



ANALYSIS OF THE PROSPECTIVES OF INTERMODAL TRANSPORT AND LOGISTICS CENTRES IN LITHUANIA

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Abstract. It is identified that the creation of regional logistics centres in Lithuania is one of the main measures of the improvement of transport-related infrastructure in the country. These centres will be the first public Logistics Centres in Lithuania established according to contemporary requirements and will provide necessary co-operation with big trading companies and other logistics centres in and outside Europe.

Transport Corridors No I and No IX must be very important because Logistics Centres in Lithuania will have a significant impact on the business linked to separate regions and to the whole country.

The benefits deriving from an increase of international multimodal transit traffic will be also related to the complementary and boosting activities of logistic services associated with the development of logistics centres network in Lithuania.

Keywords: multimodal transport, logistics centres, transit transport, services.

1. Conceptual considerations

In accordance with the “The Lithuanian Transport and Transit Development Strategy” the Lithuanian Government will give priority to the development of international transport corridors, multimodal cargo transportation and high quality logistics services.

In order to promote Lithuania’s position as a key player in east-west and south-west cargo transportation the establishment of the regional logistic centres in the biggest towns is envisaged. They must be located near international transport corridors and will promote intermodal cargo transportation and will benefit the country from the large amount of traffic currently transiting Lithuania, by offering (value added) services to transport operators and cargo owners.

2. Intermodal transport and logistics centers

The intermodal and combined transport can be perceived as a concept which is omnipresent while the cargo is transported in swap bodies, containers and semi-trailers. The sea, inland waterways, rail, road and air transport modes are the tools to move the cargo from the place of origin to the destination. The transport modes require

loading and unloading areas-ports, different size and purpose logistics centers and cargo terminals - where the units will be handled. Once well-functioning internal and external information flows have been added to the transport chains, all the elements of intermodal transport can be assembled.

One of the main objectives of the long term transport development programme is to develop a framework for an optimal integration of different modes of transport in the regional logistics centers so as to enable efficient and cost-effective use of the transport system through seamless, customer-oriented door-to-door services, favouring competition between transport operators and cargo owners [1].

Intermodality and logistics are not oriented to the forcing of a specific modal split, but rather to improving the connections between all modes of transport and integrating them into a single system providing optimal use of rail, road and short sea transport in order to meet modern logistics requirements for door-to-door deliveries [2–5].

Intermodal transport and regional logistics centers in Lithuania will find their market place among the conventional international longer distance railway and water transport and the local shorter distance transport market that is ultimately suited for road transport. Shipments that depend strongly on early and/or timely delivery (time-sensitive, high value goods) in general fa-

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your road transport, whereas shipments requiring primarily the lowest possible transport costs (cost-sensitive, large quantities of lower value goods) can generally be well-served by the rail or maritime transport. Intermodal, i.e. combined rail/road or combined maritime/road transport unites the strong sides of the different modes. The advantages of the rail and water maritime transport (relatively low costs, high capacity, safety, energy efficiency and low environmental pollution) are combined in the regional logistic centres with road transport (high flexibility, speed, organisational simplicity of door-to-door transport).

The organisational simplicity for the shipper of goods, once various organisations involved in the regional logistics centres have properly organised and co-ordinated their activities, has been the main driving force for the creation of the logistics centres and growth of intermodal transport.

Both, for the supplier and the user of regional logistics centres services and of intermodal transport, and for the society as a whole the development of logistics centres and intermodal transport has proven to offer substantial benefits, particularly because of their (relative) quality or the relative merits of the (competing) transport modes constantly developing in an operating environment subject to continuous change, such as increasing congestion on the road network, or the introduction of new pricing policies and/or regulations.

3. Benefits of logistics centres and intermodal transport; advantages for all stakeholders

Logistics centres and transport are an integral part of most economic activities. Therefore, adequate logistics services provision is a pre-requisite for sound economic development. When traffic volumes are increasing to the point that congestion arises, it is of the greatest importance to ensure the accessibility of the major economic centres. This is possible only when there are alternatives for the congested transport system; regional logistics centres and intermodal transport are such an alternative. They can offer benefits to all parties involved (so-called stakeholders).

The stakeholders are shippers of goods, intermodal transport operators, possible intermediaries, and public authorities as well.

Table contains the expected benefits for the different stakeholders, participating in the regional logistics centres usage and intermodal transport.

All parties involved in transportation can expect to benefit from the development of logistics centres. It will contribute to sustainable growth of transport capacity, as it happened in the European Union countries during the last two decades. Intermodal transport is strongly supported by policy makers especially because of its socio-

economic benefits for society as a whole. In most cases external costs of different transport systems (particularly those caused by the road sector) are not accounted for in the direct costs for the user. Users of transport systems base their choice of a preferred mode of transport on direct costs only. Intermodal transport will be preferred only when it is cheaper than the alternatives, while its level of service is higher or acceptable.

4. Main cargo potential in respect to transit traffic

It would be too optimistic to assume that the regional logistics centres in Vilnius, Kaunas and Klaipėda could attract potential handling volumes to a maximum extent. When considering the effective cargo volumes that can be attracted to the regional logistics centres the following aspects have to be taken into account:

- Much depends on the origin and destination of the cargo. Cargoes originating in Lithuania are most likely not effective business for the logistics cen-

Benefits for stakeholders of the regional logistics centres and intermodal transport

Stakeholders	Expected benefits
Shipping companies	Development of a new product and entering in new markets (earnings & employment).
Existing shippers	Lower transport costs, more transport opportunities/ alternatives, greater reliability and safety.
Potential shippers	Better access to market, opening of new markets, more transport opportunities/alternatives, lower logistics costs.
Railways	Potential growth of market and segments where competition with road transport can be succeeded.
Road haulage companies	Improved economics, greater flexibility for drivers operations (within constraints of prevailing driving and resting regulations).
Forwarding industry	Greater range of transport opportunities/ alternatives, lower costs (earnings & employment).
Intermodal transport operators	Improved economics, more transport alternatives, lower costs (earnings & employment).
Authorities, policy makers (the society at large)	Additional business opportunities/alternatives, enabling limitation/ control of traffic congestion and dangers, emission of hazardous materials and energy use. Increased competition, offering cost-effectiveness (and accelerated introduction of market principles).

tres since the delivery distance may be too short to justify additional handling procedures.

- Part of the existing traffic is the result of an optimisation process. Some transport operators have already established their own cargo distribution or logistics centres and facilities to handle their transport fleet. It is difficult to detract these volumes from the existing routings, since not so much the owner of the cargo but the transport operators have to be convinced to abandon existing structures and to move their business into the regional logistics centres located in Vilnius, Kaunas and Klaipėda. In this context especially large international trading companies stevedoring and freight forwarding firms have proven to be very reluctant to use the services of regional logistic centres since they usually control large cargo volumes justifying the establishment of their own (road) cargo distribution centres.
- Another aspect relates to the flexibility of road traffic. For example, some commodities may be time sensitive, requiring fast shipment, which can only be guaranteed by trucking the goods. Moreover, the flexibility of the truck enables the cargo owner or transport operator to change dispositions/routings on very short notice, even when the cargo is already on the road.
- Tariffs and freight rates play an important role deciding the routing of a cargo. It can be assumed that there will always be some cargo groups, which potentially can be handled in the regional logistics centre, but due to an unfavourable tariff or pricing structure they will by-pass the logistics centres. For example, a trucking company engaged in unbalanced traffic may be willing to offer dumping rates for return freight, which normally would have been shipped by rail through the logistics centre. Altogether the above mentioned aspects significantly limit the share of cargo volumes that can be attracted to the regional logistics centres in Vilnius, Kaunas and Klaipėda.

5. Regional logistics centres influence on the intermodal international transit traffic

This strategic transport project (Logistic Centre) has to strengthen the competitiveness of the port of Klaipėda in the Baltic region and it is also planned to improve the railway and road access to the port. The Municipality of Klaipėda and the Municipality of Kristianstad (Denmark) are running a project, with the objective to enhance the Baltic – European transport network through better logistics possibilities between the ports of Åhus and Klaipėda (Fig).

Klaipėda's position allows easy international access to the areas of major industry and trade centers with all

kinds of transport modes. By the establishment of a logistics centre in Klaipėda all the intermodal transport network in the region can be implemented and explored. It will increase the efficiency of a transport chain which will contribute to the optimisation of the flow and distribution from West to East and vice versa. Klaipėda Logistic Centre can fulfil the logistical needs and requirements of international and local transport companies on a world-wide basis. The logistical solutions that can be created in the centre can make considerable improvements to eliminate logistics and transport bottlenecks and make the location for many new enterprises attractive. It can become a centre of economic activity with integrated regional logistics for transport supply and demand potential for competitive business and markets.

It is expected that with the creation of Klaipėda Logistics Centre, global growth rates will influence the traffic of the Klaipėda port in a positive way particularly the transit one. The World Bank experts are forecasting that in 2010 total shipments of dry bulk cargo through the Klaipėda port will be about 20 million tons per year while the Klaipėda port authorities estimate it will be about 21 million tones. It is estimated that KLC will increase additionally the value of the trade flows for about 10–15 percent.

The creation the Logistics Centre in Kaunas will make the efficient use of the advantage of this region, i.e. the crossing of international transport corridors I and IX. The construction of the European standard gauge railway will give Kaunas an exclusive opportunity to become an intermodal terminal of European importance, i.e. the "land port" linking the Western and Eastern economic areas. It would become the main distribution point between the two railway systems. Obviously, the road transport operators would also be involved in these activities.

The activities of Vilnius Logistics Centre will be not limited to the logistical, loading-unloading and warehousing services, but also include the formation of shuttle trains in the West-East direction. The development of intermodal transport will enable the redistribution of transport services and more efficient use of existing transport infrastructure.

It is estimated that the cargo will be distributed equally between road and rail transport. For deconsolidated cargo shifts road transport will be used more, while for consolidated shifts rail transport will be used more. Air transport will be mainly used in case of fast delivery of small orders of high value goods to the customers.

6. Action programme

The initiative related to the development of logistic centres can contribute to the following:



Regional logistics centers in Lithuania

- the development of regional qualities and increasing of the competitiveness of separate regions, strengthening inter-regional co-operation and exchanges on concrete projects linked to transport logistics;
- the building of trust and confidence among people of the regions: trust in fact reduces transaction costs and reduces risks associated with innovation. Cultural exchange is also an effective way to build trust and confidence across diverse regions and nations and joint marketing initiatives can be pursued (through website, networking, business and trade, centres of knowledge and innovation);
- a better educated population: growth sectors and industries demand highly skilled and educated work force which this project can encourage through co-operation with business centres, university, etc. Specific software development can be developed, especially for the transport logistics sector. An atmosphere of „lifelong learning“ is important to allow communities and firms to develop the critical mass of knowledge and skills needed to supply the new knowledge-based economy;
- the integration of the main economical regions and Lithuania with the main European transport corridors, increasing quality of transport services;
- by the creation of logistics centres in Klaipėda, Kaunas and Vilnius to concentrate long distance and international intermodal freight flows at the Logistics Terminals in Europe establishing logistics networks and improving accessibility to Lithuania by adding missing links and expelling bottlenecks;
- the development of competitive conditions for

sustainable international cargo transport and transport solutions that may attract customers in competition with other alternatives, characterising the logistic centres in Lithuania as sustainable in economic, ecological and social terms;

- the development of improved and co-ordinated intermodal travel service on a small scale and local as well as on regional and interregional levels;
- the co-operation among sectors to develop a corridor planning policy comprising land use, transport and natural protection policies, as well as co-ordinated planning procedures that integrate a spatial and transport sector planning process. The common procedures may include joint efforts related to strategic assessment of various types of impacts, open access to information and co-ordinated decision making processes;
- the development of environmental and social criteria to guide the spatial and transport sector planning related to the expected increase of international freight traffic along the main corridors.

7. Conclusions and recommendations

1. It is identified that the creation of regional logistics centers in Lithuania is one of the main measures of the improvement of transport-related infrastructure in the country.

2. Regional logistics centers will be the first public Logistics Centers in Lithuania established according to the contemporary requirements and will provide necessary co-operation with big trading companies and other

logistics centers in and outside Europe.

3. Transport Corridors No I and No IX must be very important because Logistics Centers in Lithuania will have a significant impact on the business linked to separate regions and to the whole country.

4. The benefits derived from an increase of international multimodal transit traffic will be also related to the complementary and boosting activities of logistic services associated with the development of logistics centers network in Lithuania.

5. Logistic Centres in Vilnius, Kaunas and Klaipėda must be created and run in coherence with the most logistically, commercially and environmentally efficient logistics centres in Europe and for such reasons they must comply with European standards and quality performance to provide the framework for commercial and sustainable transport solutions.

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