

## LOGISTICS CENTERS AS A TOOL FOR TRANSIT DEVELOPMENT IN LATVIA

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**Abstract.** Due to Latvia's geographic location, the transport sector, particularly freight transit, plays a key role in the economy of the country. Latvia possesses unique possibilities of participation in the international transit. Nearly 90 percent of the turnover of Latvian ports and 75 percent of railway cargo is transit.

Considering the importance of transit and related services in Latvia's national economy, the government pays additional attention to transit development. In accordance with "The Latvian Transport Development Strategy 2007–2013" the Latvian Government as a priority recognizes the development of high quality transport and logistics services in order to increase transit transportation volumes. Attraction on the Latvian transport network of the foreign trade cargoes is connected with construction of transport-logistical system on the basis of modernization of an existing transport infrastructure and introduction of logistical approaches of management in system of interaction of all participants of a chain of deliveries, on the basis of access equal in rights to the information about freight transport flows. It is identified that the creation of logistics centers is one of the main measures of the improvement of transport-logistical infrastructure in the country.

In the paper the author provides analysis of significance of logistics centers for the transit transportation development. The paper brings an overview of current situation of logistics centers development in Latvia. In the situation when the projects of creating international and regional logistics centers have not gone further than stage of feasibility studies many business units have decided to engage in their own undertakings. Many relatively small, functionally and territorially disintegrated objects of local center type have been set up. These objects are most often developed and operated by business units and transport forwarding companies. Part of the objects is warehousing centers built by developers and rented to various users. In the paper the main goals and tasks to logistics centers development are discussed.

The paper concludes with the recommendations of further actions toward logistics centers development to increase transit traffic.

**Keywords:** freight volumes, modes of transport, transit, logistics centers, services, transport policy

### 1. Introduction

Due to Latvia's geographic location, the transport sector, particularly freight transit, plays a key role in the economy of the country. Logistics has always been an integral part in the composition of Latvian economics. Transport, storage and communications comprise approximately 16 % 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 from Russia and other CIS countries to the West are the core of the transit industry in Latvia. In order to help boosting Latvia's competitiveness and provide an adequate environment for the transit and logistics sector, there is a need for a coherent and modern transport system and developed transport networks and infrastructure. The article provides analysis of the transport and logistics sector in Latvia. In the paper the author provides analysis of logistics centers development in Latvia. It is important for Latvia to integrate existing transport infrastructure to optimise logistics in the country and in doing so, ascertaining itself as a regional logistics hub.

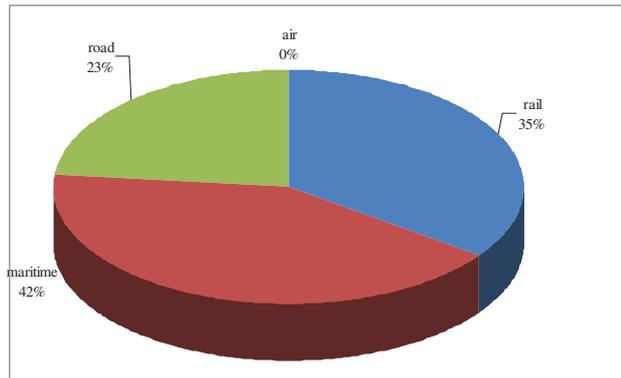
The paper deals with actual situation in Latvia con-

cerning the logistics centers development. It presents the basic characteristics of logistics centers, activities connected with transport, logistics and goods distribution. In the paper the main goals and tasks of national approach to logistics centers development are discussed.

### 2. The place of Latvian transport sector in the market of transit services

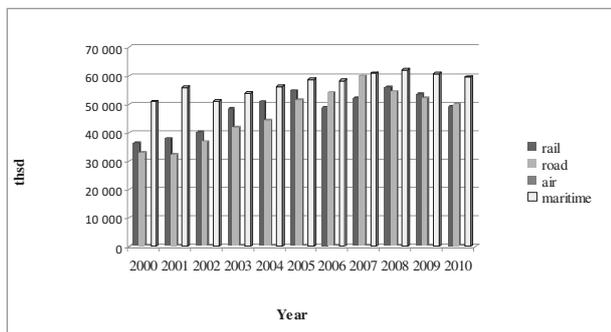
Analyzing Latvia's transit corridor at the State level, it must be noted that Latvia, as a priority, recognizes the development of an effective, secure, multi-modal, balanced; environmentally friendly and competitive transport system. The main goal for the sustainable development of Latvia's transport is to fully integrate Latvia's transport infrastructure with the Trans-European multi-modal transport system. Special attention is paid to developing coastal shipping and combined transportation. The priority is to construct and develop logistics centers.

In Latvia transportation of cargoes is carried out by using four modes of transport: maritime, rail, road and air transport (fig. 1).



**Fig. 1.** Freight traffic by mode of transport in Latvia in percentage in 2010

Since ancient times Latvia has been orientated towards the sea, ships, and the transit of goods. Throughout the ages Latvian ports have not lost their importance; they still successfully fulfill their basic task – being the gateway between the sea and the land. Ports are one of the main elements in a logical chain; they promote not only the portal cities, but also the economic development of whole regions, and therefore the role of the ports becomes greater and greater both in Latvia and the European Union (fig. 2).



**Fig. 2.** Distribution of the volume of cargoes by mode of transport in Latvia from 2000 to 2010

There are three major ports in Latvia – Liepaja, Riga and Ventspils, as well as seven smaller ports – Skulte, Mersrags, Salacgriva, Pavilosta, Roja, Lielupe and Engure, which are situated along the entire coastline of Latvia. The larger ports are mainly involved in processing transit freight – around 80 % of transit freight transported through Latvia is handled through these ports (Latvijas Republikas... 2010).

The major ports profit from their favorable geographical position, serving as ice-free ports that are well connected through rail, for the Russian hinterland.

Latvian ports are highly export-oriented, mostly shipping cargo for transit and export from Latvia. The volume of cargo reloaded at the ports of Latvia both in 2008 and in 2009 was 62 mln. Tons (Latvijas Republikas... 2010), according to the Central Statistical Bureau. In 2010, 61.2 mln. tons of cargo were loaded at ports, 1.3 % less than in 2009 (Latvijas Republikas... 2010).

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Cargo to and from Latvian ports are mainly transported by rail. Rail cargo transportation accounts for 52 % of the total amount of cargo transported by land and this number has tendency to increase. Transit transportation by rail accounts for approximately 85 % of the total amount of cargoes transported by rail – mainly from ports of Russia and Belarus to ports of Latvia (East – West transit corridor).

Rail transport in Latvia is heavily dominated by freight transport demand. The railway network is oriented at freight traffic along major transit cargo corridors that mainly run in east – west direction from the Russian hinterland to the three major ports at the Baltic Sea. The main corridors are:

- Moscow–Rezekne–Krustpils;
- Vitebska–Daugavpils–rustpils;
- European transport corridor I: Tallinn–Valga–Ieriki–Riga–Meitene–Sauli–Warsaw;
- St. Petersburg–Karsava–Rezekne–Daugavpils.

Currently, Latvia is also involved in priority project “Rail Baltica” axis Warsaw–Kaunas–Riga–Tallinn–Helsinki.

At current levels 55 % to 60 % of freight transit transport (in ton-km) is done via railways (Latvijas Republikas... 2010). Most of the annual cargo volumes transported on railways flows in East-West direction, mainly from Russia (48.2 % of total transit shipments in 2010) and Belarus (37.4 % in 2010) to the Baltic ports (Latvijas Republikas... 2010).

In cargo transportation transit of oil products, chemicals and mineral fertilizers is the prevalent. Container train traffic linking Latvian ports with Russia and Kazakhstan are still in development process.

Freight transport by rail is dominated by a very small number of shippers. Furthermore, rail freight-traffic consists almost entirely of full wagonloads; consolidated cargoes use road transport. It comprises a very large share of goods transported in the Baltic States.

An important role in the Latvian transport system is played by motor roads.

The most significant transport corridor traversing Latvia in North-South direction is “Via Baltica”. The “Via Baltica” is the first transport corridor of Latvia, also known as the motor road E67 providing links between such European cities as Helsinki–Tallinn–Riga–Kaunas–Warsaw/ E 77 (Riga–Kaliningrad–Gdansk).

The title of the most important transport corridor traversing Latvia in West-East direction could be given to the motor road of European importance E22. It starts in Great Britain and runs into the central region of Russia in its way traversing Holyhead, Manchester, Leeds, Grimsby (Great Britain), Amsterdam, Groningen, (Netherlands), Hamburg, Luebeck, Rostock, Sasnitz (Germany), Trelleborg, Helsingborg, Norchepping (Sweden), and continuing its course from Ventspils to Riga and finally reaching Russia – Moscow, Kazan, Elabug, Perm, Yekaterinburg, Tumen, Ishim.

### 3. Logistics centers development in Latvia

A logistics centre is a centre 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 commercial basis (The project ... 2010). Logistics centers operators can support the intermodality through grouping of potential users respectively through consolidation of individual consignments in order to research the critical mass to justify intermodal services.

One opportunity to generate a potential for added value services is to break transport chains in the logistics centers for consolidation into intermodal units (e.g. containers) and shifting between transport modes.

To strengthen the interaction between modes, ports should be connected by rail and road with intermodal terminals in hinterland. Implementation of intermodal terminals and distribution points between the seaports and the main economic areas can support Latvia's transit function and make logistics centers of more added value for Latvia's economy.

Logistics centers join together transport companies and transport related activities. From these commercial clustering logistics centers realise different service concepts:

- Supporting services,
- 3rd Part Logistics,
- 4th Part Logistics,
- Dry port services,
- City logistics services.

#### 3.1. The problems in the development of Latvia's logistics centres

Considering the importance of transit and related services in Latvia's national economy, the government pays additional attention to transit development. In accordance with "The Latvian Transport Development Strategy 2007–2013" the Latvian Government as a priority recognizes the development of high quality transport and logistics services in order to increase transit transportation volumes. Attraction on the Latvian transport network of the foreign trade cargoes is connected with construction of transport-logistical system on the basis of modernization of an existing transport infrastructure and introduction of logistical approaches of management in system of interaction of all participants of a chain of deliveries, on the basis of access equal in rights to the information about freight transport flows. It is identified that the creation of logistics centers is one of the main measures of the improvement of transport-logistical infrastructure in the country.

In the situation when the projects of creating international and regional logistics centers have not gone further than stage of feasibility studies many business units have decided to engage in their own undertakings. Many relatively small, functionally and territorially disintegrated objects of local center type have been set up. These are most often object developed and operated by business

units and transport forwarding companies. Part of the objects is warehousing centers built by developers and rented to various users.

Comparing with Europe's logistics parks, Latvia's logistics centers have many shortcomings and disadvantages in development and construction. Main problems include these aspects as follow.

#### 3.1.1. The motivation of constructing logistics centers is improper

The improperness of motivation includes two aspects, namely the local governments and the logistics centers' operators. On one hand, in the transformation from traditional transportation to modern market logistics, the government can not understand the local industry structure, the infrastructure facilities, and the logistics' supply and demand from a macro angle. Then, the local government can not make up a scientific planning for logistics' comprehensive development. However, their real intention is to save lands, develop real estate and commercial projects instead of operating logistics parks, since there is no need for logistics. Driven by this motivation, logistics parks confront with lots of serious problems, such as repetitive construction, super-scale construction, rise of land prices, and increase of business costs, that block the normal development of logistics parks.

#### 3.1.2. The co-operation between logistics centers and its networking

Usually the logistics industry evolves in clusters. According to the definition, clusters are networks of interdependent firms, knowledge-producing institutions (e.g., universities, research institutes, providers of technology), bridging institutions (e.g., providers of technical or consultancy services) and customers, linked in a value-added creating production chain (The project ... 2010). The concept of clusters goes beyond that of firm networks, and captures all forms of knowledge sharing and exchange. The analysis of clusters also goes beyond traditional sector analysis, as it accounts for the interconnection of firms outside their traditional sector boundaries. Clusters are seen as the drivers of growth and employment. Governments can nurture the development of innovative clusters primarily through regional and local policies and development programs, and by providing the appropriate policy frameworks in areas such as education, finance, competition and regulation. European distribution locations can be divided into about 25 primary logistics clusters and more or less 60 secondary logistics clusters. At least four locations operate as global logistics clusters: London, Paris, Frankfurt (Rhine-Main) and Randstad Holland (with an extension to Rhine-Ruhr and Northeastern France). A long-established cluster agglomeration can be seen in the region Benelux and along the Rhine. In addition to the traditional clusters other locations have emerged during the past decade, e.g. Dijon in France, Leipzig/Halle in Germany, or in parts of the Eu-

ropean Sunbelt in Spain. However, the key expansion takes place in Central and Eastern European locations.

There are two core ways that a successful logistics company can go in order to stay afloat in the current market environment. The most obvious way is reducing prices without compromising quality, which is primarily achieved by carefully planned cost reductions. The second method is in extending the coverage of the territorial network, offering clients access to a wider variety of markets. Companies that are able to find business partners in Lithuania, Estonia or Russia will arguably have a competitive advantage over the operators that are only covering Latvia.

### **3.1.3. Some logistics centers do not possess clear target positioning, being kind of blindness**

Most logistics parks completed or in construction are short of clear target positioning. No carefully planning for their market positioning, industrial positioning, functional positioning, service target positioning, and operators' business policies before the construction. Although many logistics centers aim at constructing the largest modern logistics distribution centers in the region that affect the whole country, planners do not know who the logistics would serve, what the services are, what the needs of potential service targets are, and the development scale of logistics centers. In fact, some logistics parks do not make sufficient preparation for their construction in pro-phase planning, market research and analysis. As a result, many logistics parks do not have clear positioning in functions and target customers.

Logistics centers in Latvia are developed mostly as 3rd part logistics providers' concept. A third part logistics provider is defined as the services offered by a middleman in the logistics channel that has specialized in providing by contract for a given period all or a considerable number of the logistics activities for other firms. Typical services outsourced to third part logistics provider are transport, warehousing, inventory, value added services, information services, design and reengineering of the chain. Third party logistics providers typically specialize in integrated operation, transportation and warehousing services that can be scaled and customized to customer's needs based on market conditions and delivery service requirements for their products and materials.

The analysis of transport flows in Latvia is shown that around 80 % of transit freight transported through Latvia is handled through the ports.

For historical reasons, ports in Latvia are located in city centers, which demands an effective and safe goods transport with a minimum of environmental strain. Simultaneously the ports demand space and facilities for loading, unloading, storage terminals, etc. in order to ensure the keeping of high quality and growth with the growing traffic and amount of cargo.

The increasing problem with transporting goods to and from the ports through the city has together with the expensive costs of establishing new docks etc. created

conditions to establish hinterland terminals or dry ports, which almost can handle the port related activities (including custom clearance and registration). The development of dry port is therefore an essential possibility to promote sustainability and effectiveness of good transport in sea related transport chains.

Besides the actual transportation the transport chain will establish possibilities to value added services, presumed the dry port is integrated in a logistics centre. To add up the value added service there are e.g. customs clearance, store functions, packaging and assembly, process data, exchange of information etc.

A dry port is a port situated in the hinterland servicing an industrial/ commercial region connected with one or several ports with rail or road transport and is offering specialized services between the dry port and overseas destinations (The project ... 2010). Normally the dry port is container and multimodal oriented and has all logistics services and facilities, which is needed for shipping and forwarding agents in a port.

To ensure an effective dry port there are two general objectives:

- Consolidation of maritime goods in intermodal short- and long distance transport flows;
- Collecting and distribution of local, regional and international transports;

To achieve these two objectives it is necessary for the terminal to carry out the following functions:

- Hinterland warehousing;
- Management of container flows to different ports based on – consolidation of individual container flows; reduction of pre- and end haulage with road transport and expansion of rail transport; offering special and extra services; reduction of transport costs;
- Increase the influence of ship owners and the port to ensure an intensification of the transport chains effectiveness.

The first Dry Port in Latvia is a logistics centre which is being developed in Jekabpils, Latvia. This logistics center is Central Euro-Asia Gateway (CEAG). Its goal is to develop the corridor between the Far East and Europe and to become an important gateway on this corridor. It can be viewed as a Dry Port due to its connections with the Baltic ports and services that will be implemented. The project idea is to develop a multimodal logistics centre with rail and road transport, storage facilities, customs clearance, sorting, assembling, marking, packing and other value added activities.

The choice of terminal location was made in relation to the networks of railways and main roads. The Dry Port has rail connections to the six nearest Baltic ports, moreover, Trans-Siberian and St. Petersburg-Warsaw railway lines are stretching through the CEAG.

The CEAG project was initiated, developed and owned by a private company. Additionally, the company brought the direct access to the owners of cargo flows, terminals and hubs, which are serving Far East-Europe flows provided by activities in Kazakhstan and China.

CEAG provides the usual logistic services for railway operators, logistics companies, importers and ex-

porters and a variety of tailored services for importers and distributors, for example, handling of heavy goods, overcoming trade barriers, rent of offices and so on.

CEAG is a recently implemented project and is not yet fully developed, but this Dry Port has a good basis for successful development in the future.

## Conclusions

Even though Latvia, without exaggeration, is a bridge between the East and the West, this favorable factor has not been fully utilized yet. Admittedly, at the present time the level of recognition of Latvia in the international business arena is still rather low. The countries that are Latvia's competitors in the sphere, such as Finland, Germany or Poland, have been much more active in attracting foreign investors and business partners. Even though these are difficult times for promotional activities, undoubtedly the Latvian logistics industry cannot thrive without extensive support at the state level. Extensive development of Latvia's infrastructure facilities and logistics systems is crucial for establishing the Baltic country as a major pan-European transit point.

The logistics centers play a remarkable role from an economic point of view because of the higher efficiency and optimization in the transport chain realize, hence distribution and transport costs are reduced. The logistics centers unite all the activities related with transport and logistics. Consolidation of different companies serving and or using transport services through synergy effect increase the economical and productive performance of the companies and at the same time increase their economy of scale. An important feature is the logistics centers' tendency to co-operate nationally and internationally

hereby create efficient transport chains and network solutions for optimal cargo flow and distribution.

In Latvia transportation of cargoes is carried out by using four modes of transport: maritime, rail, road and air transport. The notion of multimodality and its role in the development of logistics services are viewed. To strengthen the interaction between transport modes, ports should be connected by rail and road with intermodal logistics centers in hinterland.

Logistics centers in Latvia are developed as 3<sup>rd</sup> party logistics providers. Third party logistics centers are becoming an important part of today's supply chain in Latvia. These companies offer services that can allow business to outsource part of all of their supply chain management function. Many 3PL providers offer a wide range of services including: inbound freight, freight consolidation, warehousing, distribution, order fulfillment and outbound freight. This offered business opportunity of using just in time techniques, which save warehousing space and overall costs.

The analysis of transport flows in Latvia is shown that around 80 % of transit freight transported through Latvia is handled through the ports. The increasing problem with transporting goods to and from the ports through the city has together with the expensive costs of establishing new docks etc. created conditions to establish hinterland terminals or dry ports, which almost can handle the port related activities (including custom clearance and registration). There is only one logistics center which is developed as dry port in Latvia. This logistics center is Central Euro-Asia Gateway (CEAG). CEAG is a recently implemented project and is not yet fully developed, but this Dry Port has a good basis for successful development in the future.

## References

- European Commission. White Book. European Transport Policy till 2010: Time to Decide, COM (2001) 370 [online]. Brussels, European Communities, 2001: [cited 2 December 2010]. Available from internet: <<http://www.sam.gov.lv>>.
- Latvijas Republikas Centrālā statistikas Pārvalde. Transports 2010.gadā. [Central Statistical Bureau of Latvia. Transport in 2010] [online]. Riga, 2010 [cited 2 November 2010]. Available from Internet: <[www.csb.gov.lv](http://www.csb.gov.lv)>.
- Latvijas Transporta Attīstības Stratēģija 2007–2013. [The Latvian Transport Development Strategy 2007–2013] [online]. The Ministry of Transport of Latvia. [cited 2 December 2010]. Available from internet: <<http://www.sam.gov.lv>>.
- Latvijas Transporta Nacionāla attīstības programma 1996–2010. [Latvian National Programme for Transport Development 1996–2010] [online]. The Ministry of Transport of Latvia [cited 2 December 2010]. Available from internet: <<http://www.sam.gov.lv>>.
- The project Networking Logistics Centres in the Baltic Sea Region [online]. Germany: [cited 2 December 2010]. Available from internet: <<http://www.neloc.net/>>.