North Sea Baltic Connector of Regions
Interreg Baltic Sea Region programme 2014–2020

Nodal point infrastructure analysis

AS IS ANALYSIS report

Activity: WP 2, Activity 2.2.1

Version: Final

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North Sea Baltic Connector of Regions
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List of Abbreviations

EU	European Union
HHM	Hafen Hamburg Marketing
ICOB	Investor Center Ost Brandenburg
ILiM	Institute of Logistics and Warehousing
NSB CoRe	North Sea – Baltic Connector of Regions
RRT	Rail – Road Terminal
TEU	Twenty Feet Equivalent Unit

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1 Executive summary

NSB CoRe project consists of the substantial work packages (WPs) Intermodal Logistics (WP 2), Commuting Growth Corridors (WP 3), Spatial Planning for NSB Network Development (WP 4) and Branding and Community Building (WP 5). As this report is part of WP 2 we will have a deeper look at the aims and mission of this work package that can be described as follows:

- strives to increase interoperability between transport modes to support the optimal supply of services and modal split in freight traffic,
- collecting the experience from transport operators on bottlenecks and cross-border problems from an operative perspective,
- creation of a ranking model of logistics services and analysis of nodal points,
- evaluation of technologies and applications of ITS that serve the intermodal supply chain,
- interoperability of traffic modes, infrastructure, seaport connections and other nodal points: intermodal terminal and last mile, interoperability between the future freight villages.

Target groups: Logistics Service Providers (forwarding companies, Baltic sea ports, freight villages, intermodal operators, railway companies), customers in transport and logistics, policy makers.

Development of intermodal transport, although one of the priorities of the European Commission, with emphasis on sustainable solutions, is not at satisfactorily level in NSB Corridor. One condition of the development of intermodal transport is the better access to the European intermodal logistics network, which offers adequate infrastructure: nodal and linear. Its development depends on many factors: efficient national transport policy, coordination of activities and proper planning at various levels, identification of adequate financial resources & reasonable investments in research.

The main goal of the Activity 2.2 is to provide the transport operators and intermodal logistics service providers, decision makers and other relevant stakeholders with the instruments and the framework conditions to support the investments in new intermodal infrastructure and services for the NSB CoRe project area to increase the competitiveness of intermodal transport and promote the use of intermodal solutions.

Nodal point infrastructural analysis – AS IS ANALYSIS report (Activity 2.2.1) is the identification of already built and planned intermodal nodal points' infrastructure in the NSB Corridor. This activity utilizes the previous studies such as RBGC (Rail Baltica Growth Corridor project), update them with the latest developments, as well as, evaluates nodal points' as a link between core network corridor and its catchment area.

The key element that must be taken into account is that currently Baltic States Countries participates in the implementation of the international Rail Baltica transport project which aims at connecting Warsaw, Kaunas, Riga, Tallinn and Helsinki by European gauge railway line. This railway will considerably facilitate and accelerate the journeys of passengers as well as the transportation of cargo from the Baltic States and Finland to the Central and Western Europe.

2 General Background of Activity

Intermodal transport is a complex transport process where freight is moved by vehicles representing various modes of transport. The businesses' main reason to use it is the fact that intermodal transport enables them to take advantage of an optimum set of the service and cost features characterising particular means of transport.

Unfortunately, despite many attempts to develop intermodal transport, its share in Central European Countries (e.g. Poland, Baltic States Countries) remains very low. Combined with the continuous growth of trade (domestic transport, export, import, transit), this results in a situation where a growing number of transport routes, especially in road transport, reach their maximum capacity, and it is becoming increasingly difficult or practically impossible to organise transport processes efficiently and effectively.

2.1 Background of the Activity

The most important goal of the European transport policy is to create a system that would offer high-quality mobility services and allow for more efficient planning of resources to advance the European economy and enhance its competitiveness.

To reach these goals, less energy should be used in transport, supported by the implementation of environmentally sound solutions, modernisation of transport infrastructure and reducing its negative impact on natural resources, like water, soil and ecological systems.

The negative consequences of transport such as pollution, climate change, noise, congestion and accidents pose problems to the economy, health and well-being of European citizens. Freight transport continues to grow and road freight transport, in particular, is projected to increase by around 40% by 2030 and by little over 80% by 2050. The EU transport policy aims therefore at reducing road transport towards less polluting and more energy efficient modes of transport.[1]

In March 2011, the European Commission published a White Paper[2] regarding transport. Known as the "Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system," it is a strategic document. The White Paper relies on three main pillars common internal market, competitiveness, sustainability. Document offers evaluation of the transport policy in the recent years and research results regarding long-term challenges; it also permits identifying the objectives for the upcoming 40 years – until 2050, and it defines specific framework conditions for transportation policy activities for the upcoming 10 years. To achieve a 60% reduction in pollutant emissions from transport in the face of the society's growing need for mobility, the White Paper defines the criteria for both transportation policy and progress evaluation. According to them, 30% of long-distance road freight (over 300 km) should shift to rail by 2030, and more than 50% by 2050.

[1]https://ec.europa.eu/transport/themes/logistics-and-multimodal-transport/multimodal-and-combined-transport_en
[2]Brussels, 28.3.2011, COM 2011, 144 final

The progressing European integration and globalisation processes have been continuously increasing the distance that freight has to travel. And this is where a special advantage of rail freight transport can be found. Other trends, such as the systematically growing volume of container cargo transhipped in European sea ports, development of the railway infrastructure (Rail Baltica transport project – European gauge railway line), infrastructure of container terminals or the increasing significance of energy efficiency of particular modes of transport (the system advantage of rail transport) open new possibilities for intermodal transport as well. Additionally, intermodal transport has become more competitive and more customer-oriented due to the opening of the market, competition growth, and the resultant variety of services offered.

The network of the intermodal transport system is based on nodes which are the contact points of various transport modes involved in transport and logistic connections and the linear infrastructure - main railway lines and system of roads. The greater the number of nodes - land and sea-land intermodal terminals - the easier access to the rail network which allows better use of rail transport possibilities.

Modern terminal of the intermodal transport means more than simple transhipment point – they are being developed towards the creation of cargo handling centers with a wide range of offered logistics services. In this kind of center there are companies with different profiles (transport operators, freight forwarders, storage companies) and often administration services (e.g. customs, veterinary, control, etc.).

2.2 Definitions

Intermodal terminals are the interface between the different transport modes and thus are key to access intermodal transport services and to ensure efficient and road-competitive intermodal supply chains throughout Europe. Container terminals are often part of bigger business ventures, e. g. logistic centers, seaports.

According to the definition adopted by United Nations Economic Commission for Europe (UNECE), European Conference of Ministers of Transport (ECMT) and Organisation for Economic Cooperation and Development (OECD) this term is determined as a place intended for storing intermodal loading units equipped with handling equipment[3].

In the wider sense, intermodal terminal is a place of handling loading units between different means of transport in each of transport sector, occupying large area, which has low access costs for all users and has low impact on the local environment, the most because of increasing road transport and the noise generated by all heavy road vehicles[4].

According to the North-Sea-Baltic Core Network Corridor Study[5], freight terminal means a structure equipped for transhipment between at least two transport modes or between two different

[3]West, N. Kawamura, K. Location, Design and Operation of Future Intermodal Rail Yards: a Survey. Transport Research Board. 2005

[4]McCalla, R., Slack, B., and Comtois, C. (2001). Intermodal Freight Terminals: Locality and Industrial Linkages. Canadian Geographer; Fall 2001; 45, 3, 404

[5]North-Sea-Baltic Core Network Corridor Study, Final report, December 2014

rail systems, and for temporary storage of freight, such as seaports, inland ports, airports and rail road terminals.

Europlatforms (The European Logistics Platforms Association[6]) has throughout the years developed and improved the definition of Transport and Logistics Centres. The definition has been approved by EU, UNECE and OECD and widely approved and used by many national authorities. A Logistics Center is a center in a defined area within which all activities relating to transport, logistics and the distribution of goods – both for national and international transit, are carried out by various operators on a commercial basis. The operators can either be owners or tenants of buildings and facilities (warehouses, distribution centres, storage areas, offices, truck services, etc.), which have been built here. In order to comply with free competition rules, a Logistics Center must be open to allow access to all companies involved in the activities set out above. A Logistics Center must also be equipped with all facilities to carry out the mentioned operations. If possible, it should include public services for the staff and equipment for the users. In order to encourage intermodal transport for the handling of goods, a Logistics Center should preferably be served by a multiplicity of transport modes (road, rail, sea, inland waterway, air). To ensure synergy and commercial cooperation, it is important that a Logistics Center is managed in a single and neutral legal body (preferably by a Public-Private-Partnership). Finally, a Logistics Center must comply with European standards and quality performance to provide the framework for commercial and sustainable transport solutions.

According to the Deutsche GVZ-GesellschaftmbH (DGG), freight villages are defined as logistics centres, where the cargoes from different transport modes can be reloaded, compiled and prepared for transportation. That place links and brings together different transport modes (road, rail), transport companies (forwarders, warehousing), supplementary transport service (vehicle services, consultancy services) as well as industrial and trading companies. The spatial proximity promotes cooperation and division of labour of the enterprises on site.

The main function of the freight villages is the management of politically promoted combined transport and the shifting of cargo traffic from road to rail. The cooperation of the companies on site makes it possible to realise high truck capacity utilisation especially in the region. Due to synergistic effects the economic efficiency and activity of the enterprises on site can be improved (clustering)[7].

Container terminals may also be distinguished by their location in relation to a sea port. In this case there are 2 categories:

- dry port, a terminal located near the coast and directly connected with a sea port via road and/or railway and/or waterway (nearest terminal to a sea port). At a dry port deep-sea vessels are not calling in at the port. The dry port can be used by sea ports as consolidation and distribution node. It is responsible for the connection of the sea port with other hubs and offers related services.
- inland terminal, sea connection is possible via inland waterways, rail or road. The ports mainly focus on continental logistics services and often act as intermediary between dry ports and freight centres.

[6]http://www.europlatforms.eu/
[7]http://www.gvz-org.de

The North Sea-Baltic Corridor consists of 5947 km of railways, 4029 km of roads, and 2186 km of inland waterways and connects the ports of the eastern shore of the Baltic Sea with ports of the North Sea, situated in Northern Germany, Belgium and the Netherlands. The Corridor connects the capitals of all eight countries concerned namely: Helsinki, Tallinn, Riga, Vilnius, Warsaw, Berlin, Brussels and Amsterdam. The North Sea – Baltic Corridor has 17 core network rail road terminals.

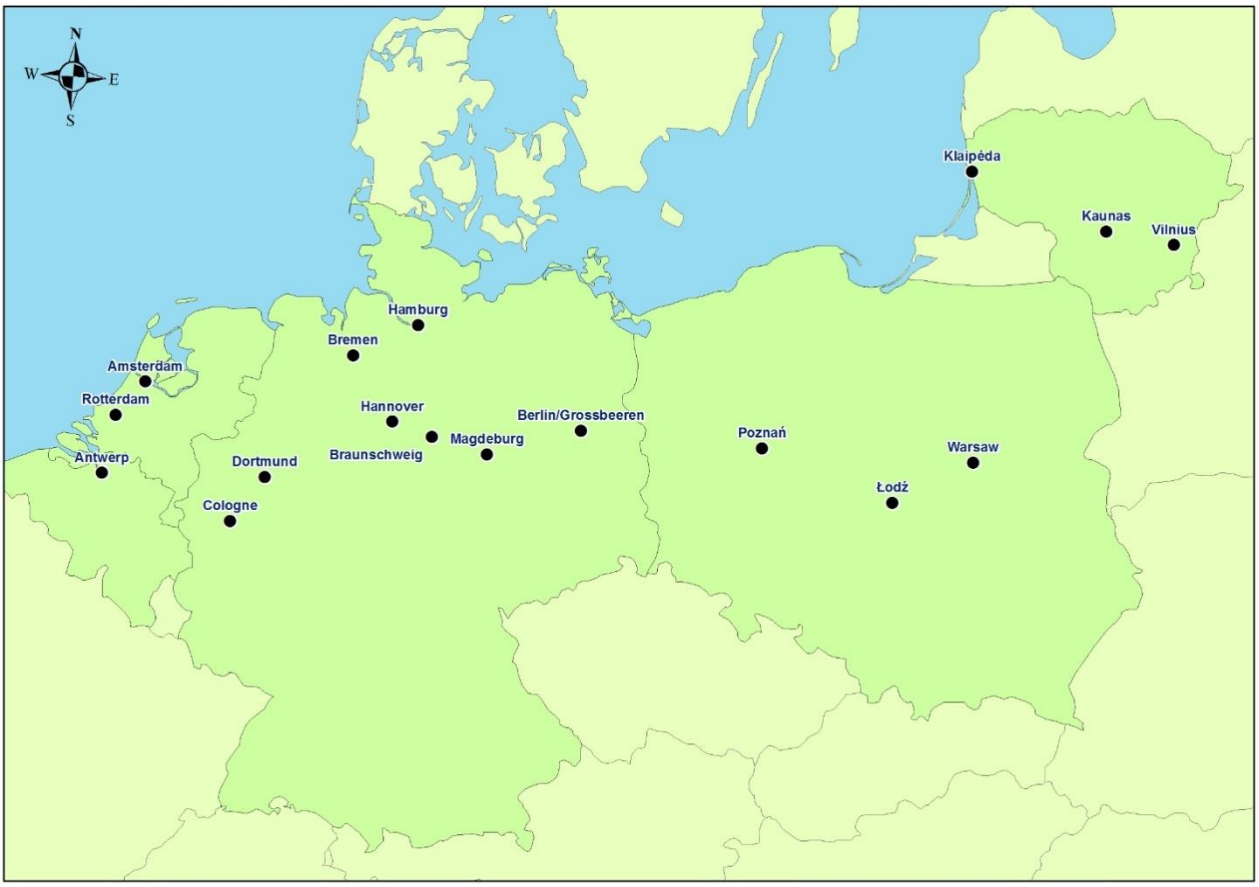

Figure 1 – North Sea Baltic core network rail road terminals

In most European countries the terminals differentiate between the ownership of the terminal infrastructure and superstructure on the one hand, and the operation and management on the other hand.

The following sections will provide a detailed description of already built and planned intermodal nodal points infrastructure in each of the NSB CoRe project member countries (Germany, Poland, Lithuania, Latvia, Estonia, Finland).

3 Germany

Germany is one of the countries located in the central part of the North Sea Baltic corridor. The corridor crosses Germany from East to West with some junctions to the seaports in the North (e.g. Hamburg, Bremen).

The following table shows the main economic indicators.

Table 1 – Germany: basic country information

No	Feature	Value
1	Overall country rank (Logistics Performance Index, The World Bank)	1
2	Area (1000km2)	357
3	Nominal GDP 2015 (million €)	3 032 820
4	Population 2015 (million)	81 200
5	Expenditure per head on transport-related items 2014 (€)	2 600
6	Planned Allocation of Community funding for transport 2014-2020 (million €)	555.13

Source: European Commission, Eurostat

Table 2 – Germany: Modal split of freight transport on land

	Road	Rail	Inland Water-ways	Pipe- lines
	tonne-km in %			
EU-28	71,7	17,4	6,1	4,8
Germany	69,5	18,7	8,9	2,8

Source: EU transport in figures, statistical pocketbook 2017

3.1 Intermodal transport policy

The German Federal Government looks after 7,675 km of waterways, 37,775 km of operated railway lines, about 40,000 km of federal highways and 12,800 km federal motorways[8]. Transport policy is an important topic and high on the political agenda due to the topographic position within Europe and the resulting traffic load on Germany's roads[9].

The government has created a series of master and action plans over the past years to better enable the focus on a transport network that will withstand the anticipated increase by 40 per cent of freight traffic on roads, as well as 43 per cent of rail freight traffic by 2030[10]. In the 'Masterplan for Freight Transport and Logistics' the ministry outlined the intended transport policy objective to form an integrated transport policy. This policy was to be based on three arms: innovation, investment and regulation[11].

The policy is outlined and implemented through the long-term plan of the Ministry – the 'Federal Transport Infrastructure Plan', which is usually valid for ten to fifteen years. This long-term plan is one of the most important tools for German transport policy.

3.2 Nodal point infrastructure

Germany has in general a well-developed intermodal infrastructure. The rail/road terminals Berlin South (Grossbeeren), Magdeburg, Braunschweig, Hannover, Hamburg, Bremen incl. Bremerhaven, Dortmund, Duisburg and Cologne, are all included in the North Sea Baltic corridor.

3.2.1 GVZ BerlinGroßbeeren

The Großbeeren terminal was built eight kilometres south of Berlin in 1998. In 2005, extensive expansion measures were carried out to improve the long-term capacity and productivity of the terminal, which is one of the most viable facilities on the outskirts of the German capital Berlin. A further increase in capacity is possible at any time.

The terminal is part of the Großbeeren freight transport centre, in which various regional logistics service providers have settled. A container service centre for repair and depot services is located in the immediate vicinity of the terminal. For the most part, the terminal handles daily hinterland traffic from German seaports as well as traffic to and from Eastern Europe and Russia. A well-known beverage producer was also won for the capital's central logistical beverage supply by rail. In addition, there are connections to domestic and intra-European relations via network concepts.

[8]Policies for mobility and modernity. Federal Ministry of Transport and Digital Infrastructure. Available at: https://www.bmvi.de/SharedDocs/EN/publications/policies-for-mobility-and-modernity.pdf?__blob=publicationFile

[9]Transport policy planning in Germany - An analysis of political programs and investment masterplans', European Transport Research Review, 9(28), pp. 1 - 12. doi: 10.1007/s12544-017-0247-7. Available at: https://link.springer.com/content/pdf/10.1007%2Fs12544-017-0247-7.pdf

[10] Freight Transport and Logistics Action Plan. Available at: https://www.bmvi.de/SharedDocs/EN/publications/freight-transport-logistics-action-plan.pdf?__blob=publicationFile

[11]The German Masterplan for Freight Transport and Logistics [Presentation]. p.4. Available at: https://www.unece.org/fileadmin/DAM/trans/wp24/wp24-presentations/documents/pres08-06.pdf

High-performance rail connections to the newly upgraded Berlin-Leipzig line and the road connection via the B 101 to the Berliner Ring A 10 speak in favour of optimum traffic access and flow.

Table 3 – Characteristics of GVZ Berlin Großbeeren

Basic data	
Name	GVZ Berlin Großbeeren
Owner	DUSS mbH
Location	Märkische Allee 57, 14979 Großbeeren
Year of construction	1998
Scope of intermodality	rail, road
Total area /m2/	no data
Infrastructure	
Total number of tracks	4
Number of tracks for reloading /pcs./	2x700m, 2x350m
Length of individual tracks for reloading /m/	2100m
Equipment	
Overhead cranes	yes
Number	2
Payload/t/	no data
Mobile cranes	yes
Number	no data
Payload /t/	41
Transhipments	
Supported type of logistic units	20', 30', 35' 40', 45' container, swap bodies, liftable semi-trailers
Storage capacity /TEU/	800
Cargo handling capacity per year /TEU/	600 000
Services	
dangerous cargo (class 1-9), empty depot, customs	
Permanent railway services	
German seaports, Eastern Europe and Russia	

Source: ILiM own study based on IPG-Potsdam and DUSS page

Figure 2 – GVZ Berlin Großbeeren – container terminal

3.2.2 Berlin Westhafen

The BEHALA is with 120 employees and a turnover- and transport volume of 4,000,000 tons per annum one of the biggest inland harbours in Germany. With the „trimodal“ freight village Westhafen in the centre of Berlin, the BEHALA accomplish ideal conditions for powerful logistic solutions in the capital region Berlin Brandenburg. The BEHALA is a hub for traffic to east Europe particularly for Poland.[12]

Table 4 – Characteristics of Berlin Westhafen

Basic data	
Name	Berlin Westhafen
Owner	BEHALA Berliner Hafen- und Lagerhausgesellschaft mbH
Location	Westhafenstraße 1, 13353 Berlin
Year of construction	2001
Scope of intermodality	road, rail, ship
Total area /m2/	17 000
Infrastructure	
Total number of tracks	2x350m
Number of tracks for reloading /pcs./	no data
Length of individual tracks for reloading /m/	700 m
Equipment	
Overhead cranes	yes
Number	2
Payload/t/	25
Mobile cranes	no data
Number	no data
Payload /t/	no data
Transhipments	
Supported type of logistic units	container, swap bodies

[12]http://www.behala.de/behala/en/web/index.php

Storage capacity /TEU/	1 000
Cargo handling capacity per year /TEU/	129 500
Services	
fumigation, ventilation, dangerous cargo, empty depot, power supply Reefer, Stuffing / Stripping, packing, warehousing of bulk cargo and piece goods, local railway traffic as a Rail Company (EVU) and Rail Infrastructure Company (EIU) with her own locomotives, he connection over Berlin HuL and Moabit is guaranteed, the collection of the freight trains takes place with „E-Traktion“, winter storage places for boat/yacht	
Permanent railway services	
Berlin-Bönen, Unna/Ostwestfalen, Berlin-Hamburg, Bremerhaven	

Source: ILiM own study based on Behala web page

For the turnover of piece goods corresponding turnover machines are available. Cranes with a load-carrying capacity to 25 tons, mobile excavators and forklifts to 5 tons of load-carrying capacity cater for a fluently turnover and a safe transport of piece goods such as paper, machine parts steel prefabricated parts and tobacco.

Figure 3 – Berlin Westhafen – container terminal

3.2.3 Terminal Frankfurt Oder

PCC Intermodal terminal in Frankfurt (Oder) is a modern logistics and handling centre which enables quick and cost-optimal support of cargos transported to/from Poland, Germany, the Netherlands, and Belgium. Since 2008, the Terminal is an integral part of a regular intermodal connection network operated by PCC Intermodal S.A. Thanks to its location, it enables optimization of supply chains within the Berlin/ Brandenburg region and is a core strategic junction point for trans-border transportation on the East-West axis. The terminal in Frankfurt (Oder) supports the flow of cargo containers within the East-West corridor. Thanks to the terminal, the company is able to distribute cargo to Berlin/Brandenburg region and deliver containers quickly and efficiently, directly to the customers door[13].

[13]http://www.pccintermodal.pl/en/terminal-frankfurt/

Table 5 – Characteristics of container terminal in Frankfurt Oder

Basic data	
Name	Terminal Frankfurt (Oder)
Owner	PCC Intermodal S.A.
Location	Georg-Richter-Strasse 15, 15234 Frankfurt/ Oder
Year of construction	2005
Scope of intermodality	road, rail
Total area /m2/	30 000
Infrastructure	
Total number of tracks	4
Number of tracks for reloading /pcs./	4
Length of individual tracks for reloading /m/	610 m
Equipment	
Overhead cranes	Yes
Number	1
Payload	no data
Mobile cranes	Yes
Number	2
Payload /t/	41
Transhipments	
Supported type of logistic units	20', 40', 40' HC, 45 HC containers, tank containers
Storage capacity /TEU/	1 000
Cargo handling capacity per year /TEU/	100 000
Services	
door to door deliveries, handlings, short term storage of containers washing, sweeping, minor repairs, power outlets for reefer and tank containers, large volume transport capacity, port documentation support, transport of heavy containers, positioning of empty containers between marine and inland terminals, depot services,	
Permanent railway services	
Hamburg, Duisburg, Rotterdam, Poznań	

Source: ILiM own study based on PCC Intermodal web page

Figure 4 – Frankfurt Oder - terminal

3.2.4 Hannover CTH - Nordhafen

Modern container handling facilities in the North Harbour. The container terminal I + II.

- Container Terminal Hannover - Nordhafen © Municipal Ports Hannover
- Container Terminal Hannover - Nordhafen

The Port of Hanover started operations in 2002 with the installation of system transports by inland waterway to the German overseas ports of Hamburg and Bremerhaven.

The strategy behind this is to offer the customer complete solutions for the entire transport chain between the hall door and the ocean-going vessel.

The Container Terminal Hannover is the important water-side component of the decentralised freight traffic centre of the Hanover region.

Handling volumes were significantly increased by the new terminal with its modern crane bridge built in 2006. The system can process up to 60,000 units in total.[14]

Table 6 – Characteristics of Hannover CTH - Nordhafen

Basic data	
Name	Hannover CTH - Nordhafen
Owner	StädtischeHäfen Hannover (Nordhafen)
Location	Hansastraße 38, 30419 Hannover
Year of construction	2006
Scope of intermodality	rail, ship, road
Total area /m2/	no data
Infrastructure	
Total number of tracks	no data
Number of tracks for reloading /pcs./	no data
Length of individual tracks for reloading /m/	no data
Equipment	
Overhead cranes	yes
Number	2
Payload/t/	no data
Mobile cranes	yes
Number	6
Payload /t/	50
Transhipments	
Supported type of logistic units	container
Storage capacity /TEU/	no data
Cargo handling capacity per year /TEU/	60 000
Services	
door to door deliveries, including truck pre- and on-carriage organisation customs clearance, terminal handling, container inspection, stuffing and stripping, picking, storage and distribution, container storage, dangerous goods storage bin, services around the container, value added services, Container storage in the north port © Municipal ports of Hannover Container	

[14]https://www.hannover.de/Wirtschaft-Wissenschaft/Wirtschaftsf%C3%B6rderung/Standortinformationen/Logistikstandort-Hannover/Logistische-Knoten/Hafen-Hannover/Kombinierter-Verkehr/Container-Terminal-Hannover

storage in the North Harbour
Permanent railway services
Hamburg - Hannover, Bremerhaven / Bremen – Hannover,

Source: ILiM own study based on hannover.de page

Figure 5 – Hannover CTH – Nord Hafen – container terminal

3.2.5 Terminal Hamburg – Billwerder

The Hamburg-Billwerder terminal, built in 1993, is an important interface for the transhipment of loading units between road and rail as well as in national and international transfer traffic between freight trains. Thanks to its network-forming function, the Hamburg-Billwerder terminal links various transports and routes of operators from southern Europe to Scandinavia, in some cases with more than 20 single-target trains per day. With its infrastructure and technical equipment, it is one of the most modern terminals in Europe. Short turnaround times in the facility and fast, reliable handling increase the attractiveness and significance of the terminal in the network.

In 2012, a third crane runway was added to the terminal and handling capacity increased, opening up additional growth opportunities for the CT market in the future.

Fast rail connections in all directions are provided by the connection to the main line Hamburg-Berlin and the freight railway Hamburg. Conveniently located in the east of Hamburg, in the direct catchment area of the city's largest transport industry area and forwarding centre, the terminal is also very well connected to Hamburg's road network (via Halskestraße and Grusonstraße) and the A1 motorway. [15]

Table 7 – Characteristic of DUSS-Terminal Hamburg-Billwerder

Basic data	
Name	DUSS-Terminal Hamburg-Billwerder
Owner	DUSS mbH
Location	Halskestraße 67, 22113 Hamburg
Year of construction	1993
Scope of intermodality	road, rail

[15] https://www1.deutschebahn.com/ecm2-duss/terminals_uebersicht/terminal_hamburg-714120

Total area /m2/	no data
Infrastructure	
Total number of tracks	12
Number of tracks for reloading /pcs./	4x720m, 4x620m, 4x585m
Length of individual tracks for reloading /m/	7700 m
Equipment	
Overhead cranes	yes
Number	7
Payload/t/	no data
Mobile cranes	yes
Number	5
Payload /t/	50
Transhipments	
Supported type of logistic units	Container, swap bodies, liftable semi-trailers (ISO-Ct 20' - 45', WB, Trailer)
Storage capacity /TEU/	no data
Cargo handling capacity per year /TEU/	no data
Services	
break test station, dangerous cargo (class 1-9), empty depot, power supply Reefer, customs	
Permanent railway services	
southern Europe to Scandinavia, partly with over 22 single-target trains per day	

Source: ILiM own study based on DUSS page

3.2.6 Hamburg Altenwerder CTA

The HHLA Container Terminal Altenwerder went into operation in 2002 and since then has been amongst the cutting-edge and most efficient container terminals in the world. Processes on the one square kilometre large terminal are mainly automatic. Driverless Automated Guided Vehicles (AGVs) move the containers around the site and software-controlled portal cranes sort them into storage blocks. The adjacent Kombi-Transeuropa Terminal Hamburg (KTH) is by far the largest German rail terminal. Seven tracks each 720-metres long are available for handling block trains. Construction of a large on-dock container terminal with tracks 700 metres long also proved an important decision. Along with the adjacent Logistics Centre, this forms a compact, highly efficient container handling hub in a confined area. Looking back, the basic concept was correct.

HHLA Container Terminal Altenwerder (CTA) has been certificated under the Container Terminal Quality Indicator standard (CTQI) for the third time running. That makes CTA one of the best terminals.[16]

Table 8 – Characteristics of Hamburg Container Terminal Altenwerder

Basic data	
Name	Hamburg Container Terminal Altenwerder CTA
Owner	HHLA Container Terminal Altenwerder GmbH

[16]https://www.hafen-hamburg.de/en/terminal/hhla-container-terminal-altenwerder-gmbh-hamburg---7944
https://hhla.de/en/container/cta/technical-data.html

Location	Am Ballinkai 1, 21129 Hamburg
Year of construction	2002
Scope of intermodality	road, rail, ship
Total area /m2/	1000
Infrastructure	
Total number of tracks	9x700m
Number of tracks for reloading /pcs./	no data
Length of individual tracks for reloading /m/	4900 m
Equipment	
Overhead cranes	yes
Number	15
Payload/t/	no data
Mobile cranes	yes
Number	Automated Guided Vehicle (AGV) 77 + 14 Battery-AGV
Payload /t/	
Transhipments	
Supported type of logistic units	container
Storage capacity /TEU/	no data
Cargo handling capacity per year /TEU/	no data
Services	
dangerous cargo (class 1-9), storage of dangerous cargo, empty depot, OCR, power supply Reefer, Assembly, Barcode labels, Break Bulk, Cargo securing, Container cleaning, Container discharge/stripping, Container stuffing (FCL), Container stuffing (LCL), Counting, Custom export customs registration, Custom import registration, Customs export clearance, Customs presentation, Degassing, Empty container services, Finishing, Foodstuff storage, Inspection, Packing, Palletizing, Picking, Quality inspection, RFID labels, Stowing, Tailoring /converting, Vehicle securing	
Permanent railway services	
no data	

Source: ILiM own study based on HHLA webpage

Figure 6 – Hamburg Altenwerder CTA - container terminal

4 Poland

The structure of transportation goods in Poland by mode of transport indicates the total domination by road transport. Other modes of transport, including rail transport, have low contribution in handling goods. That situation – connected with constant growth of exchange of goods (domestic transport, export, import, transit) makes more and more communication routes, especially in road transport, reach its maximum throughput, and effective and efficient organization of transport processes becomes more difficult or impossible. In Poland - despite of the intersection of two European transport routes of the TEN-T network (North Sea Baltic and Baltic - Adriatic), which gives the possibility of developing transit transport - intermodal transport is used marginally.

The following table shows the main economic indicators.

Table 9 – Poland: basic country information

No	Feature	Value
1	Overall country rank (Logistics Performance Index, The World Bank)	33
2	Area (1000km2)	313
3	Nominal GDP 2015 (million €)	427 737
4	Population 2015 (million)	38 006
5	Expenditure per head on transport-related items 2014 (€)	800
6	Planned Allocation of Community funding for transport 2014-2020 (million €)	27 616

Source: European Commission, Eurostat

Table 10 – Poland: Modal split of freight transport on land

	Road	Rail	Inland Water-ways	Pipe- lines
	tonne-km in %			
EU-28	71,7	17,4	6,1	4,8
Poland	67,0	23,0	0,0	9,9

Source: EU transport in figures, statistical pocketbook 2017

4.1 Intermodal transport policy

The main institution responsible for transport policy is the Ministry of Infrastructure. The Ministry coordinates all activities related to transport performance, development, investment and financing through own departments. The only area outside the Ministry's mandate is maritime and inland transport which is administered by the Ministry of Maritime Economy and Inland Navigation.

Regarding railway transport, Ministry is responsible for:

- organisation of railway passenger and freight in Poland,
- TEN-T and the railway development programme,
- traveller rights,
- railway safety,
- hazardous materials freight,
- technical conditions exceptions,
- national Investigative Committee for Railway Accidents,
- international Agreements.

The primary document setting the directions of transport policy in Poland is the Transport Development Strategy until 2020 (with a prospect until 2030), published on 22 January 2013 by the Ministry of Transport, Construction and Marine Economy (Pol. Strategia Rozwoju Transportu – SRT)[17].

The document's main thesis is that Poland needs the creation of a coherent and effectively functioning transport system integrated with the European and global system. Effective and efficient transport is necessary for intensifying economic development and increasing foreign trade. The strategy was developed in order to chart the most important directions of activity and its coordination in order to achieve this strategic objective. Its implementation will not only enable the removal of current barriers but will also bring a new quality in transport infrastructure and management as well as transport systems.

The main objective of the transport policy is to increase the territorial accessibility and improve user safety and transport sector effectiveness by creating a coherent, balanced and user-friendly

[17]Resolution No. 6 of the Council of Ministers of 22 January 2013 on the Transport Development Strategy until 2020 (with a prospect until 2030)

transport system on the national (local), European and worldwide level. Two strategic objectives have been defined:

- establishment of an integrated transport system (including rail, road, marine, air and inland waterway transport),
- creation of conditions for the effective functioning of transport markets and development of effective transport systems.

The Strategy takes into account and/or constitutes the basis for the implementation of the following programmes:

- National Road Construction Programme 2014-2023 (with a prospect until 2025)[18], Ministry of Infrastructure and Construction, 2015,
- Plan for Sustainable Development of Public Transport in the Area of Inter-Provincial and International Passenger Transport by Rail[19], Ministry of Infrastructure and Construction, 2012,
- National Railway Programme until 2023[20], Ministry of Infrastructure and Construction, 2015,
- Programme for the Development of Airport Networks and Airport Ground Equipment[21], Ministry of Infrastructure and Construction, 2007,
- Polish Maritime Port Development Programme until 2020 (with a prospect until 2030)[22], Ministry of Maritime Economy and Inland Navigation, 2013.

4.2 Nodal point infrastructure

Poland stands out with high location potential and relatively well – developed transport infrastructure. Poland owes a high location allowance to among others central European Countries, its location within system of the most important transport corridors, stimulating development of the transport connections.

The picture below presents the location of 33 container terminals (which were operating at the end of 2017) enabling transhipment of intermodal transport units. 5 of them offered services in sea-rail, sea-road relations (sea terminals), others offered services in rail – road relations (land terminals).

[18]Resolution No. 156/2015 of the Council of Ministers of 8 September 2015 on the establishment of the multiannual National Roads Construction Programme for the years 2014-2023 (with projections until 2025)
[19]Resolution of the Minister of Transport, Construction and Maritime Economy of 9 October 2012 on the Plan for Sustainable Development of Public Transport in the Area of Inter-Provincial and International Passenger Transport by Rail
[20]Resolution No. 162/2015 of the Council of Ministers of 15 September 2015 on the establishment of the National Railway Programme until 2023
[21]Resolution No. 86/2007 of the Council of Ministers of 8 May 2007 on the adoption of the Programme for the Development of Airport Networks and Airport Ground Equipment
[22]Draft resolution of the Council of Ministers of December 2015 on the adoption of thePolish Maritime Port Development Programme until 2020 (with a prospect until 2030)

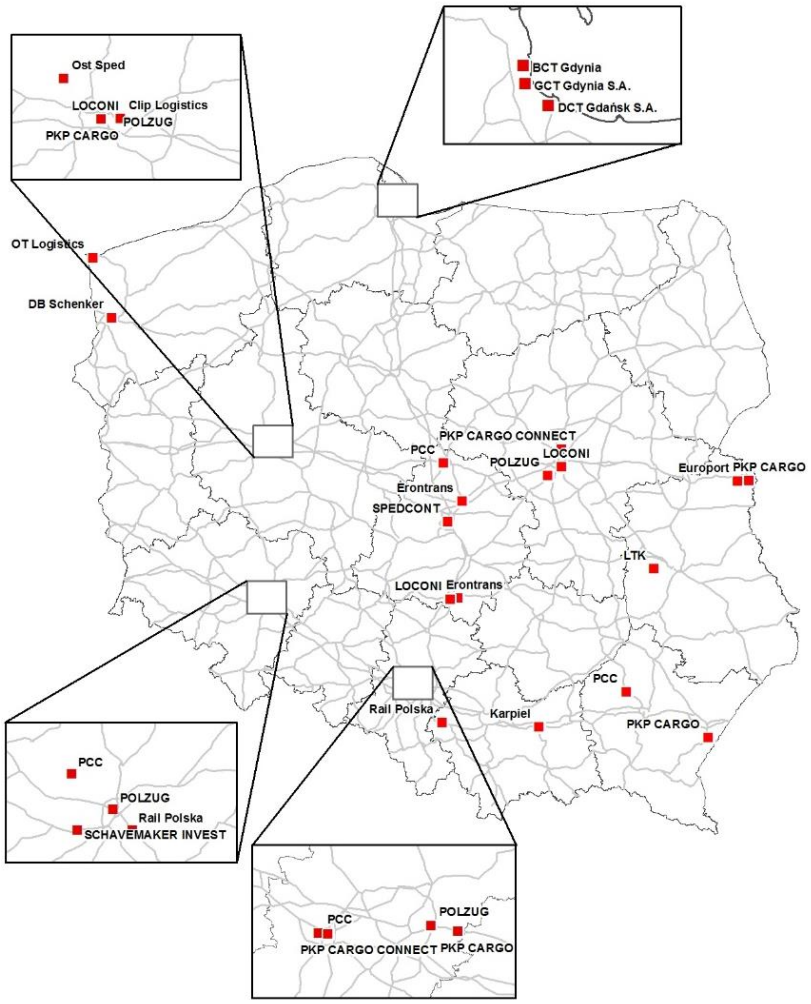

Figure 7 – Container terminals in Poland

4.2.1 HUB Terminal Poznań Gądki – Metrans

In September 2011 POLZUG Intermodal Polska Sp. z o.o. commenced activity in the new container terminal in Gądki near Poznań in the immediate vicinity of the existing container terminal, which due to the lack of opportunities for further development was closed with the start of the new one. The new terminal designed as a hub for containerized cargo mostly from the port of Hamburg to Poland works as follows: several pairs of trains a day delivers containers to Gądki - containers designated for customers in Poznań agglomeration and the Wielkopolska region are provided from terminal in Gądki by road to recipients, and containers for customers in other regions of the country are transferred to trains operating the scheduled container transport within so called block trains (running without the need for distribution yards) between the terminal in Gądki and terminals belonging to POLZUG in Pruszków near Warsaw, Wrocław and Dąbrowa Górnicza. In addition,

terminal provides services for other operators organizing intermodal container transport from / to other locations.

Detailed characteristics of the container terminal in Gądki is presented in table below.

Table 11 – Characteristics of container terminal in Gądki (Polzug)

Basic data	
Name	HUB Terminal Poznań
Owner	Metrans
Location	Magazynowa 8 street, 62-023 Gądki, Poland
Year of construction	2011
Scope of intermodality	road, rail
Total area /m2/	320 000
Infrastructure	
Total number of tracks	5
Number of tracks for reloading /pcs./	4
Length of individual tracks for reloading /m/	610
Equipment	
Overhead cranes	no
Number	no data
Payload	no data
Mobile cranes	yes
Number	6
Payload /t/	45
Transhipments	
Supported type of logistic units	large containers, swap bodies and semitrailers
Storage capacity /TEU/	1 500
Cargo handling capacity per year /TEU/	385 400
Services	
Door to door deliveries, container depot, power connections for refer containers, heavy goods reloading, custom clearance, dangerous goods, Supervision of high value cargo container transport, EDI-Reporting System, container cleaning / repairs, containers sealing	
Permanent railway services	
Gdynia, Gdańsk, Wrocław, Dąbrowa Górnicza, Pruszków, Hamburg, Sestokai, Brest, Schwarzheide, Ludwigshafen, Antwerpia, Duisburg	

Source: ILiM own study based on Office of Rail Transport

4.2.2 CLIP Terminal

The container terminal is located in areas covered by the Special Economic Zone and is part of Centrum Logistyczno Inwestycyjne Poznań (CLIP). Total surface for investment is 200 ha (160 ha currently used). 40 ha of land is available for further investments e.g. production facility. In the area of CLIP there is modern multiple warehouse and logistics park (400 000 $m^2$of warehouse space constructed and rented out long term basis), designed especially for middle and big size tenants, designed for distribution centers or manufacturing operations. CLIP has 80 ha of Special Economic Zone (subzone of Kostrzyńsko – Słubicka Special Economic Zone), which allows companies investing in it the tax exemption for a period of 12 years.

CLIP container terminal covers an 10ha area with storage capacity of 4500 TEU. Facilities are located at the junction of two TEN-T corridors: North Sea – Baltic and Baltic – Adriatic, close to the S5 motorway and near the A2 Berlin-Warsaw highway. Terminal is equipped with five modern reach stackers with the capacity of 45 tons. 5 manoeuvring engines, which guarantees independence, efficiency and flexibility of operations.

Detailed characteristics of the CLIP container terminal is presented in table below.

Table 12 – Characteristics of CLIP container terminal

Basic data	
Name	CLIP Terminal
Owner	Clip Logistics Sp. z o.o.
Location	Rabowicka 51b, 62-020 Swarzędz – Jasin, Poland
Year of construction	2015
Scope of intermodality	road, rail
Total area /m2/	100 000
Infrastructure	
Total number of tracks	4
Number of tracks for reloading /pcs./	4
Length of individual tracks for reloading /m/	750
Equipment	
Overhead cranes	no
Number	no data
Payload	no data
Mobile cranes	yes
Number	5
Payload /t/	45
Transhipments	
Supported type of logistic units	20', 40', 40' HC, 45 HC containers, tank containers, refer containers, swap bodies and intermodal semi-trailers
Storage capacity /TEU/	4 500
Cargo handling capacity per year /TEU/	75 000
Services	
Door to door deliveries, container depot, Power connections for refer containers, Heavy goods reloading, custom clearance, dangerous goods, container cleaning / repairs, Containers sealing, goods consolidation for further transport, goods repackaging, labelling, processing	
Permanent railway services	
Rotterdam-Swarzędz-Rotterdam - 6 round-trips per week Krefeld-Swarzędz-Krefeld - 3round-trips per week Gdynia/Gdańsk-Swarzędz- Gdynia/Gdańsk - 2round-trips per week	

Source: ILiM own study based on Office of Rail Transport

Figure 8 – CLIP – container terminal

4.2.3 Małaszewicze Logistics Center

Terminal is located in the immediate vicinity of the border with the Republic of Belarus, at the interface of two railway systems, what makes it necessary to reload goods from wagons of 1520 mm gauge to 1435 mm . Terminal has a convenient connection with an international railway line no. E20 (Berlin – Warsaw – Moscow), which extension is the Trans-Siberian Railway Route and an international road route no. E-30. This creates beneficial conditions for railway transport of goods between the countries of former CIS, the Far East and EU.

Table 13 – Characteristics of Małaszewicze container terminal

Basic data	
Name	Małaszewicze Logistics Center
Owner	PKP Cargo S.A.
Location	Kolejarzy 22B, 21-540 Małaszewicze, Poland
Year of construction	1975 (The first phase of modernisation was completed in 2010)
Scope of intermodality	road, rail
Total area /m2/	122 700
Infrastructure	
Total number of tracks	4 rail tracks of 1520 mm 4 rail tracks of 1435 mm
Number of tracks for reloading /pcs./	8
Length of individual tracks for reloading /m/	1520 mm – usable length – 1766 m 1435 mm – usable length – 1746 m
Equipment	
Overhead cranes	Yes
Number	4
Payload/t/	37/40/40,5/45
Mobile cranes	Yes
Number	2
Payload /t/	11/45
Transhipments	
Supported type of logistic units	20’, 30’,40’, 45 containers, HC, swap bodies,

	semi-trailers
Storage capacity /TEU/	1 872
Cargo handling capacity per year /TEU/	no data
Services	
Door to door deliveries, container depot, Power connections for refer containers, Heavy goods reloading, custom clearance, dangerous goods, container cleaning / repairs, Containers sealing, goods consolidation for further transport, goods repackaging, labelling, processing	
Permanent railway services	
entry gateway to Europe for containers from the Far East	

Source: ILiM own study based on Office of Rail Transport

Figure 9 – Małaszewicze – container terminal

4.2.4 Franowo Container Terminal – Poznań

The Intermodal Terminal is strategically located, with two major European transport corridors intersecting near Poznań. For this reason, containers are being transshipped in Franowo along the East-West and North-South axes of Europe. A large part of the services provided are connections with Tri-City ports (Gdańsk and Gdynia). Five times a week an operator train runs from the terminal in Franowo to the port of Gdansk according to a fixed schedule.

The Franowo Terminal is the largest facility of this type in the PKP Cargo, containers are able to be transhipped from cars to trains, from trains to cars and between two railway depots. The terminal was modernized and expanded in 2015, a loading yard, tracks, refuelling stations for handling equipment were constructed, as well as energy, telecommunications and water supply and sewage infrastructure. The terminal in Franowo will handle two container trucks with a lifting capacity of 45 tons.

Table 14–Characteristics of Franowo – Poznań container terminal

Basic data	
Name	Franowo Container Terminal
Owner	PKP Cargo S.A.
Location	Ostrowska 300, Poznań, Poland
Year of construction	2014
Scope of intermodality	road, rail

Total area /m2/	28 000
Infrastructure	
Total number of tracks	2
Number of tracks for reloading /pcs./	2
Length of individual tracks for reloading /m/	610
Equipment	
Overhead cranes	no
Number	no data
Payload/t/	no data
Mobile cranes	yes
Number	3
Payload /t/	45
Transhipments	
Supported type of logistic units	20', 30',40',45 containers, HC, swap bodies, semi-trailers, refers
Storage capacity /TEU/	1 800
Cargo handling capacity per year /TEU/	117 000
Services	
Door to door deliveries, container depot, Power connections for refer containers, Heavy goods reloading, custom clearance, dangerous goods, container cleaning / repairs, Containers sealing, goods consolidation for further transport, goods repackaging, labelling, processing	
Permanent railway services	
Gdańsk, Gdynia	

Source: ILiM own study based on Office of Rail Transport

Figure 10 – Poznań Franowo – container terminal

4.2.5 Container Terminal Warszawa (Praga) – PKP Cargo

Container Terminal PKP Cargo Connect in Warsaw is designed and adapted to receive and send, in particular, containerized shipments in railway rolling stock. The terminal has hardened storage yards with a total area of 20,900m2, self-driving cranes for handling containers and car kits move around the square. It is possible to replace 76 wagons once.

It is located near the following roads: S7, S8, E67, 2km away from the Żerań junction and A2, 21km away. Northern Bridge - excellent transport/feed conditions guaranteeing high efficiency of

deliveries. In the immediate vicinity of the Warsaw Prague railway station (intersection of the E65 and E20 railway lines).

Table 15 – Characteristics of PKP Cargo Warszawa Terminal

Basic data	
Name	Container Terminal Warszawa (Praga)
Owner	PKP CARGO CONNECT Sp. z o.o.
Location	ul. Marywilska 39, 03-328 Warszawa
Year of construction	no data
Scope of intermodality	road, rail
Total area /m2/	30 000
Infrastructure	
Total number of tracks	1
Number of tracks for reloading /pcs./	no data
Length of individual tracks for reloading /m/	320
Equipment	
Overhead cranes	yes
Number	2
Payload/t/	no data
Mobile cranes	yes
Number	4
Payload /t/	42
Transhipments	
Supported type of logistic units	containers, swap bodies, liftable semi-trailers
Storage capacity /TEU/	1 200
Cargo handling capacity per year /TEU/	77 000
Services	
empty depot, power supply Reefer, Stuffing / Stripping	
Permanent railway services	
no data	

Source: ILiM own study based on Office of Rail Transport

4.2.6 Spedcont – Łódź

The logistics operator of the terminal in Łódź is Spedcont belonging to the Pekaes group, which is intensively developing cooperation in the area of general cargo between China and Europe and China (Silk Road). Until 3 years ago, the Spedcont terminal in Łódź, a company belonging to the Pekaes Group, operated one such rail transport a week. Currently, trains to and from China's Chengdu are leaving daily and their number is increasing.

Thanks to its location at the motorway junction, the Spedcont - Łódź terminal is a perfectly connected point on the map of Europe. It is also one of the largest facilities of its kind in Poland, providing adequate operational efficiency, enabling the handling of a large volume of containers. An important advantage is also a sufficiently large area, thanks to which it is possible to store a large number of containers after unloading. Further investments are planned to increase the terminal's capacity.

Table 16 – Characteristics of Spedcont Łódź container terminal

Basic data	
Name	Spedcont Łódź
Owner	Spedycja Polska SPEDCONT Sp. z o.o.
Location	ul. Tomaszowska 60, 93-235 Łódź
Year of construction	no data
Scope of intermodality	road, rail
Total area /m2/	146 000
Infrastructure	
Total number of tracks	2
Number of tracks for reloading /pcs./	2
Length of individual tracks for reloading /m/	1 400
Equipment	
Overhead cranes	Yes
Number	2
Payload/t/	45
Mobile cranes	Yes
Number	2
Payload /t/	no data
Transhipments	
Supported type of logistic units	20', 30',40',45 containers, HC, swap bodies, semi-trailers
Storage capacity /TEU/	8 000
Cargo handling capacity per year /TEU/	80 000
Services	
dangerous cargo, empty depot, power supply Reefer, Stuffing / Stripping, customs	
Permanent railway services	
Gdańsk, Gdynia, China, Slovakia	

Source: ILiM own study based on Office of Rail Transport and Spedcont website

Figure 11 – Spedcont Łódź – container terminal

5 Lithuania

Due to Lithuania's geographic location, the transport sector, particularly freight transit, plays a key role in the economy of the country. Freight shipments between Russia and the CIS, and the West, are the core of the transit industry in Lithuania. Lithuania has only one major seaport, the Port of Klaipeda, which is the hub of the transport transit industry. Lithuania provides transit services in movement of freight along three main corridors:

- East-West (major): to/from Russia and other CIS countries, via Belarus through Vilnius and Kaunas to the Port of Klaipeda, and from there to Scandinavia and Western Europe. Lithuania intends to electrify the entire East-West railway corridor, from Belarus border to Klaipėda – project will be completed until 2022. For Lithuanian Railways, the transport on this route accounts for about three quarters of the rail freight turnover and two thirds of the passenger traffic. It is anticipated that the performed electrification work will increase the efficiency of activity even more.
- North-South: to/from Finland, via Estonia and Latvia, through Kaunas and Sastokai, to Poland, Germany and Central Europe. The road element of this component is known as Via Baltica, the planned rail element as Rail Baltica;
- East-West (minor): to/from Russia and other CIS countries, through Kaunas, to Kaliningrad.

Lithuania is the largest and most populous of the Baltic States. However, with a population of 3.2 million, population density is relatively low, slightly less than 50 persons/km2. Particularly due to large labour migration from Lithuania, the population is declining at an annual rate of 0,4%.

The following table shows the main economic indicators.

Table 17 – Lithuania: basic country information

No	Feature	Value
1	Overall country rank (Logistics Performance Index, The World Bank)	29
2	Area (1000km2)	65
3	Nominal GDP 2015 (million €)	37 124
4	Population 2015 (million)	2921
5	Expenditure per head on transport-related items 2014 (€)	1 200
6	Planned Allocation of Community funding for transport 2014-2020 (million €)	1 094.2

Source: European Commission, Eurostat

Table 18 – Lithuania: Modal split of freight transport on land

	Road	Rail	Inland Water-ways	Pipe- lines
	tonne-km in %			
EU-28	71,7	17,4	6,1	4,8
Lithuania	33,4	64,4	0,0	2,3

Source: EU transport in figures, statistical pocketbook 2017

5.1 Intermodal transport policy

The EU policy and requirements for the development of the railway infrastructure are set forth in the EU Directive 91/440/EEC on the Development of Community's Railways (as amended by Directive 2007/58/EC of the European Parliament and of the Council of 23 October 2007 amending Council Directive 91/440/EEC on the development of the Community's railways and Directive 2001/14/EC on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure), in the development guidelines of the Trans-European Railway Network (TEN-T), in the EU Directive 96/48/EC on the Interoperability of the Trans-European High-Speed Railway System, in the EU Directive 2001/16/EC on the Interoperability of the Trans-European Conventional Railway System, in the 2011 EU White Paper 'Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system'. The measures necessary for their implementation are set forth in the National Transport Development Programme 2014-2022, the State Investment Programme (VIP).

The National Programme on the Development of Transport and Communications for 2014-2022 has been prepared having regard to the comprehensive benefits that the State, society and the national economy receive from the transport and communications sector. The Programme is indispensable for the sustainable development of the transport and communications system in Lithuania, the efficient management of public resources and utilisation of the European Union (EU) Structural Funds' assistance, and the increase in the competitiveness of the sector.

The Programme is medium-term strategic planning document setting out the strategic goal, the objectives and tasks aimed at reaching the goal, their evaluation criteria and the institutions implementing the Programme. The Programme emphasises the horizontal priorities in the area of transport and communications including the multimodality of transport, integrated urban transport, application of intelligent transport systems to all modes of transport, traffic safety and security, increase in energy efficiency in the transport sector, and development of environmentally-friendly transport.

During the financial period 2014-2020, more than EUR 1.5 billion of EU structural funds are foreseen to be invested in to Lithuanian transport sector. Priority in the transport sector will be given to intermodal transport system. For the first time, the largest investments will be earmarked not to the upgrade of road infrastructure, but to the rail: 38 % of the funds will be allocated to roads, 44 % – to railways. The reason of it is to fulfil the objective of the EU Directive – transport of goods by less-pollutant modes of transport i.e. shift of traffic from road to other modes of transport, chiefly rail and water.

5.2 Nodal point infrastructure

Seeking appropriate integration of Lithuania into the general European Union transportation network, the necessary preconditions for the smooth interoperation of various modes of transport are being created. In order to achieve this goal, in 2014-2015 two projects were implemented: “Design and construction of an intermodal terminal at the Vilnius Public Logistics Centre” and “ Design and construction of an intermodal terminal at the Kaunas Public Logistics Centre. ”Construction of the two terminals was 85% financed through the European Union Cohesion Fund. Both intermodal terminals are owned and operated by JSC Lithuanian Railways.

Additionally, Lithuania has 2 container terminals in Klaipeda seaport:

- Klaipeda Container Terminal. The terminal serves 40 – 50 container ships per month and handles about 60% of all containers shipped via Klaipeda. Total container throughput in 2016 - 263,529 TEU, 13% growth compared to previous year. About 15 % of containers arrive and depart from the terminal by rail.
- Klaipedos Smelte container terminal. Terminal was launched in July, 2006. Since the beginning of operation container volume handled by the terminal is constantly growing: 38.000 TEU in 2007, 115.000 TEU in 2010, 130.000 TEU in 2012, 176.000 TEU in 2014 and 185.647 TEU in 2016 . KSCT is capable to handle more than 600.000 TEU annually. The terminal already accommodates containerships of 3.000-9.178 TEU capacity.

5.2.1 Kaunas Intermodal Terminal

Kaunas Intermodal Terminal (KIT) is equipped with both 1520mm-gauge and 1435mm-gauge tracks in readiness for the Rail Baltica standard-gauge link to Europe. The terminal is ultimately intended to become a key transhipment terminal for containers travelling from Europe to Russia and Asia by rail. KIT is located at Palemonas marshalling yard close to the main Klaipeda – Kaunus – Vilnius highway, where many logistics companies are already clustered.

Table 19 – Characteristics of Kaunas IntermodalTerminal

Basic data	
Name	Kaunas Intermodal Terminal
Owner	Lithuanian Railways
Location	Palemono St. 78, LT-52109 Kaunas
Year of construction	2015
Scope of intermodality	road, rail
Total area /m2/	350 000
Infrastructure	
Total number of tracks	4
Number of tracks for reloading /pcs./	2x1520 mm, 2x1435 mm)
Length of individual tracks for reloading /m/	340
Equipment	
Overhead cranes	Yes
Number	1
Payload/t/	40
Mobile cranes	No data

Number	No data
Payload /t/	No data
Transhipments	
Supported type of logistic units	20, 40, 45feetcontainer and semitrailer
Storage capacity /TEU/	1 120
Cargo handling capacity per year /TEU/	155 000
Services	
customs, phytosanitary and veterinary control,	
Permanent railway services	
Milan, Romania, Bulgary, Russia,Kazakhstan, Klainingrad	

Source: ILiM own study based on intermodalcenter.lt

Figure 12 – Kaunas Intermodal Terminal

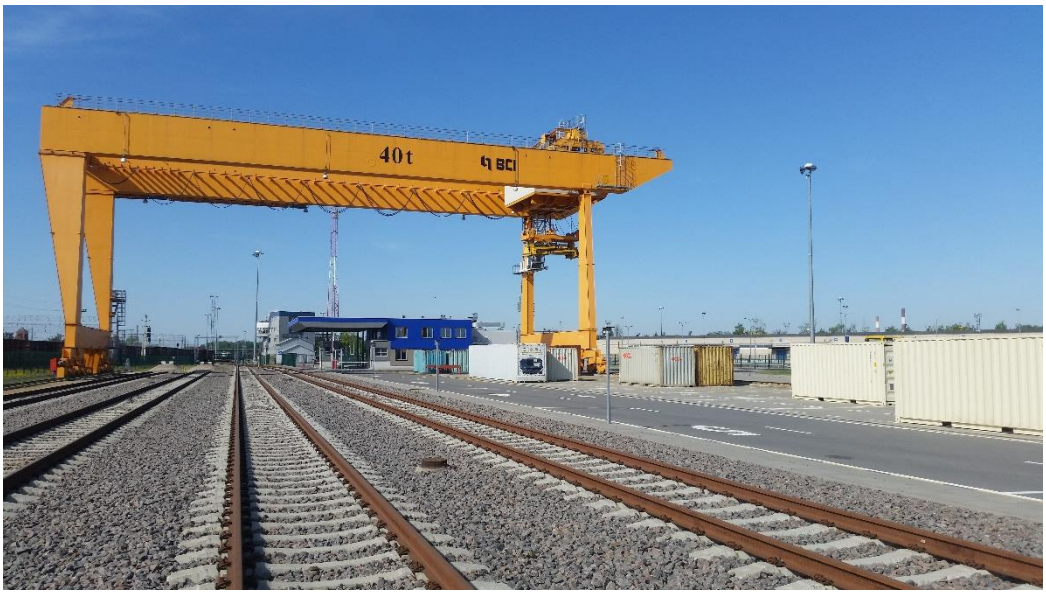

Figure 13 – Kaunas Intermodal Terminal

5.2.2 Vilnius Intermodal Terminal

Vilnius Intermodal Terminal (VIT) is situated near Vaidotai yard and has capacity to handle more than 100,000 TEU per year. The terminal is served by a number of intermodal trains including the Viking, Šeštokai Express, Saule, and Merkurijus, and Lithuanian Railways has also launched a new twice-weekly shuttle service, VIT Ekspress, linking VIT with the Baltic port of Klaipeda.

Table 20 – Characteristics of Vilnius Intermodal Terminal

Basic data	
Name	Vilnius Intermodal Terminal
Owner	Lithuanian Railways
Location	Terminalo St. 8, LT-02243 Vilnius
Year of construction	2015
Scope of intermodality	road, rail
Total area /m2/	500 000
Infrastructure	
Total number of tracks	3
Number of tracks for reloading /pcs./	3
Length of individual tracks for reloading /m/	600
Equipment	
Overhead cranes	Yes
Number	1
Payload/t/	40
Mobile cranes	No data
Number	No data
Payload /t/	No data
Transhipments	
Supported type of logistic units	20, 40, 45feetcontainer and semitrailer

Storage capacity /TEU/	1 400
Cargo handling capacity per year /TEU/	150 000
Services	
customs, phytosanitary and veterinary control,	
Permanent railway services	
Klaipeda	

Source: ILiM own study based on intermodalcenter.lt

The following pictures is presenting container trains connections of both Lithuanian terminals.

Figure 14 – Kaunas and Vilnius International Terminal container trains connections

6 Latvia

Due to Latvia's geographic location, the transport sector, particularly freight transit, plays a key role in the economy of the country. Transport, storage and communications comprise approximately 15% of the GDP. The transport and communications sector is one of the most dynamic and accounts for about 30% of all direct foreign investment.

Freight shipments between Russia and the CIS, and the West, are the core of the transit industry in Latvia. Freight shipments from Russia and other CIS countries to the West are the core of the transit industry in Latvia. The centres of the freight transit industry are the seaports of Riga, Ventspils and to a lesser extent Liepaja.

Table 21 – Latvia: Modal split of freight transport on land

	Road	Rail	Inland Water-ways	Pipe- lines

	tonne-km in %			
EU-28	71,7	17,4	6,1	4,8
Latvia	18,7	73,7	-	7,7

Source: EU transport in figures, statistical pocketbook 2017

The share of the road in freight is the lowest of the EU (less than 20% of the tonne-km). This is due to the high transit volumes operated by rail.

Table 22 – Latvia: basic country information

No	Feature	Value
1	Overall country rank (Logistics Performance Index, The World Bank)	43
2	Area (1000km2)	65
3	Nominal GDP 2015 (million €)	24 378
4	Population 2015 (million)	1 986
5	Expenditure per head on transport-related items 2014 (€)	800
6	Planned Allocation of Community funding for transport 2014-2020 (million €)	1 316.7

Source: European Commission, Eurostat

6.1 Intermodal transport policy

The main national policy document in the transport sector is the National Programme for Transport Development. The Programme is a medium term strategic planning document. The implementation of this planned strategy is deemed of vital importance for a balanced development of the society and national economy of Latvia. The goal of the transport development policy in Latvia continues to be the setting-up of an efficient, safe, environmentally friendly, multimodal, balanced and competitive transport system. The National Transport Development Programme is a medium term strategic planning document in the transport sector. The implementation of this planned strategy is of vital importance and indispensable for the purpose of balanced development of the society and national economy of Latvia.

Transportation sector is becoming one of the most dynamic and fast growing sectors in Latvian economy. And even more, this sector is taking the leading positions in the country's economic development. Due to the country's favourable geographic situation, Latvia has already become an important trade partner between West and East South and North. The national transport development priorities are defined within the framework of trans-national requirements and local

development needs. On the one hand, there is potential for Latvia to play more important role in transportation of cargo and people in international transport. There already is a substantial flow, mainly of freight traffic, in the direction East-West and it is expected that following the increasing integration of the Baltic States into the EU, traffic flows in North-South direction will increase as well. In order to utilise this potential, there is a need for significant improvement of infrastructure, particularly by reconstruction of railway hubs, building of railway tracks, modernization of train service management automatic systems, introduction of joint railway mobile communication system GSM-R; reconstruction of the main motorways, building of new sections, double level crossings; building of access roads and railway tracks to the ports, passenger terminals in the ports; modernization of airport infrastructure both in Riga international airport and in regional ones; as well as building of access roads to the TEN-T network in urban areas

6.2 Nodal point infrastructure

6.2.1 Nord NatieVenspils Terminals

Railroads and access roads have a strategic location within transport system of Ventspils, and that insures terminal's function as a logistics element in the overall transport network of Latvia and neighbouring countries – Russia, Baltic and CIS states. The infrastructure of Noord NatieVentspils Terminals allows it to handle wide spectrum of cargoes – containers, Ro-Ro, trailers, reefer containers, tanks, heavy lift cargoes, etc.

The Terminal provides following services for any kind of containerized and unitized general cargo, including heavy-lifts.

Table 23 – Characteristics of Nord NatieVenspils Terminals

Basic data	
Name	Nord NatieVenspils Terminals
Owner	Sabiedrība ar ierobežotu atbildību "NOORD NATIE VENTSPILS TERMINALS"
Location	Sarkanmuižas dambis 25c, Ventspils, LV-3601
Year of construction	2000
Scope of intermodality	road, rail, ship
Total area /m2/	300 000
Infrastructure	
Total number of tracks	No data
Number of tracks for reloading /pcs./	No data
Length of individual tracks for reloading /m/	No data
Equipment	
Overhead cranes	Yes
Number	1
Payload/t/	35
Mobile cranes	Yes
Number	2
Payload /t/	42 and 45
Transhipments	
Supported type of logistic units	20, 40, 45feetcontainer

Storage capacity /TEU/	No data
Cargo handling capacity per year /TEU/	150 000
Services	
containers' handling, cargo distribution, Intermodal solutions, container depot, Food and Veterinary Surveillance, Customs Office	
Permanent railway services	
Travemunde (GER), Nynashamn (SWE), Lubeck (GER), St. Petersburg (RU),	

Source: ILiM own study based on nnvt.lv website

6.2.2 SIA Baltic Container Terminal

Along with BCT's strategic geographic location, the Terminal has good, direct access to road and rail networks to its market hinterland, thus making it ideal for the development of logistics networks to its market hinterland which includes Moscow, Kaluga, Novgorod, St Petersburg, Minsk, Kiev, Vilnius, Tallinn, Almaty and Tashkent.

The Terminal has its own rail-handling facility with good rail connection to Moscow with a transit time of just 36 hours. Additionally the Terminal is equipped with rail–mounted gantry cranes dedicated to the loading and unloading of rail platforms. BCT recently doubled its railway infrastructure and is now able to serve 64 rail (80 foot) platforms simultaneously. The new capacity allows the direct proximity of container storage to the rail access zones and more efficient shunting of block trains, giving BCT a comparative advantage over other terminals in the region.

Table 24 – Characteristics of SIA Baltic Container Terminal

Basic data	
Name	SIA Baltic Container Terminal
Owner	Privately-owned
Location	Uriekstesiela 32, Riga LV-1005
Year of construction	No data
Scope of intermodality	Sea-rail-road
Total area /m2/	No data
Infrastructure	
Total number of tracks	No data
Number of tracks for reloading /pcs./	No data
Length of individual tracks for reloading /m/	No data
Equipment	
Overhead cranes	Yes
Number	2
Payload/t/	30
Mobile cranes	Yes
Number	6
Payload /t/	45
Transhipments	
Supported type of logistic units	20, 40, 45feetcontainer
Storage capacity /TEU/	5 000
Cargo handling capacity per year /TEU/	450 000
Services	
containers' handling, cargo distribution, Intermodal solutions, container depot	
Permanent railway services	

Moscow, Kaluga, Novgorod, St Petersburg, Minsk, Kiev, Vilnius, Tallinn, Almaty and Tashkent

Source: ILiM own study based on bct.lv website

7 Estonia

Estonia is the farthest Nordic land which is rail-connected to Russia, which makes it a good transit corridor from Central Europe to Russia (especially Saint Petersburg region).

There are more than 2,100 km or railroads in Estonia, which are mostly owned by state enterprises AS Eesti Raudtee and Edelaraudtee Infrastruktuuri AS (71%). There are also sections of private railroads (29%), for example, in harbours and the so-called Oil Shale Railroad.

Table 25 – Estonia: Modal split of freight transport on land

	Road	Rail	Inland Water-ways	Pipe- lines
	tonne-km in %			
EU-28	71,7	17,4	6,1	4,8
Estonia	89,3	5,6	-	5,1

Source: EU transport in figures, statistical pocketbook 2017

Table 26 – Estonia: basic country information

No	Feature	Value
1	Overall country rank (Logistics Performance Index, The World Bank)	38
2	Area (1000km2)	45
3	Nominal GDP 2015 (million €)	20 461
4	Population 2015 (million)	1 313
5	Expenditure per head on transport-related items 2014 (€)	1 000
6	Planned Allocation of Community funding for transport 2014-2020 (million €)	524.8

Source: European Commission, Eurostat

7.1 Intermodal transport policy

The most environmentally sound and sustainable plans for improving different transport facilities and connections are set out in National Transport Development Plan 2014-2020. The purpose of transport policy is to ensure convenient, safe, quick and sustainable movement opportunities for both the population and enterprises.

The National Transport Development Plan 2014-2020 describes the plans for both international passenger and carriage of goods for the 2020 time horizon. Economic efficiency and environmental soundness have become the most important aspects for planning the development of the transport sector. Estonia's main goals in the development of the transport sector over the next years are related to the following areas:

- Maintaining the condition of main roads and improving the condition of basic and secondary roads, as well as the continued reconstruction of Tallinn-Tartu highway into a four lane road.
- Decreasing the use of vehicles in towns by improving the conditions for walking, cycling and using public transport and use smart solutions to offer various new services, particularly short-term bicycle and car rent.
- Increasing the number of departures and speed of connection for train traffic for trains to become the most favoured means of transport, by connecting Tallinn and other towns; improving the train connection with Latvia (on Tartu-Riga line, Rail Baltic) and Russia (the trip to St Petersburg should be shorter than 5 hours). Providing a tram connection to the Airport.
- Improving traffic safety by bringing it to a level where the average number of traffic fatalities would not exceed 50 occasions for every three years and, in the long term, there would be no traffic fatalities altogether.
- Increasing the share of more economic vehicles that run on renewable energy so that bio methane or compressed gas, generated from domestic bio mass and waste, would become the main alternative type of fuel in Estonia.

7.2 Nodal point infrastructure

7.2.1 Muuga Container Terminal

The terminal uses the newest re-loading equipment and was the first to implement a loading scheme involving RTG and Shuttle Carrier. The most advanced computer programmes for electronic data exchange with customers, controlling re-loading equipment, positioning of containers, warehouse management, cooperation with customs and veterinary boards, also special programmes such as RTG for satellite positioning and RMI for inspection of the technical condition of re-loading equipment are used in the terminal.

By using the newest technological and computerised systems terminal can guarantee continued handling of vessels with a capacity of 55-60 units per hour, also handling of road transport in average within 30 minutes starting from arrival in the terminal until leaving. Well elaborated

technological schemes for handling railway platforms and well organised mutual work relations between railway and forwarding companies allow us to depart container trains from container terminals 24 h if needed. These container trains (such as “Baltica Transit” and “Zubr” for instance) travel without any failures and according to the schedules to Moscow or as route trains to the Central Asian countries.[23]

Table 27 – Characteristics of Transiidikeskuse AS

Basic data	
Name	Muuga Container Terminal
Owner	TK-Transiidikeskuse AS
Location	Hoidla tee 3a, 74115 Harju
Year of construction	no data
Scope of intermodality	road, rail, ship
Total area /m2/	380 000
Infrastructure	
Total number of tracks	no data
Number of tracks for reloading /pcs./	no data
Length of individual tracks for reloading /m/	no data
Equipment	
Overhead cranes	yes
Number	3
Payload/t/	40
Mobile cranes	Yes
Number	9
Payload /t/	15-45
Transhipments	
Supported type of logistic units	20, 40, 45feetcontainer
Storage capacity /TEU/	
Cargo handling capacity per year /TEU/	600 000
Services	
power supply Reefer, Stuffing / Stripping, customs, handling of container vessels and RO-RO type vessels, storage of goods in open storage areas and closed warehouses in free zone and outside it, connecting of refrigerated containers with electric circuit and temperature monitoring, loading/unloading of heavy and large-scale goods, picking goods for trailers and containers.	
Permanent railway services	
Moscow, Central Asian countries	

Source: ILiM own study based onportoftallinn.com and TK-Transiidikeskusewebpage

[23]http://www.tk.ee/en/terminals/container-terminal/

Figure 15 – Transiidikeskuse AS – container terminal

7.2.2 Esteve Terminal AS - Paldiski

ESTEVE Terminal AS is a stevedoring company, which has been operating in the Paldiski South Harbour – part of the Port of Tallinn Ltd. ESTEVE Terminal offer services on loading and warehousing of cargoes in the port of the most Eastern country of EU. ESTEVE Terminal has very good rail and road connections, up-to-date equipment and experienced personnel. Main fields of activity is stevedoring (RoRo, bulk and general cargoes), storing of goods (in-door and out-door storage), bonded warehouse and customs terminal, ship's agency.

Table 28 – Characteristics of Esteve Terminal

Basic data	
Name	Paldiski South Harbour - Esteve Terminal AS
Owner	Esteve Terminal AS belonging to the Baltic Maritime Logistics Group (BMLG).
Location	Rae põik 10, 76806 Paldiski
Year of construction	no data
Scope of intermodality	road, rail, ship
Total area /m2/	no data
Infrastructure	
Total number of tracks	no data
Number of tracks for reloading /pcs./	no data
Length of individual tracks for reloading /m/	no data
Equipment	
Overhead cranes	yes
Number	no data
Payload/t/	40
Mobile cranes	yes
Number	no data
Payload /t/	100
Transhipments	
Supported type of logistic units	20, 40, 45 feet container
Storage capacity /TEU/	no data
Cargo handling capacity per year /TEU/	no data
Services	
containerised cargoes, dry bulk cargoes, ro-ro cargoes, bonded warehouse and customs terminal,	

ship's agency, loading/discharging of vessels, transhipment from vehicles, railway waggons,
Permanent railway services
Antwerp/Belgium, Hanko/Finland, Lübeck/Germany, Gdynia/Poland, St. Petersburg/Russian Federation, Tilbury/Great Britain, Turku/Finland, Bremerhaven/Germany, Harwich/Great Britain, Cuxhaven/German, Kapellskär/Sweden, St. Peterbsurg/Russian Federation, Uusikaupunki/Finland, Bremerhaven/Germany, Emden/Germany, Sheerness/Great Britain, Zeebrygge/Belgium, Malmö/Sweden

Source: ILiM own study based onesteve.ee website

8 Finland

In Finland, 88% of transport for export and 80% for import use sea transport (2012). The role of railways is 10% in import (mainly Russia) and only 2% in export. Road transport is used 5% in import and 9% in export. The statistics prove clearly the case that Finland – often metaphorically called "an island" – is heavily dependent on sea connections in transport of freight.

Table 29 – Finland: Modal split of freight transport on land

	Road	Rail	Inland Water-ways	Pipe- lines
	tonne-km in %			
EU-28	71,7	17,4	6,1	4,8
Finland	72,6	27,0	0,4	-

Source: EU transport in figures, statistical pocketbook 2017

Table 30 – Finland: basic country information

No	Feature	Value
1	Overall country rank (Logistics Performance Index, The World Bank)	15
2	Area (1000km2)	338
3	Nominal GDP 2015 (million €)	209 149
4	Population 2015 (million)	5 472

5	Expenditure per head on transport-related items 2014 (€)	2 400
6	Planned Allocation of Community funding for transport 2014-2020 (million €)	28.3

Source: European Commission, Eurostat

8.1 Intermodal transport policy

Transport 2030 – Major challenges, new directions gives a view of the objectives and challenges facing transport policy. It presents the most important aspects of the framework covering the next few years, which will help the transport sector respond to its challenges in a sustainable and measured fashion, and will ensure that Finland and Finns have a functioning transport system for the coming decades. The central principles in Transport 2030 are customer orientation, management of an integrated transport system, sensible and efficient use of resources as well as flexibility, dynamism and a proactive approach in the face of changes to the operating environment.

The competitiveness of rail and water traffic will be improved to increase their share of transport. This requires efficient, intermodal terminals and new approaches to loading and load areas as well as investment in transport management and administration systems. Emissions trading scheme as proposed by the EU will be introduced in air traffic. Businesses will be encouraged to save energy and use energy more efficiently in transport as part of their quality and environmental management systems.

The Environmental Strategy for Transport sets out the environmental policy and the principal environmental goals for Finland's transport sector for the years 2013–2020. The strategy also outlines at a general level the principal means by which it is possible to achieve the goals. The strategy will guide the planning of environmental work by the Ministry of Transport and Communications and the government agencies and public bodies within its administrative sector. It will also act as a basis for the environmental programmes of these organisations and consequently for planning the guidance concerning the Centres for Economic Development, Transport and the Environment. For other players in the transport and environment sectors (e.g. municipalities and companies), the Environmental Strategy for Transport represents a proposal for cooperation in environmental matters. Such cooperation will enable further improvements in the work of the Ministry and its administrative sector in environmental matters.

The key challenges concerning Finland's environmental policy for transport in the period 2013–2020 are:

- mitigating climate change,
- improving the living environment and reducing the detrimental health effects associated with transport (air quality, noise and groundwater issues),
- protecting the Baltic Sea,
- environmental work to facilitate green growth.

If the goals and policies of the Environmental Strategy for Transport are to be successfully implemented, they will need to become an integral part of other areas of transport policy and urban planning.

8.2 Nodal point infrastructure

8.2.1 Cargo East Terminal (CET) Kouvola

Kouvola is labelled as the only railway core inland node in the European TEN-T network in Finland and it also functions as the Eastern nodal end point of the TEN-T Scandinavian – Mediterranean core network corridor. Because of the geographical location of Kouvola in the South-East Finland, it is highly important node for the transport and logistics sector's on-going development, since it is a real connector terminal between the EU TEN-T core network and Eastern main corridors for Russia, Kazakhstan and China. A new weekly rail service between Northern Europe and China launched on November 10 2017 as the first train with 41 containers of mainly forestry products left Kouvola for Xi'an in Central China. With support from Finland's VR rail company, Russian Railways, China Railways and operated by Kazakhstan's logistics company KTZ Express, the transit time is expected to be as little as 12 days due to a single change of gauge in Kazakhstan and a route that is up to 2,000 kilometers shorter than other European lines.

The study of DGG (Deutsche GVZ-Gesellschaft) on Freight Villages in Europe ranked Kouvola Railgate Finland Terminal as the 32nd best Freigh Village in Europe. Kouvola's ranking is the best among the terminals in the Nordic Countries and it is the only terminal having DGG ranking in Finland.[24]

Table 31 – Characteristics of Kouvola Railgate Terminal

Basic data	
Name	Cargo East Terminal (CET) Kouvola
Owner	VRTranspoint
Location	Tehontie 3, 45200 Kouvola
Year of construction	no data
Scope of intermodality	road, rail
Total area /m2/	25 000
Infrastructure	
Total number of tracks	1x450m
Number of tracks for reloading /pcs./	no data
Length of individual tracks for reloading /m/	450
Equipment	
Overhead cranes	yes
Number	1
Payload/t/	no data
Mobile cranes	no data
Number	no data
Payload /t/	no data
Transhipments	
Supported type of logistic units	Container, swap bodies, liftable semi-trailers
Storage capacity /TEU/	no data
Cargo handling capacity per year /TEU/	no data
Services	
railway consignment note, car consignment note, Customs documents, export documents, import	

[24]https://www.kinno.fi/en/news/kouvola-best-among-terminals-nordic-countries

expediting
Permanent railway services
China, Russia, Northern Europe

Source: ILiM own study based on VRTranspoint website

8.2.2 Vuosaari Container Terminal

The main business at Vuosaari in Helsinki comprises ship operations and the handling of containers and trailers to and from the port. Services are also provided in the logistics area of the port, where import containers are fed to be further unloaded into distribution vehicles. Steveco's comprehensive forwarding and ship's clearance services are also available in Helsinki.

The modern Vuosaari Harbour built by the City of Helsinki offers good connections to the main road and railway network in Finland. The harbour is designed especially to meet the future challenges of freight transport. It also has an important role as the bridgehead of Finland in transport to and from Continental Europe, the Baltic countries and Scandinavia. Steveco plays an integral role as a developer of this transport.[25]

Table 32 – Characteristics of Vuosaari Container Terminal

Basic data	
Name	Vuosaari Container Terminal
Owner	STEVECO OY
Location	Komentosilta 1 G 187, 00980 Helsinki
Year of construction	no data
Scope of intermodality	road, rail, ship
Total area /m2/	no data
Infrastructure	
Total number of tracks	no data
Number of tracks for reloading /pcs./	no data
Length of individual tracks for reloading /m/	no data
Equipment	
Overhead cranes	yes
Number	2+3 gantry cranes STS
Payload/t/	no data
Mobile cranes	no data
Number	no data
Payload /t/	no data
Transhipments	
Supported type of logistic units	container, swap bodies, liftable semi-trailers
Storage capacity /TEU/	3 200
Cargo handling capacity per year /TEU/	250 000
Services	
roro terminal operations,c ontainer terminal operations, depot services, carriage of containers to and from the distribution warehouses in the logistics area, vessel handling of imported vehicles, warehousing, forwarding and customs clearance services, ship's clearance.	

[25]http://www.steveco.fi/en/locations/helsinki

Permanent railway services
no data

Source: ILiM own study based on Stevecowebside

8.2.3 Mussalo Container Terminal-Kotka

In Kotka, Steveco has port terminals at the Mussalo and Hietanen Harbours. Container and bulk operations are concentrated at Mussalo, while Hietanen takes care of regular liner traffic.

Mussalo, the leading container port in Finland, offers a full range of container terminal services. Steveco's annual handling capacity at the Mussalo terminal is approx. 1 million TEUs of containers.

The bulk terminal has facilities for taking care of Panamax class vessels. The terminal also carries out project shipments for the heavy engineering industry and operates various lolo cargoes, such as railway rails.

Table 33 – Characteristics of Mussalo Container Terminal-Kotka

Basic data	
Name	Mussalo Container Terminal-Kotka
Owner	STEVECO OY
Location	Siikasaarentie 130, 48310 Kotka
Year of construction	no data
Scope of intermodality	road, rail, ship
Total area /m2/	no data
Infrastructure	
Total number of tracks	no data
Number of tracks for reloading /pcs./	no data
Length of individual tracks for reloading /m/	no data
Equipment	
Overhead cranes	yes
Number	7
Payload/t/	no data
Mobile cranes	no data
Number	no data
Payload /t/	no data
Transhipments	
Supported type of logistic units	container, swap bodies, liftable semi-trailers
Storage capacity /TEU/	20 000
Cargo handling capacity per year /TEU/	no data
Services	
roro terminal operations,c ontainer terminal operations, depot services, carriage of containers to and from the distribution warehouses in the logistics area, vessel handling of imported vehicles, warehousing, forwarding and customs clearance services, ship's clearance.	
Permanent railway services	
no data	

Source: ILiM own study based on Steveco website

Figure 16 – Mussalo Container Terminal-Kotka

8.2.4 Turku Container Terminal

The Turku Container Terminal is located in Port of Turku, which provides speed and efficiency to the transports of trade and industry. Regular liner traffic opens up a shortcut for maritime transports to the key Baltic Sea ports and connects Turku to the ocean lines. The smooth flow of the commercial transport chains is ensured by uncongested road connections which are linked through the port to the TEN-T traffic network.

Domestic and international transports are combined in the Turku Container Terminal into an efficient transport chain. The arriving cargo can be unloaded quickly in the modern terminals located near the port, and from there the imported goods are forwarded quickly all over the country. Thanks to good road connections, time need not be wasted on waiting in traffic jams, goods arriving on morning ships can be delivered to the recipients during the same day.

Table 34 – Characteristics of Turku Container Terminal

Basic data	
Name	Turku Container Terminal
Owner	Finnsteve
Location	Huolintakatu 5, 20200 Turku
Year of construction	no data
Scope of intermodality	road, rail, ship
Total area /m2/	485 000
Infrastructure	
Total number of tracks	no data
Number of tracks for reloading /pcs./	no data
Length of individual tracks for reloading /m/	no data
Equipment	
Overhead cranes	yes
Number	2
Payload/t/	no data
Mobile cranes	no data

Number	no data
Payload /t/	no data
Transhipments	
Supported type of logistic units	no data
Storage capacity /TEU/	container yard 600 TEU container depot 3500 TEU
Cargo handling capacity per year /TEU/	no data
Services	
stevedoring for roro, storo and lolo vessels, handling, warehousing and cargo release services for export and import cargoes, field operations for export and import cargoes (trailers, containers and break bulk machinery), handling of project cargoes in units or as a general cargo, forwarding services, stevedoring for container and conventional vessels, container reception and release services, fiels for FCL units, fields for empty containers, handling of project cargoes to and from transport units, forwarding services, cargo release services, reception, storage and release of containers, container repair service, Pre Trip (PTI) inspections made by professional stuff and modern technology, daily reporting services	
Permanent railway services	
no data	

Source: ILiM own study based on Finnsteve website

9 Summary

Intermodal terminals are very important for the use of intermodal transport on land routes. In Finland a trimodal terminal belonging to the NSB corridor exists in the port of Helsinki. In Estonia, terminals are in ports as well, but not in the hinterland.[26] In Latvia, containers terminals are planned to be constructed jointly with the Rail Baltica project. In Lithuania, there are two inland intermodal terminals Vilnius and Kaunas completed in 2015 and 2 others located in Klaipeda Sea Port. Poland and Germany have a quite good network of intermodal terminals.

Key elements that are important for intermodal transport development along the NSB corridor are the improvement of terminal networks through open access, digitalisation of information exchanged and cooperation between operators.

The progressing European integration and globalisation processes have been continuously increasing the distance that freight has to travel. And this is where a special advantage of rail freight transport can be found. Other trends, such as the systematically growing volume of container cargo transhipped in European Sea Ports, new rail service between Europe and China (New Silk Road),development of the infrastructure of container terminals or the increasing significance of energy efficiency of particular modes of transport (the system advantage of rail transport) open new possibilities for intermodal transport as well. Additionally, intermodal transport has become more competitive and more customer-oriented due to the opening of the market, competition growth, and the resultant variety of services offered.

The analysis presented in the report show how to cope with the challenges connected with the continuously growing volume of freight transport in Europe in a way that is economically viable and responsible towards the environment, the climate and people.

[26] There exists a project idea to develop an RRT (dry port) outside of Tallinn.

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