major railway lines go from East to West and link Russian Federation with Latvian harbours and Lithuania. Volume of cargo traffic is shown in Figure 4.

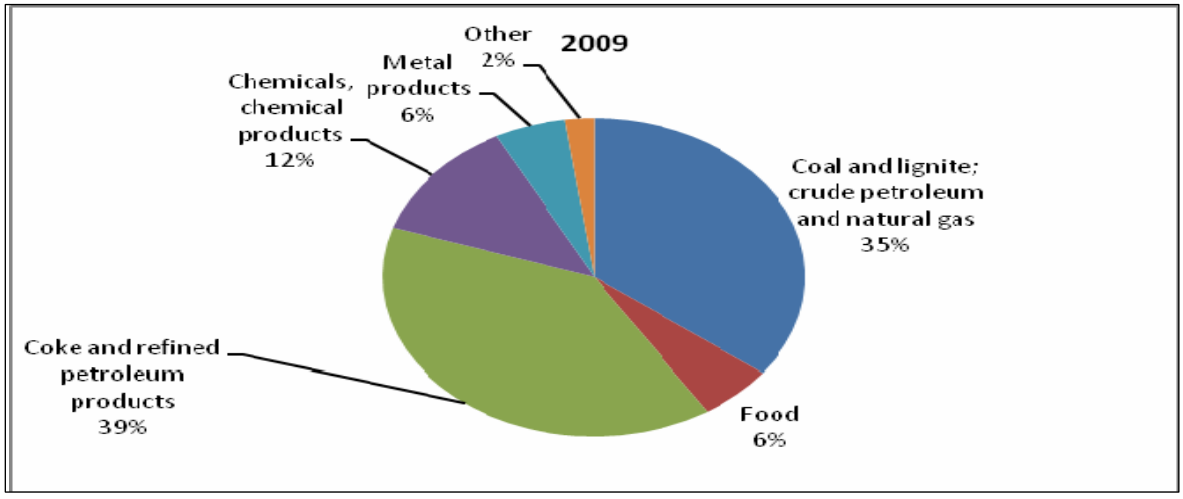
Figure 4: Cargo traffic by rail in Latvia



Source: http://www.csb.gov.lv/en/statistikas-temas/transport-database-30712.html.

Major goods transported on Latvian railway are oil and oil products (Figure 5).

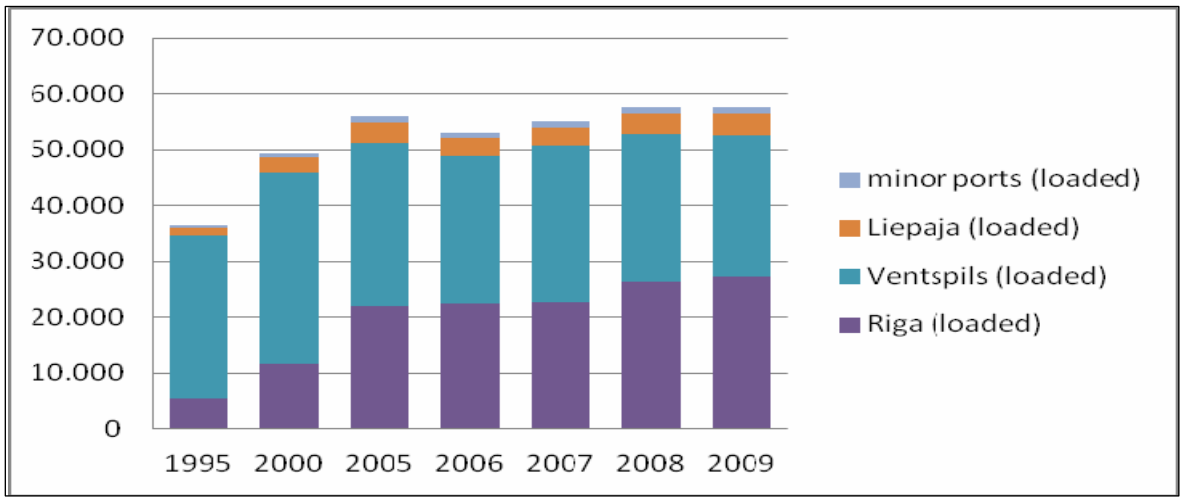
Figure 5: Major goods transported on Latvian railway



2.1.4. Latvian maritime transport

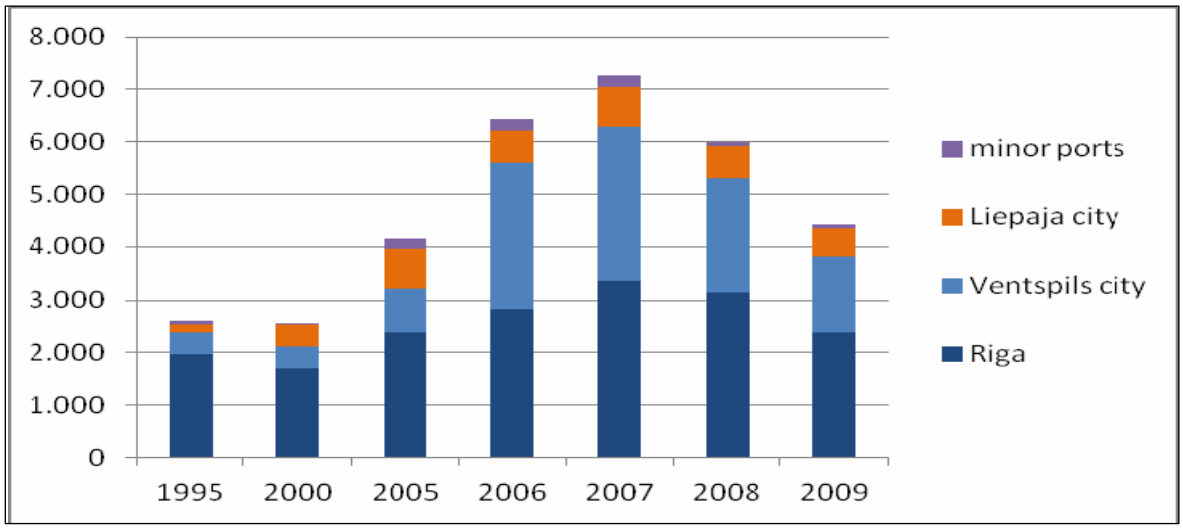
Latvian maritime transport has been historically concentrated to Riga, Liepaja (Libaw) and Ventspils ports. The two first ones played a important role during the industrial revolution and earlier but Ventspils was linked with oil pipeline in second half of 1960-s. Cargoes loaded at Latvian ports substantially exceed cargoes unloaded at Latvian ports (Figure 6 and Figure 7).

Figure 6: Cargoes loaded at Latvian ports (thsd t)



Source: http://data.csb.gov.lv/DATABASEEN/transp/Annual%20statistical%20data/18.%20Transport/18.%20Transport.asp.

Figure 7: Cargoes unloaded at Latvian ports (thsd t)



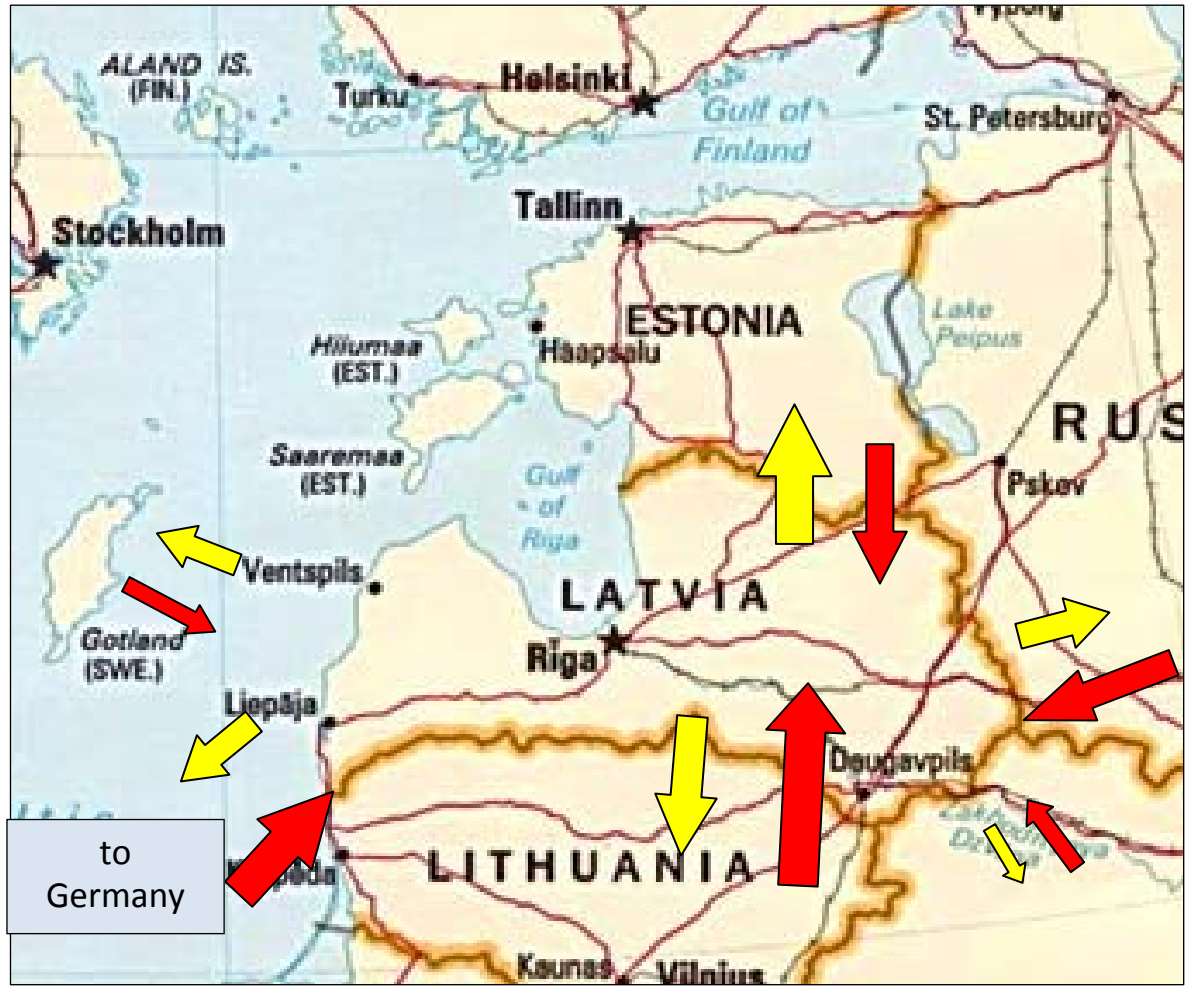
Source: http://www.csb.gov.lv/en/statistikas-temas/transport-key-indicators-30711.html.

Latvian ports have also level of specialization. Port of Riga has specialized to coal and oil (47% coal, 21,9% oil), Ventspils to oil (60%) and coal (20%), port of Liepaja to grain (41%) and metals (14%).

Minor ports (Engure, Lielupe, Mersrags, Pavilosta, Roja, Salacgriva, Skulte) transport mainly timber (54%) and wood chips (25%).

2.2. *Trade flows of Estonia and Latvia*

Figure 8: Foreign trade of Latvia



Legend

	⇨	⇨	⇨	⇨
Size	~100 MLVL approx..70 M€	~300 MLVL	~500 MLVL	~ 800 MLVL approx..560 M€

The Currency exchange rate for the considered period is: 1,41-1,44LVL=1 euro

Table 3: Foreign trade of Latvia

	2009	
	Export	**Import**
BY Belarus	92 183	163 254
DE Germany	313 992	543 113
EE Estonia	518 407	375 688
FI Finland	102 499	168 611
LT Lithuania	590 375	800 894
PL Poland	138 319	397 219
RU Russian Federation	316 381	505 694
UA Ukraine	37 690	57 064
Sweden	219 484	168 261

Source: http://data.csb.gov.lv/DATABASEEN/atirdz/Annual%20statistical%20data/Foreign%20trade/Foreign%20trade.asp.

2.3. Foreign trade of Estonia

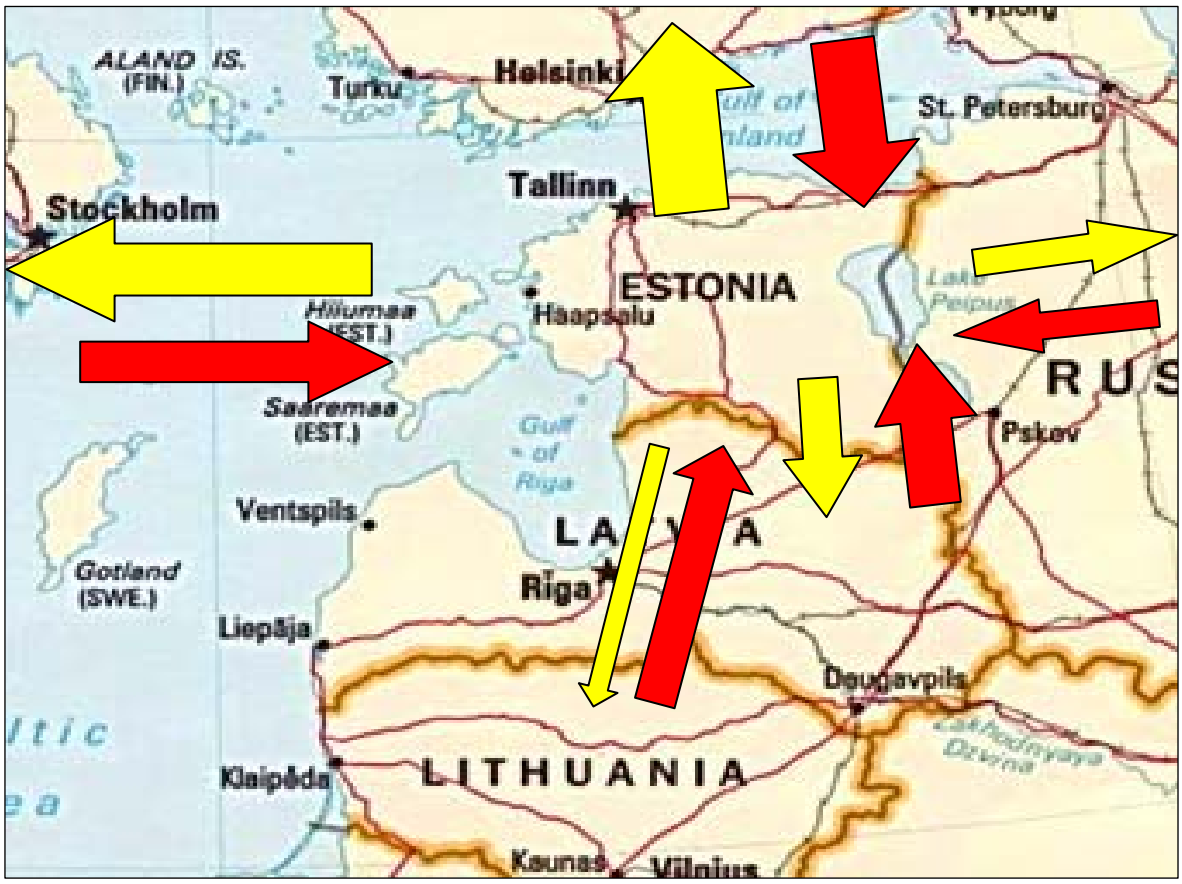


Table 4: Export and import

		Export, euro	Import, euro
Lithuania	2009	307763243	791856149
	2010 (11month)	348748282	585986847
Latvia	2009	616100249	763916259
	2010(11month)	640248115	820962415
Poland	2009	113372326	411275018
	2010(11month)	119300957	497002139
Finland	2009	1201568563	1050018470
	2010(11month)	1207281595	1124022084
Ukraine	2009	72253998	45595317
	2010(11month)	69727636	53123996
Belarus	2009	37806019	118091277
	2010(11month)	46792141	94211274
Russia	2009	601131009	597391905
	2010(11month)	675938535	597478219
Germany	2009	395400588	759225378
	2010(11month)	418454995	933381234
Sweden	2009	815418372	611145496
	2010(11month)	1201360698	898742921

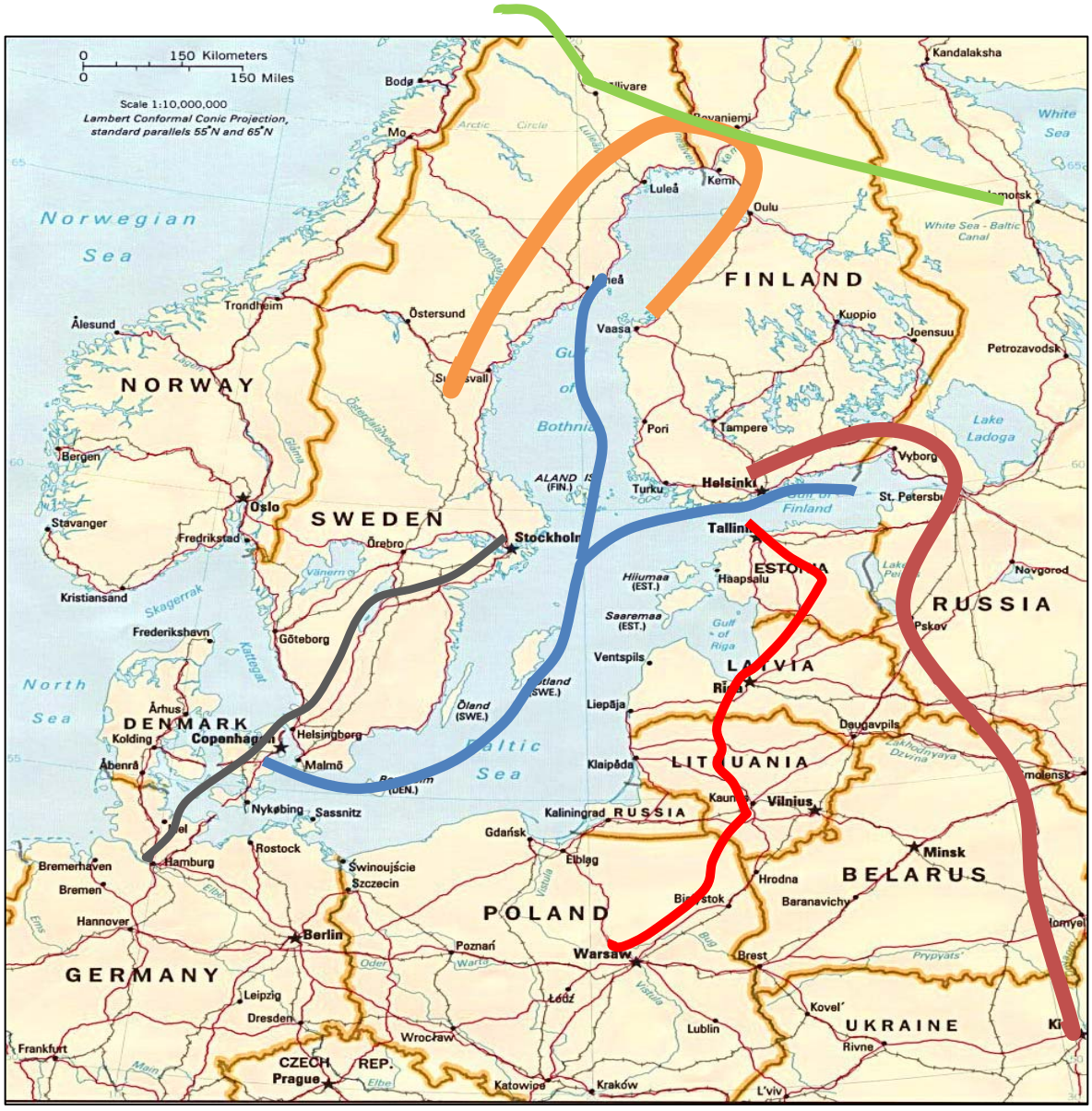
SOURCE: Department of Statistics: http://pub.stat.ee/px-web.2001/Dialog/varval.asp?ma=VK209&ti=KAUPADE+EKSPORT+JA+IMPORT+KAUBAGRUPI+%28KN+2%2DKOHALINE+KOOD%29+JA+RIIGI+J%C4RGI%2C+2009+%28KUUD%29&path=../Database/Majandus/25Valiskaubandus/03Valiskaubandus_alates_2004/&lang=2.

3. Description of the main transport corridors and transit through the Baltic States with special emphasis on EWTC-area

3.1. Main transit corridors and policy influence to transport roots

Baltic Sea region and Baltic States are location of several historical transport corridors. Communication roots at the Baltic Sea shores have been mostly on East-West direction. Configuration of historical borders shows also the vital role of naval logistics. In Estonia and Latvia capitals and several major cities are located at the sea shore and all Baltic States (and Kaliningrad Oblast) have longer distance from West to East than from North to South. All Scandinavian countries on the opposite are extended in North-South direction.

Figure 8: Main North-South direction transport corridors in Baltic Sea region



Red line – planned Rail Baltica
Blue line – Motorways of the See
Grey line – part of Nordic triangle railway + Öresund + Fehmarn railway link
Brown line – Botnia corridor
Green line – link between Iron Ore line and Lapland and Karjala (Northern Axis)
Dark red – Helsinki –St. Petersburg further Black Sea and Balkans (Pan Europe corridor 9)

Baltic Sea region has been zone of most major military conflicts during the last two centuries. Most notable are WWI, WWII, and Cold War. All military activities and preparation for military activities were followed by substantial

investments into infrastructure and also by efforts to destroy enemy infrastructure.

Political un-stability factors have two major sources:

1) The disintegration of Polish-Lithuanian state two centuries ago. Polish-Lithuanian Commonwealth was a multinational state primarily with Polish, Lithuanian, Belarusian, Ukrainian, Jewish, and German population. After Cold War the involved nations had their own national territories where all of them had their own slightly different nation building agendas. In personal conversation large numbers of people are still believing that certain "their" territories are in the hands of neighbours.
2) Results of WWII. Partition of German inhabited territories after WWII.

Among the concrete political issues remain:

1) Role of Kaliningrad-Königsberg and transit links via Lithuania,
2) Unregulated border issues between Russia and Estonia, Russia and Latvia,
3) Territorial water disputes between Latvia and Lithuania,
4) Polish minority issues in Lithuania,
5) Polish minority issues in Belarus.

Migration and political issues have created not only political problems but also business opportunities. Soviet period investments into harbours were accompanied with the migration of port management and shipping specialists, implementing new contacts and technologies.

North-South transport corridor has been until now less utilized than East-West transport corridor. One of the reasons could be that East-West trade roots had priority over the North-South roots. Another reason for underdevelopment of North-South transport corridor is caused by the different number of actors in different cases. So the development of Via Baltica and Rail Baltica needs joint commitment from five actors (Poland, Lithuania, Latvia, Estonia and Finland) where all actors have more or less different priorities that affect the amounts of investments and the project schedule. E. g. the Southern part of Via-Baltica is passing Podlaskie Voivodeship that is among the least inhabited and one of the least economically developed areas in Poland. From the economic point of view Poland has much better projects and therefore different national agenda.

3.2. Infrastructure & Policy Priorities

In current economic recovery infrastructure investments are considered by many states as a tool to accelerate the economy. Study made by Moody found that every dollar of public money invested into local infrastructure projects causes a multiplying effect of 1,59 dollar of private investments. But it has to be kept in mind that infrastructure development is long cycle.

Nevertheless, both developed and less developed countries are investing

huge amounts of money into new fast trains, new highways and energy generation. China, India, Brazil and even USA are all considering infrastructure investments as one of their main national priorities so European countries are no exception. With national and European financial resources are planned to start several new infrastructure projects and to renovate the existing ones. One important bottleneck for the quick realisation of European transportation infrastructure projects is related to the fact that even high priority projects on TEN-T level still need up to 90% of national co-financing.

Infrastructure investments can act to economic growth in five ways: first, they are themselves primary factors of production, they act as a link between different production factors, they act as stimuli for the accumulation of production factors, they can act as a stimulus of aggregated demand and can be also the tool of industrial policy stimulating the production and service of equipment that is used on this infrastructure like locomotives, trucks, cars etc.

Infrastructure has impact to local economic agglomeration and vice versa. Without infrastructure it is hard to believe that there will be manufacturing investments and without cargo to carry there is no need for logistic infrastructure. Impact of logistics is already strongly visible around Tallinn where major industrial parks are established within good reach of harbours, outer-city circle and airport. Even though this study deals mainly with cargo traffic, there is also a natural link between cargo and passenger traffic because good flows and people tend to use the same way and in most cases cargo traffic and passenger development traffic have positive impact each other.

Coming back to the special situation in the Baltic Sea Region, it turns out that there are only two actors: European Union and Russia (CIS). Russia is single centralized actor and sometimes via CIS represents also the interests of Central Asian countries. Russian priorities are to trade in most efficient way with Western European countries and in logistical terms main interest is East-West transport corridor development.

Since the beginning of 1990 and regain of independence by Baltic States, Russian main interest has been developing port infrastructure in Russian territory, mainly in St. Petersburg region. Russia (both state and private actors) is continuing to invest into new harbour infrastructures in Russian Baltic Sea ports. As the last event, on February 1st 2011 the first tanker ship left Ust-Luga (Russian port west from St.Petersburg). This shows the importance of the Baltic Sea Region for Russia and due to the political instability in the Mediterranean Sea Region and the Russian desire to get linked to Central Europe independently from the land bridge via Ukraine and Belarus it can be expected that this importance will further increase in the future.

On the other side, European Union is collective actor whose general interest is consensus between different national interests. Main interests of EU in Baltic Sea area are: smooth trade between EU and Russia, better integration of EU members. However, every Baltic and Nordic country understands general pri-

orities a little bit differently. There is no need to list transport development projects again.

They are well described in TransBaltic Survey: http://www.transbaltic.eu/wp-content/uploads/2010/09/Task-3.1_Transport-Development-Inventory_2010-edition.pdf

In current survey are nine projects under EU TEN-T umbrella and around 50 projects under Marco Polo, INTEREG, European Union Framework Programme (FP) and other European Union initiatives.

In a very condensed way the national priorities of the Nordic Countries can be described by the following headlines:

- Sweden – transport over Belts and natural resources from Northern Sweden, Finland and Russia over the Iron Ore railway line.
- Finland – efficient logistics of raw materials and strong participation in Russian transit.
- Estonia – North-South root and participation in Russian transit (relatively weakly communicated).
- Latvia - participation in Russian transit and to some extent in North-South root development.

3.3. Other Transport Corridors Influencing Baltic Sea Region

North South transport corridor of Baltics starts from Southern Finland and follows via Baltic States till Northern Poland around the Via Baltica.

Along the North-South transportation corridor there are several intersections with other important transportations ways like St. Petersburg-Helsinki, St. Petersburg-Tallinn, Moscow-Tallinn, St. Petersburg-Riga, Moscow-Riga, Mos-

cow-Klaipeda, Moscow-Minsk-Warsaw. Especially in Latvia or Lithuania goods are transported either to the direction of Black Sea via Belarus and Ukraine or to Central Europe. Most of these roads have long historical traditions like the railway links between Baltic States and Ukraine which were developed already in Russian Empire more than 100 years ago and are nowadays facilitating modern transportation concepts like the container shuttle train "Viking" between Klaipeda in Lithuania and Odessa in Ukraine:

Competition between different transport corridors and roots can be seen on two dimensions:

- competition for investment resources,
- competition for cargo or need to maximize the infrastructure utilization.

From the point of view of investment competition all projects compete with each other. For example, Riga-Moscow fast train vision (announced in the end of 2010) competes with Rail Baltica.

From the point of cargo there are different existing and potential roots for delivering goods from Finland, Estonia, and Latvia to Germany, Central Europe, Mediterranean Sea ports, and Black Sea. Well developed port infrastructure in Finland, Estonia and Latvia allows easy transport to Rotterdam, Hamburg, Lübeck, Bremerhaven, and other ports. In addition to sea transport there also exist alternative roads by railway and trucks.

A special historical road from the Southern Baltic Sea to Central Europe is the Amber Road, connecting the Southbound cargo streams via Baltic North-South corridor with the most important production areas in Southern Poland, Czech Republic, Austria and Northern Italy. The potential of the historical Amber Road is only partly used nowadays due to underdeveloped infrastructure but it has a huge future potential:

Source: www.jura.lt.

3.4. Supply for coalition forces in Afghanistan

In 2001 started US led coalition forces operations in Afghanistan. After initial operations coalition forces remained in military bases and continue smaller scale operations. Initially sea containers for coalition forces were re-supplied via port Karachi in Pakistan (Indian Ocean) but Taliban activities forced to look for different routes.

In 2009 Estonian (and Latvian) ports and railway firms started to transit containers (via Russia and Central Asia states) to Afghanistan. Despite the fact that the geographical distance is approximately 4 times longer (on map the distance between Tallinn and Kabul is approximately 4200 and Kabul-Karachi approximately 1100 kilometres) this root passes politically stable and safer countries.

According to company statistics in December of 2010 every week two container trains from Muuga (Tallinn) harbour went to Afghanistan. This is approximately one third of container volume passing Muuga Container Terminal and Estonian railway.

In 2010 a total number of around 100.000 containers went to Afghanistan since each soldier needs per year non–military supply material of one container which is shipped to Afghanistan via Uzbekistan. Some of the containers are coming back the same way with waste and used articles. The general trade with Central Asian countries (with exception of Kazakhstan) is relatively small and one sided. Major container trains go full to South and come back empty.

Table 2: Exports and imports by countries and territories (thsd LVL)

Bottom of Form										
	2005		**2006**		**2007**		**2008**		**2009**	
	Export	**Import**	**Export**	**Import**	**Export**	**Import**	**Export**	**Import**	**Export**	**Import**
AF Afghanistan	169	-	229	-	559	-	41	-	238	1
KZ Kazakhstan	9 496	11 580	13 325	27 514	23 253	27 455	21 165	61 005	19 882	15 672
TJ Tajikistan	796	431	801	206	1 292	465	1 370	132	915	47
TM Turkmenistan	626	194	357	573	403	434	2 271	157	2 141	132
UZ Uzbekistan	5 109	8 357	5 725	4 343	6 517	5 435	12 822	6 292	13 836	1 864

Source: Central Statistical Bureau of Latvia.

4. Description of the major future growth areas for business and logistics in the Baltic States and their impact on the transport of goods between the Baltic and the EWTC-area

Building of infrastructure and development of logistics sector bears business opportunities. Good infrastructure allows developing sectors like manufacturing, services and tourism. Manufacturing and services grow the demand for logistical services, passenger traffic and better infrastructure in general.

Development of future businesses depends on several factors like political (regulative) factors, foreign relations, regional skills and competences as well as technology. Some of those factors can be foreseen but some happen quite accidentally. The impact of logistics competence on regional development has been in the focus of the LogOn Baltic project.

4.1. Growing business sectors

4.1.1. Alternative (not oil) based energy sector

Among the European Union priorities is aim to reduce dependence from imported energy sources and fight climate change. For that purpose it is planned to reduce:

- greenhouse gas emission 20% (or even 30%, if a satisfactory international, agreement can be achieved to follow Kyoto) lower than 1990,
- to produce 20% of energy from renewables,
- to increase 20% energy efficiency.

Source: http://ec.europa.eu/europe2020/targets/eu-targets/index_en.htm.

Renewable energy sources are biomass, wind energy and solar energy. Biomass and wind energy also are viable energy sources for Estonian economy. Currently (end 2010) authorities have issued licenses for establishing of wind parks at quantity of 600 MW. According to Estonian Renewable Energy Strategy on 2020 installed capacity is 650 MW (according to some plans even 900 MW). 400 MW should be located onshore and 250 MW offshore.

Serially produced wind generators are at the range 2-6 MW. This means that there is substantial need of several hundred windmills (100-200) till 2020 only in Estonia representing oversized freight to and within Baltic States. Comparable number for installations in Latvia can be assumed.

Since the main production plants for windmills are located in Denmark and Germany, i.e. in the Southern Baltic Sea Region, business opportunities in windmill logistics, windmill installation and infrastructure construction sector around windmills exist. After installation of windmills in Baltic States spare part logistics and windmill maintenance will be other related business sector. Special harbours in South Baltic Region are concentrating already on this market like Seaport of Wismar by investing in a special crane for windmill

handling and by preparing the restructuring of the harbour access roads in a way that heavy freight transports for windmills are able to reach the harbour area.

Other growing sector related to common European energy strategy is the use of biofuel. There is minimum target of 10% for the use of biofuels by 2020. A Biofuel factory started in Paldiski (near Tallinn) in 2008 but went bankrupt soon. Several other projects of biofuel factories are on holding status. Beside biofuel the development of energy sector in Europe has fostered the use of different solid fuels like wood granules or wood pellets. Wood pellet production has been established in several factories and several companies in Latvia and Estonia export big share of their productions.

Both, biofuel and wood pellets, are of increasing importance for European energy sector so there are increasing business opportunities in biofuel and wood pellets logistics as well as in the delivery and installation of biofuel and wood pellet production plants in the Baltic States. So the Seaport of Pärnu has found its market gap in wood pellet logistics by shipping these goods mainly to Denmark and Sweden.

http://uuseesti.ee/8845

http://www.tuuleenergia.ee/about/statistika/

4.1.2. Russian Import-Export

Potentially big demand for logistics services is created by economic development in North-West region of Russia. In this region live 14-15 million inhabitants but here are located several raw material extracting industries and raw material processing plant. A short look into the official Russian import/export figures shows that about 2/3 of Russian exports are related to energy raw material (oil, gas) whereas nearly half of Russian imports are investment goods, machines and equipment.

Since Russia is aiming to increase the processing of its raw material there is an increasing demand for industrial equipment in the future that often is enjoying extra size and with extra weight. Last big raw material agreement was made between British Petroleum and Rosneft for exploiting of Arctic Sea oil and gas deposits. But also Russian paper and pulp industry is a growing sector with a growing demand for new plants and equipment having its source in Central Europe. Since ca. 50% of EU-Russia export is handled by ships there are big business opportunities in the environment of Russia-EU logistics.

One important existing example was already mentioned in one of the interviews which were realised during the survey where big equipment for the Russian market is transported via sea links to Estonian harbours where it is disassembled for further truck transports from Estonia to Russia and then reassembled after arrival at Russian destination. This special disassembly – forwarding – reassembly logistics services are representing a growing market re-

lated to Russian business.

Due to Russian economic prospects also an increasing demand for different foreign made consumer goods can be expected. Already now ca. 25% of Russian imports are related to food, agricultural good, and fashion and other lifestyle products so a growing need for logistics services for transit and warehousing for selling in Russia can be assumed. Due to economic crisis, sales decline and overproduction thousands of cars were warehoused in Estonian ports and waited for future demand in Russia.

Of special interest for Baltic Sea Region is North-West Russia Region. The economic power of this region is slightly above the Russian average but in the highly developed areas like St. Petersburg the economic potential is exceeding significantly the Russian average values. This Russian region can be accessed after the completion of Rail Baltica railway between Tallinn and Warsaw directly by railway.

4.1.3. Container transport

Baltic maritime transport amounts to nearly 8 per cent of world maritime trade with a total volume of about 800 mill tons. The average annual growth rate since 2000 was about 4% even if in 2009 the transport volume slumped by about 20 – 30 per cent but the figures in 2010 show a recovery of the Baltic Sea transport market.

Of special interest is the container transport market in Baltic Sea Region having a volume of more than 6 Mio. TEU in all Baltic Ports. 90% of the shipped containers are starting from outside BSR and having their destination in BSR. Russia is playing an important role in BSR container market because ca. 2 Mio. TEU are having their destination in Russia so more than 2/3 of all imported containers to Russia, i.e. ca. 2 Mio. TEU, are taking the way via Baltic Sea. There is a miss balance of container traffic between Russia and EU countries because containerized imports are more important than exports causing high number of empty containers from Russia to EU.

An important business is the container transit handling for Russia because half of these containers are going directly to Russia whereas 20% are handled via Finland, 15% via Estonia and Latvia. By taking under account the Russian forecasts the volume of import containers to Russia is expected to be 6-times higher in 2020 than now so container handling for Russia will be a growing business also for the future.

By taking a closer look to Russian-related container traffic it turns out that ca. 40% of all imported containers to Russia are taking the transit way, so Finland is market leader for container transit imports in BSR with a market share of ca. 50% but compared to directly imported containers to Russia the way via Finland is 20 – 25% more expensive.

So container handling for Russia will stay important business opportunity

for the future because forecast are revealing that in medium range Russian Baltic ports will not be able to handle the growing volume of import containers so the container transit market will stay a business field for the future.

So in the case of Estonia both infrastructure owner Port of Tallinn and main container loading firm in Port of Tallinn: Muuga Container Terminal have invested substantially into infrastructure, new cranes and equipment. There is unused capacity but at the same time expectations for additional cargo volume are big.

Source: http://www.ap3.ee/?PublicationId=31503ED6-39D4-4163-9D98-74AA1E3959CE&code=4804/rubr_artiklid_480402.

4.1.4. Infrastructure modernization

Broad area for business opportunities is linked to modernization projects in infrastructure. Last decade of communist order (1980s) and first decade of independence were accompanied with relatively smaller infrastructure investments. Challenge for Baltic States economies is infrastructure modernization because of limited financial means especially during the time of financial and economic crisis. Since infrastructure modernization in necessary for further development of regions and economic structures it is only a question of time until die modernisation projects will start.

In any case these projects require big volume of construction materials like steel and granite which must be imported from foreign countries. Steel products are imported mostly from Finland, Russia and Ukraine. Among the biggest steel importers are Levadia Ltd. and Baltic Ship Repair Factory Group (BLRT). In addition to infrastructure itself there is need for infrastructure equipment like trams, wagons, trolleybuses, etc. All these goods have to be imported and maintained after construction work so there are a lot of business opportunities around the field of infrastructure modernisation.

4.1.5. Special projects and related business opportunities

Estonian projects

- Oilshale based power plants in Narva region.

January 2011 Estonian Energy Ltd and Ahlstom signed agreement for modernization of two energy blocks.

- Oil terminal in Paldiski

End 2010 Ukrainian firm DMSS announced the interest to build oil refinery in Paldiski (near Tallinn); Source: http://www.ts.ee/uudised?&art=112

- LNG terminal in Paldiski

Balti Gaas plc is planning to establish LNG terminal in Paldiski. There are ongoing negotiations (Jan 2011) about the nationalization of natural gas distribution network.

Source: http://www.lngworldnews.com/balti-gaas-lng-terminal-in-paldiski-to-cost-eur-350-million-estonia/.

- Nuclear station plans

Estonia, Latvia and Lithuania have planned to build nuclear power station jointly or separately. Different locations have been under consideration but they are no ahead from planning discussions.

Latvian projects

- Transport projects between Latvia and Belarus

http://www.export.by/en/?act=news&mode=view&id=14489&page=4

- Polish investment projects in Latvia.

PKN Orlen plans petrol stations network and oil transport,
http://www.baltic-course.com/eng/investments/?doc=25226

- LNG terminal in Latvia (for all Baltic States)

http://www.lithuaniatribune.com/2010/12/14/latvia-lithuania-estonia-finland-in-race-for-lng-terminal/

5. Conclusions and further studies

Major trade roots in Baltic Sea area are located in East-West direction. However political, technological and economic changes have created demand and opportunities for the development of North-South ties. Main problem for the development of North-South links is smaller volume of cargo and limited amount of investments. There is substantial competition for investments between different European Union members and existing transport ways. It must be stated that Rail Baltica has different level among the national priorities of different states. It is very important for Estonia, between Warsawa and Kaunas-Vilnius important for Lithuania and less important for Latvia.

Importance of North-South corridor is further growing with economic developments in Black Sea and Mediterranean Sea countries. North-South transport corridor gives new links for East-West trade and supports economic development in more distant regions of Latvia, Estonia, Lithuania and Poland.

Development of North-South transport corridor is magic answer for every problem. There needs to be simultaneous development of trade volume and infrastructure. Cargo transport development gives also impact to passenger traffic and better communication between Baltic States and Central Europe.

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Interviews with key persons in logistics business

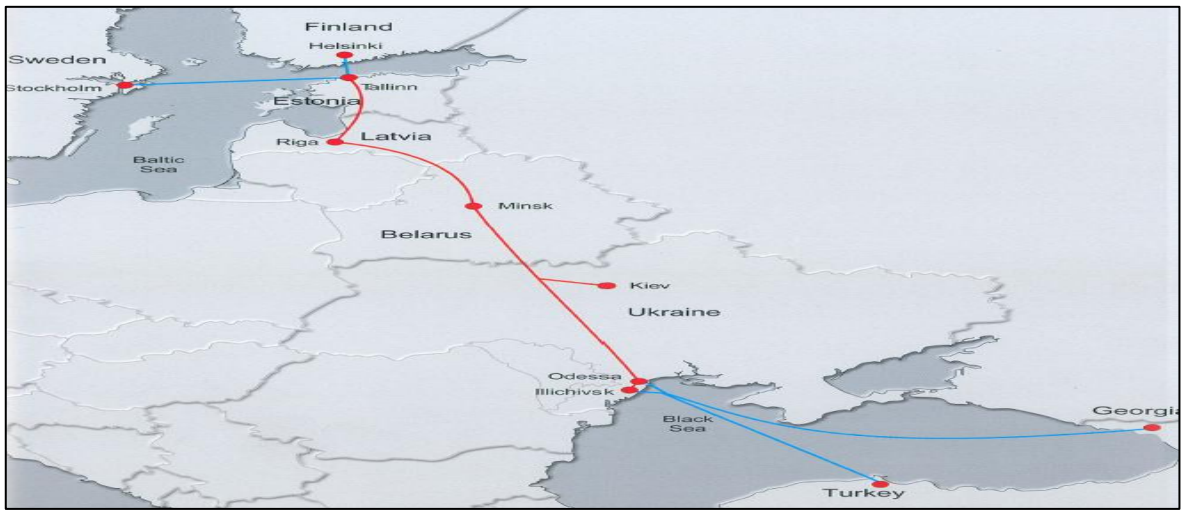
1) Business of Navirail OÜ, Tallinn
Interview: 18.01.2011 at Navirail Headquarter with Board Member

The main business concept is to operate a cargo train from Tallinn to Germany and Austria (Vienna and then further to Koper / Slovenia) transporting cargo from Finland and partly also from Northern Sweden (via ferry to Helsinki). Furthermore export goods from Estonia like furniture can be added. A lot of furniture are produced in Estonia for IKEA, products like pillows, beds, furniture and other things like that.

Navirail is operating twice per day a Ro-Ro ferry between Helsinki and Tallinn shipping trucks, trailers and containers between Vuosaari harbour and Muuga port. The choice for operating a Ro-Ro ferry is part of the business concept because Mr. Sinijärv doesn't believe in railway ferries. The schedule for the planed Zubr train is to send two trains per week to Vienna and due to recommendations of Vienna partners the train will be extended to Korper (Slovenia).

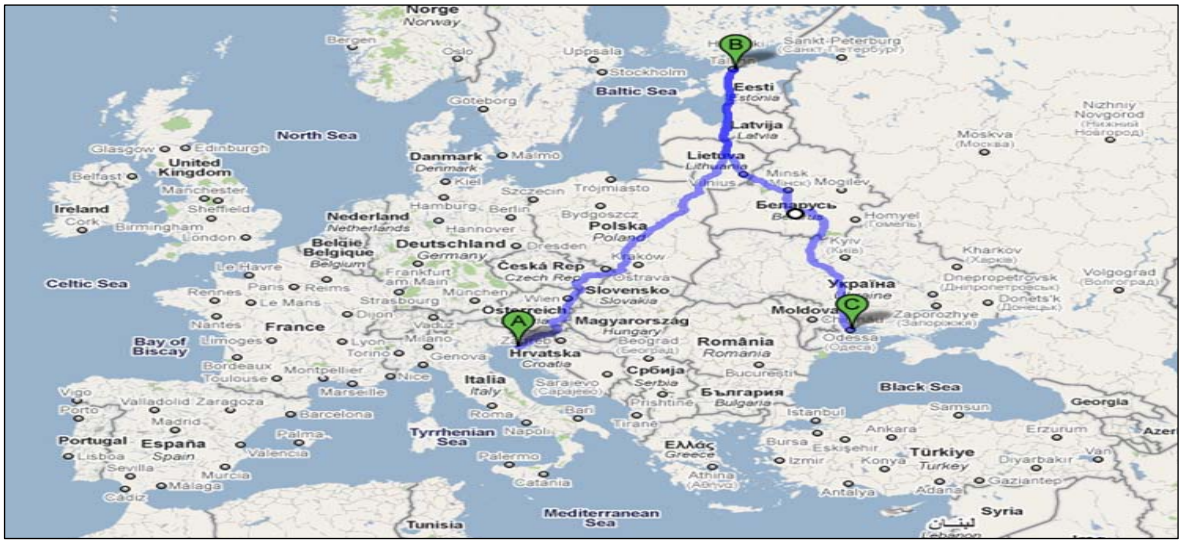
The planed Zubr train which will operate between Tallinn-Latvia-Minsk-Odessa is not directly competing with container shuttle train Viking between Klaipeda-Odessa but in the beginning Navirail wanted to establish a cooperation agreement with Lithuanian participants of Viking train but they didn't want to cooperate so Navirail made agreements with Latvian, Belarus and Ukrainian railways.

Initial route in the prospect of Navirail



The initial idea was to link Tallinn with Odessa. In the meantime the concept was modified into a concept with two destinations in the in order to be able to collect and distribute more cargo on the way:

New traffic route in prospect of Navirail



Rail Polska is also company in Navirail group and handled 3 million of goods last year. The containers are lifted on Lithuanian – Polish border from one train to another. The total Finnish export volume is 10 million tons per year and the volume handled between Tallinn and Helsinki is approximately 3 mil. Tons where Navirail volume is 0,5 million tons. The strong point in Navirail concept is that they are bypassing city-centres of Tallinn and Helsinki.

The general situation in logistics business of Navirail is that overcapacity is hurting prices in 2010. But overcapacity allows fast adjustments. The advantage of Navirail is that trains are faster than ships but both transportation

modes compete simultaneously. Furthermore certain extra volumes are appearing from time to time. And since around Tallinn a good infrastructure is on place Belarus oil from Venezuela was transported via Tallinn (Muuga) when Mr. Lukashenko got conflict with Putin because Riga was not so fast in the situation. But in general Belarus exports go mostly to Russia, especially Belarus is building a lot of cheap and fairly quality tractors.

Only a few goods are coming from Southern Europe, sometimes Italian goods go to North. Time sensitivity of goods is important for cargo business, i.e. Adrian Sea to Baltic See by train is faster than to sail circle around Europe by ship. Especially steel and coal are main good from Ukraine.

In general it must be stated that railway is a mechanical system and therefore conservative with the consequence that Russia protects heavily its market (locomotive market etc). So even if Estonian Railroad is now much more modern than Russian railways the new (renovated) American locomotives have to stop on Estonian border; only the wagons are a common fleet. Also between Western Europe to Estonia the free movement of goods is not functioning on railway.

The main business arguments for using Navirail services are the price and the speed. But there is an unfair competition because 200 trucks are equal to one train but trucking business is supported by states by building highways whereas Train and railway companies have to build rails by themselves.

Other aspect that influence the transport business are oil prices is strong to transport. But the main principle of Navirail is “One stop then can turn East, one stop then can turn West”. Current main railway lines are like parallels (east west). Navirail is like backbone in North-South direction. It is business gap that is yet unfulfilled.

Links with other businesses and business prospects

http://www.postimees.ee/111007/esileht/majandus/288666.php

http://oldwww.evr.ee/files/cargo_info_Aprint_est.pdf

http://www.ts.ee/regulaarsed-kaubaveoliinid

2) Business of DHL Estonia AS, Tallinn

Interview: 18.1.2011, Managing Director

DHL has in Estonia 4 units (freight, mail, forwarding, packages - courier). Not much of cargo is coming via Muuga. Main goods are coming to Paldiski from Antwerpen, Lübeck and from other ports related to Grimaldi lines. DHL is serving several global clients where the incoming goods come from US East coast, Europe and several places over the world.

One of big customers of DHL is Caterpillar having subsidiaries in Russia. For the delivery to Russia Caterpillar has three entry points: Tallinn, Vladivostok or Rostov at Don. So DHL is responsible for incoming cargo to CIS countries. Usually the transit goods to Russia are staying five days in Narva. Recently the waiting time reduced a little bit but anyway it is still long time. Compared to Finland Estonia has disadvantage due to well known political reasons. Fin-

nish goods going to Russia via Vaalimaa border point between Russia and Finland are passing faster the Russian border than in Estonia.

Concerning the NATO logistics to Afghanistan the goods are sent by train via Russia and Uzbekistan. Only civil goods are handled by companies like DHL. The container transport is no one – way stream because disassembled military base things are coming back from Afghanistan. Only Uzbekistan is used as entry points not Tajikistan. The arriving goods are distributed by trucks in Afghanistan. A wagon to Kazakhstan needs between 1-2 weeks. On the way back from Kazakhstan there exists the possibility to import raw materials. Also Uzbekistan cotton is one goods that comes back from Central Asia. Since Estonia has no more cotton textile industry some cotton goes to Latvia which still has some textile industry. From Latvia cotton goes even to Benetton in Italy.

The main cargo business from and to Estonian is going to Europe. On North-South direction mainly machinery and metal goods are moving. In previous days Finland exported much to Estonia. Empty containers and trailers went back. Nowadays production facilities are transferred to Estonia so goods go to Finland and to other places. Mostly empty trucks from Finland are coming back to Estonia. The big volumes of Finnish paper industry are past. Other important production from Estonia is for IKEA

Also LM Ericsson has big production in Tallinn producing 4G network equipment where the logistics has to link the global distributed production process.

Oversize cargo is handled by special division of DHL. One of the big projects was related to transportation of oil drill for ExxonMobil which was several meters long and was very heavy. Limits

on bridges and on roads was real challenge. Also the transportation of a cable laying machine (ABB Nordlink cable laying between Helsinki – Tallinn) was important oversize cargo with a weight of around 200tons.

In general oversize cargo is shipped with boat to Estonia. Then the oversize cargo will be disassembled, transported and at the final destination again assembled. Often even heavy cargo to Russia is handled via Estonia because it is safer to make business in Baltic States than in Russia. Concerning windmill business it must be mentioned that windmill parts are produced in Estonia (ABB has 4 factories in Tallinn area) and then they are shipped to Europe. The windmills are coming then back to Estonia where big clients are Vestas and Spanish windmill producers.

Estonian Railway made intermodal business offers to DHL timetable was not convenient.

Russia has very big potential for transport and logistics services.

APPENDIX 1

MAIN PLAYERS IN LOGISTICS BUSINESS

APL
Transfennica
Man&Son
Ahlers Latvia Sia
Tallink
Viking Line
Port of Riga
Port of Ventspils
Port of Liepaja
Port of Tallinn
http://www.ts.ee/konteinervedude-regulaarliinid
Port of Pärnu
Port of Sillamäe
Port of Kunda
Estonian Railways (EVR)
ERTS
Latvian Railways
Edelarudtee Ltd.
BLRT
SRC – Estonian shipbuilding company
http://www.src.ee/

APPENDIX 2

Container train ZUBR prices
http://www.evr.ee/?id=31665&PHPSESSID=5aea036bd7e3f7607296e949071cb04c

In cooperation with Latvian, Byelorussian and Ukrainian railways Estonian Railway has released a new product - container train ZUBR - to offer a competitive container shipping from Northern Europe to the south, down to the Black Sea and across as well as in the opposite direction. It is possible to ship containers to Minsk, Kiev, Odessa, llyichevsk as well as to other destinations in the Ukraine and Belarus. In close cooperation with our partners we offer an opportunity to ship containers across the Baltic Sea as well as across the Black Sea to Turkey, Georgia and back.

Freight prices (USD)!

Route, transit time	loaded 20'	empty 20'	loaded 40'	empty 40'
Tallinn – Minsk 2 days	580	277	792	372
Tallinn-Kiev 3 days	645	304	1001	482
Tallinn - Odessa 4 days	732	323	1140	514
Tallinn - llyichevsk 4 days	733	323	1141	515

for separate shippings transit time may be longer
price adjustment depending on exchange rate is possible once per quarter
Prices include:

- freight tariff
- declaring
- principal's fee and customs duty

Viking train prices

Price for transportation:
Illichevsk – Klaipeda — 420$
Kiev – Klaipeda —360$
Klaipeda – Illichevsk — 420$
Klaipeda – Kiev — 360$

Execution of carrying documents, transportation of one vehicle on a specialized railway platform, travel of the driver in the carriage, customs clearance in Ukraine, Byelorussia, Lithuania, guarding of vehicles during the whole route are included in price for transportation. Drivers can have meals in the buffet car at their own expense at reasonable prices. Price transportation in universal containers. The present offer includes information about price for transportation in universal containers, which are the part of combined transport train Viking (except nonferrous metal, dangerous cargoes and cargoes subject to obligatory guarding at transportation by rail):

Route	20’ (own, COC)		40’(own, COC)	
	loaded	empty	loaded	empty
Odessa-Illichevsk - Draugiste (Klaipeda)	453	202	710	326
Odessa-Illichevsk – Kolyadichi (Minsk)	310	160	510	240
Kiev-Liski - Draugiste	353	166	539	253
Kiev-Liski - Kolyadichi	205	97	305	142

Source: http://www.liski.com.ua/eng/index.php?thisPage=intmod_viking.

The rate includes price of cargo transportation by rail with the exception of

additional charges at dispatch and destination stations. Rates are valid for cargo transportation in universal containers loaded up to their load-carrying capacity stipulated by the container's technical characteristics.

By special request terminal processing services are rendered at dispatch and destination stations as well as "door-to-door" cargo delivery by road.

APPENDIX 3

Statements from logistics forum „Estonia- European Periphery of transport links?"

Venue: 4. February 2011 Tallinn

Tunne Kelam (Member of European Parliament elected from Estonia)

- "Building Rail Baltica is most important exercise for Estonian (and Baltic) logistics"

Juhan Parts (Minister of Economy and Communication of Estonia)

- "European Union needs also more general transport vision"
- "Treatment of different European firms in Russia should be equal."
- "EU Court got equal treatment on overflying charges for different EU firms. Same approach should be on railway tariffs."
- "Rail Baltica is our nearest task. Its (*slower variant of modification of existing railway link*) is not our dream (*dream is direct high speed railway*) but it is much better than existing situation."
- "Rail Baltica costs 5 Billion euros and is very expensive."

Henrik Hololei Cabinet Chief of EU Transport Commissioner

- "Transport is geopolitical tool. EU wants independence from third countries."
- "There are opportunities for China container transit. Antwerpen, Rotterdam and Hamburg are running already full and some container ships could come to Tallinn."
- "North South root is as good as East-West direction (*direct translation from Estonian*)."
- "Helsinki Tallinn underwater tunnel is high cost utopia. Even Eurochannel has economic problems."
- "By forthcoming survey high speed Rail Baltica costs 4 Billion euros. EU has not such money available for single project."

Pentti Hämälainen (Pirkanmaa Municipalities director of regional development)

- "Finland has big metal and timber resources in its Northern part."
- "Developing of Botnian corridor is definite priority."
- "Our big firms like Ruukki and Wärtsilä need good logistics."
- "Transport corridors impact wider economic area. Vision for Mining 2020 Finland"

Used slides:

http://www.transp.lt/files/uploads/tarptautiniai_rysiai/Pentti%20Hamalainen_(1).pdf.

Roberts Zile (Member of European Parliament elected from Latvia)

- "Lets use existing infrastructure for Rail Baltica."
- Statement from high level Latvian politician: "Fast railway line Moscow – Riga must be prior to other projects" (including Rail Baltica).

On the Authors

Rünno Lumiste, Gunnar Prause
c/o Hochschule Wismar, Fakultät für Wirtschaftswissenschaften
Philipp-Müller-Straße
Postfach 12 10
D - 23952 Wismar
Telefon: ++49 / (0)3841 / 753 441
Fax: ++ 49 / (0)3841 / 753 131

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