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Interregional logistic center as the growth point of regional economics

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Abstract

The impact of large-scale logistics center (LC), which carries out integrated logistics (information, storage and transport) services at the organization of full-transport control, on the development of regional economy is analyzed. Problems of relationship of changes in the organization of transport environment of region and increase of efficiency of its economy by increasing budget revenues as a result of the performance of large-scale logistics center, and constructing on this basis new service industries are investigated. Authors assess prospects of influence of Sviyazhsky interregional logistics center on the economic development of Tatar Republic, and increase of competitiveness of its economy, taking into account service of international transit traffic "Western Europe - Western East", "Northern Europe - Countries of the Middle East" which is accomplished by this LC.

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1. Introduction

Inter-regional logistics centers (ILCs) are special type of transport enterprises which carry out integrated logistics (information, storage and transport) services to the inter-regional and international level in organization of full cycle of transportation management. Their functioning contributes to effective solution of a number of strategic goals in enhancing socio-economic development of regions on the basis of a special organization of the transport medium, which allows to significantly increase the speed of service of traffic flows. Inter-regional logistics centers forming is a problem that requires systemic solutions nationwide, a

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network of interconnected and complementary logistics centers at various levels of territorial hierarchy (both interregional and intraregional) provides balanced development of all areas of production and trade cooperation. ILC should be elements that bring together existing and newly created inter-regional and international transport systems.

World experience demonstrates that activities of logistics centers show a great improvement of basic parameters of inter-regional and international transit. Thus, they contribute to development of processes of economic integration, to creation of united economic area of groups of countries and regions, providing an organic relationship between units of formation, promotion, and services, which can significantly reduce time interval of their supplies from producer to consumer, contributes to significant reduction of wastage of material resources and increases level of service, including informational. Summing up the experience of Largest Economies, we can conclude [1] that the functioning of ILC leads to reduction in transport costs by 7-20%, cost of handling and storage of material resources and final products are reduced by 15-30%, turnover of material resources accelerates up to 20-40%.

Network of inter-regional and international logistics centers in Russia is being formed subject to provisions to statements of the Transport Strategy of the Russian Federation for the period up to 2030, and corresponds to perspectives declared in state programs, such as "Tracking system for transit containers through the territory of the Russian Federation (www.find-container.ru)", «Creating segment of federal telecommunications network based on VSAT technology for Russian transport market", elaborating of information and analytical database of cluster transport sectors, etc. First objects created by network of logistics centers are located in St. Petersburg, Moscow and Rostov-on-Don cities.

Main functions performed by Russian inter-regional logistics centers include:

- support of process of planning, organization and implementation of rational delivery of foreign trade goods;
- providing cargo owners and other parties concerned with information on transport and other operations involving transport of foreign goods to meet consumer demand of users;
- technological connections with the international logistics system;
- development of a single scheme of national transport infrastructure complex, etc.

Today there is an active development of this new type of business in Russian regions. In home market of logistics services not only Russian, but also such international logistics companies as P&O Trans European, FM Logistic, Kuhne&Nagel, Welz Internationale Spedition GmbH, Panalpina Russia, HERMES-DPD, et. are already in place. From their side there is great interest to development of not only transport, but warehousing infrastructure, driven by growing demands of regional and international clients as well. This is primarily due to the fact that in present-day conditions, even with high capital intensity of construction, the ILC has a number of competitive advantages, which greatly help them in their struggle with the usual transport enterprises. They include, in our opinion, the following:

1. Growing support for the Russian government and regional administrations. This is due to objective necessity of development of regional and national transport infrastructure, as well as the fact that the state, in many cases, is the holder of a large block of shares. It is produced by the sale of land for center construction for the shares and due to their direct purchase.
2. A large range of services. It became possible because of the work of research and information center and large scale enterprises. The possibility of obtaining a wide range of services in one place at a high level of service is an incentive to attract investment.
3. Low rates for all types of services and the ability to use a variety of discounts for regular or large customers.
4. The presence of a large information-analytical centre. Competitors usually can not contain such an expensive unit. In ILC costs are due to the large size of the business usually pays off. This allows you to move to advanced management centre using one of the ERP-systems, which is the basis to minimize lost transactions.
5. Presence of a large number of premises leased as offices and a production that ensures the involvement of a large number of potential customers.

6. Developed infrastructure of ILC significantly increases the cost of land adjacent to its territory, which can be leased or sold.

Administration and business community in many regions, notably Moscow and Moscow region, Samara, Nizhny Novgorod, Sverdlovsk region, etc., are actively lobbying construction of ILC on their territory. A number of Russian regions have already begun to use ILC and implement projects of their construction. The project of construction of inter-regional combined logistics center (ICLC) is implemented in Sviyazhsk (Tatar Republic).

2. Estimation of perspectives of ICLC functioning in Tatar Republic

Sviyazhsky ICLC, which now is being constructed, is characterized by unique combination of economic and geographic factors, located at the crossroads of important inter-regional and international rivers, road and rail transportation routes that can effectively combine all major transportation modes. Two lines of Gorky Railway pass through territory of prospective ICLC. In addition, federal highway M-7 also passes through its territory, and serves the movement of goods between European Russia, Siberia and the Far East. It is planned to transfer cargo segment of Kazan river port here.

In relation to the prospective ILC competing regions of the Volga Federal District, Sviyazhsk is closest to intersection of international transport corridors, including "West-East", "North-South" and perspective "Western Europe - Western China" corridors, which will pass through Tatar Republic and Orenburg region to Kazakhstan. Here two main waterways of European Russia - Volga and Kama rivers are joined. These rivers can provide transportation from Western Kazakhstan, Turkmenistan, Iran, and Lower Volga, Perm region to Central Russia.

Our investigations have shown that Sviyazhsky ICLC has an extensive prospective area both for transportation and logistics activities. Area of our logistics activities is defined as areas (regions), providing the largest volume of cargo base formation of ILC. The area of Sviyazhsky ICLC elongated in the direction of North-West - South-East and includes almost entire territory of Volga and Urals federal districts with access to Moscow and St. Petersburg. It has a large area with the working radius of 800-1000km. The group's priority regions of Sviyazhsky ICLC include (in descending order of weight in turnover): Ulyanovsk, Chelyabinsk region, Republic of Bashkortostan, Sverdlovsk and Saratov regions, Republic of Mordovia, Moscow, Perm, Nizhny Novgorod and Moscow, Orenburg and Samara regions, St. Petersburg, Republic of Mari El, Lipetsk region.

Main competitors of Sviyazhsky ICLC are long-range inter-regional logistics centers in Volga region and Urals, especially Nizhny Novgorod and Samara regions. Combined analysis of strengths and weaknesses of logistics activities of Tatar Republic and the results of the SWOT-analysis of competitive positions of Sviyazhsk are presented in Table 1.

Table 1. SWOT-Analysis of Main Competitive Positions of the Sviyazhsky ICLC

Main Factors	Strength	Weakness
Road network. Storage capacities.	Tatarstan has a greater length of roads in comparison with other competing regions.	The most vulnerable spot is the lack of storage capacities. The specific ratio of storage capacities and traffic capacity shows that this indicator in Tatarstan is significantly less than in other regions, particularly in Novgorod and Samara Regions.
Industrial factors	Goods turnover of all kinds of transport in the Tatarstan is significant enough, exceeds those in Nizhny Novgorod region, and comparable to Samara region.	Poor development of container transport. Containerization growth is slowed by many factors: by lack of cargo-handling facilities, by lack of container fleet and container platforms.
Transport-geographical location	Tatarstan has a unique geographical position. It has important junction of major waterways in Russia - Volga, Kama, Vyatka rivers. Through the territory of republic or near it international transport corridors, such as "East-West", "North-South", projected "WE - WC" are passing. Competing regions have worse situation. For example, ITC "North-South" doesn't pass through Nizhny Novgorod, and the international transport corridor "WE - WC" - through Samara region	Competing regions have an access to international transport corridor "East-West", "North-South".

Comparing positions of main competitors - future ILC of Nizhny Novgorod and Samara regions - one can see a particular noteworthy advantage of Tatar Republic in population (3.8 million people), greater roads and railways mileage (17,136 km) at less storage space per 1000 tons of cargo and more deficit warehouses than its competitors. Benefits of economic competitiveness factors of Sviyazhsky ICLC should also include development of the region's industries, which form a significant amount of its forward-looking cargo base, estimated at 6 million tones (Table 2).

In accordance with construction project of Sviyazhsky ICLC it is planned that its nucleus will be composed of six warehouses for processing and storing various types of cargo (rolling, bulk, bulky, bagged and liquid). In addition, construction of the customs terminal and warehouse complex is planned. Moreover, in addition to facilities for the storage and handling of goods, complex will include facilities for repair and maintenance of equipment, containers, pallets and other types of cargo containers, parking, fueling, service and technical support, transport and parking blocks.

Sviyazhsky ICLC refers to the number of large investment projects that require large-scale investments. Therefore, one of the most important issues is to find the optimal solutions and its sources of financing. When determining how to invest and the volume of funds required for the implementation of this project, preference is given to the scheme of public-private partnership (PPP). According to this model the sources of funds for the construction of Sviyazhsky ICLC will include federal budget, as well as private investors. The total investment should be more than 12 billion rubles, and more than half of it is expected from private investors.

Table 2. Forecast of the Sviyazhsky ICLC Cargo Base with Consideration of External and Internal Risks

Kind of Goods	2015	Total goods turnover 2018	2020-2022
	Thousand tons	Thousand tons	Thousand tons
1	2	3	4
Tare / Single-Piece Goods	763,5	1451,7	1521,5
Container cargo	631,7	1340,1	1373,6
Bulk cargo	891,8	1593,4	1630,6
Large-sized cargo	152,1	274,0	284,3
Wood cargo	414,8	634,3	675,4
Rolling cargo	100,4	167,6	175,2
Total:	2954,3	5461,2	5660,5
Bulked cargo reserves:	289,3	522,5	541,3
Total, including reserves:	3243,6	5983,7	6201,8

3. Conclusions. Impact of large-scale ICLC on regional economic development

Formation of Sviyazhsky ICLC - one of the most important ways to ensure the competitiveness of Tatar Republic, the transition of its economy to an innovation type - which dramatically increases the importance of the infrastructure components.

The appearance of such infrastructure project on the territory of Tatar Republic will contribute to strengthening of its role in the system of inter-regional cooperation ties of Russia, and the development of the economic space of the country. This necessitates the use of results of ICLC project elaboration in concepts of strategic development and territorial organization of the productive forces and transport and logistic systems of Volga Federal District.

Results of analysis of Sviyazhsky ICLC influence on the economic development of Tatar Republic and evaluation of its value as a point of growth of the economy of the region are shown in Table 3. It presents a summary of results of determining direct and indirect economic impact on the functioning of ICLC. Calculations show that expected economic effect on functioning of Sviyazhsky ICLC in 2020 will be of 8.5 - 8.8 billion rubles, representing 0.6% of the region's GRP in 2012. Most of this (57%) will form a logistics services.

Assessment of the impact of Sviyazhsky ICLC is directly related to the prospects of logistics services of international transport corridor "Western Europe - Western China", which will pass through the territory of Tatar Republic. These objects will form the basis of future framework of transport system in the region, so the need for a joint assessment of direct and indirect effects of their operation for the economic development of the country is rather significant.

Table 3. Expected Impact of the Sviyazhsky ICLC on Tatarstan GRP Growth

Kind of Expected Impact on Regional Economics	Estimation of Expected Impact in 2020 – 2022, billion rubles
Transportation of Goods	3,7 – 3,8
Logistical Operations	4,8 – 5,0
Total:	8,5 – 8,8

Undertaken studies have shown that expected direct economic impact of the transport corridor in its first year operation will be about 1.5 billion rubles. With an average growth rate of 1.5-3.5% of the indicator in the first 5 years of operation, after five years the annual value of the direct effect will be approximately 1.7 billion rubles. Indirect annual economic impact on the functioning of international transport corridor, while maintaining the achieved level of development (or its further insignificant development) of associated road infrastructure will be: after one year of operation - 3.3 billion rubles, after five years - 3.4 billion rubles. Total annual economic impact of the passage of ILC through the territory of Tatar Republic will be approximately 4.8 - 5.1 billion rubles. It is 0,32-0,34% of its gross regional product in 2012. The expected total annual contribution of international transport corridor and ICLC to the economic development of the region will be at the end of the decade, an estimated 13 - 14 billion rubles, which corresponds to approximately 0.9% of the GRP of the republic in 2012. Thus, the functioning of Sviyazhsky ICLC will provide annual growth of gross regional product by 0.5 - 0.7%, and in conjunction with the regional transit area ICLC "Western Europe - Western China" - at least 0.9 - 1.0%.

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