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## Transport-logistic system in Kazakhstan: implementation and perspective

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Қазақстанның транспорттық логистикалық жүйесі: жүзеге асыруы мен келешегі

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Транспортно-логистическая система Казахстана: реализация и перспективы The main purpose a comprehensive overview of the various aspects of the development of transport and logistics system in Kazakhstan and perspectives of its further development in accordance with current international trends in the field of transport and logistics. Implementation of transport and transit potential of the Republic of Kazakhstan stands as a separate aspect of the task of forming a basis for a qualitative breakthrough in the economic development of the country. This aspect requires the provision to increase the attractiveness and create a modern and efficient transport and logistics system. Importance of work is that the logistics and transport are one of the priority directions of realization of strategy "Kazakhstan-2050". Considering geographical and strategic position of the country in questions of formation of the international corridors, it is possible to declare with confidence that transport in Kazakhstan – one of priority aspects of development.

**Key words:** transports logistics, transits and transports potential of Kazakhstan, logistics system of Kazakhstan, green logistics.

Қазақстан Республикасының транспорттық транзиттік әлеуетін жүзеге асыру – бұл еліміздің экономикалық дамуындағы сапалы көтерілуінің негізін салу бойынша қалыптастырылған бірқатар міндеттер аспектілері болып табылады. Бұл аспект жоғары сападағы қызығушылықты қамтамасыз етуді, сонымен қатар тиімді және заманауи транспорттық логистикалық жүйені қалыптастыруды қажет етеді. «Қазахстан -2050» стратегиясын дамытудың приоритетті бағыттарының бірі логистика мен транспорт болғандықтан бұл зерттеулер маңызды болып табылады. Қазақстанның транспорттық логистикалық жүйесі дамуының түрлі көріністерінің кешенді шолуы, сонымен қатар транспорт және логистика саласындағы қазіргі кезде пайда болған заманауи халықаралық трендтер қарсанындағы транспорттық логистикалық жүйесінің болашақтағы даму келешегі айқындалуы бүгінгі таңда өте маңызды болып табылады.

**Түйін сөздер:** тасымалдау логистикасы, ҚР-ның транзиттік-тасымалдау потенциалы, Қазақстанның логистикалық жүйесі, жасыл логистика.

Реализация транспортно-транзитного потенциала Республики Казахстан выступает как отдельный аспект задач по формированию основы для качественного прорыва в экономическом развитии страны. Данный аспект требует обеспечения повышения привлекательности и создания современной эффективной транспортно-логистической системы. Важность работы заключается в том, что логистика и транспорт являются одним из приоритетных направлений реализации Стратегии «Казахстан -2050». Учитывая географическое положение страны и тот факт, что ряд международных организаций рассматривают Казахстан как стратегического игрока в вопросах формирования международных коридоров, можно с уверенностью заявить, что транспорт в Казахстане – один из приоритетных аспектов развития. В связи с этим особую актуальность имеет проведение комплексного обзора различных аспектов развития транспортно-логистической системы Казахстана и определение перспектив ее дальнейшего развития в соответствии с современными международными трендами в области транспорта и логистики.

**Ключевые слова:** транспортная логистика, транзитно-транспортный потенциал РК, логистическая система Казахстана, зеленая логистика.

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## TRANSPORT-LOGISTIC SYSTEM IN KAZAKHSTAN: IMPLEMENTATION AND PERSPECTIVE

Today logistics plays a key decisive role in the country's industrial development. In some countries, the government has focused on the development of logistics as a major factor stimulating industrial development. The Head of State N.A. Nazarbayev has repeatedly called the development of transport logistics one of the major challenges facing the economy of Kazakhstan. So, on the 25 th plenary session of Foreign Investors Council, President of Kazakhstan Nursultan Nazarbayev announced the launch of the project «Kazakhstan - New Silk Road» and noted that Kazakhstan intends to become the largest transit and logistics hub in the region, a «bridge» between Europe and Asia. Later, in his address «Kazakhstan -2050» The Head of State has identified a priority for the development of transport and logistics services, «Transport infrastructure - is the circulatory system of our industrial economy and society. It is necessary to develop the sector of logistics services. Firstly, it is about maximizing the territory of the Customs Union to transport our goods.»

According the rating of the most objective international indicators assessing the level of logistics development – LPI (Logistics Performance Index), calculated by the World Bank, Kazakhstan regarding the results of 2014 takes 86th place out of 160 countries in the world (the leader is Germany, China on the 17<sup>th</sup> place, Russia – 94 th) [2]. Investigation of state modern logistics system in Kazakhstan reveals complex issues regarding both infrastructure and technology development, information support, creating single information space.

Logistics costs in our country are very large and exceed the level of developed countries by several times. So today in Kazakhstan the share of logistics costs can be up to 25% of the cost of the final product. In this case, the global average is 11%, China's is 14%, in the European Union, it is at 11%, in the US and Canada- 10%. As a result, transport load in the economy of Kazakhstan is twice more than in developed countries. Kazakhstan's economy according the cargo intensity index is about 5 times less effective. Thus, for each unit of GDP in dollar is 9 ton-kilometers of transport approximately, and in the EU cargo intensity is less than 1 ton-kilometers [3].

Currently, the existing transit capacity is very low in comparison with Kazakhstan transit potential. Potential of our country is estimated at about \$ 2 billion US dollars per year. Now it really brings profit of 800 mln to Kazakhstan .In general through Kazakhstan regional transit flows of cargo follows: between Russia and Central Asia, China and Central Asia. Practically transits between the countries of Southeast Asia and Russia and among European countries still have not been mastered [3].

Nevertheless, at present time there is visible progress in this field. Kazakhstan being in the center of the Eurasian continent and possessing a wide transport and communication network has the potential to be an important link of the transcontinental bridge Europe – Asia. The country has already created quite a developed network of transit routes through Kazakhstan on three priority areas: Russia, Europe and the Baltic States; China, Japan and South-East Asia; Central Asian countries, Caucasus, Black Sea, Persian Gulf and Turkey.

For the implementation of transit-transport potential of Kazakhstan to 2020, the Government of Kazakhstan is going to invest in transport infrastructure approximately \$ 58 billion. In particular, it focuses on new routes passing through the territory of Kazakhstan. Transit corridors can significantly shorten the distance. For example, during communication between Europe and China through Kazakhstan haulage distance is halve as much sea communication.

Taking into account these activities, as well as the construction in 2014 of railway lines Zhezkazgan – Beineu, Kars – Akhalkalaki between Georgia and Turkey, the commissioning of the railway tunnel through the Marmaray Bosphorus increases significantly the potential transport corridor in this direction. This will help to increase traffic between the markets of China, Turkey and Southern Europe.

In the area of road traffic route Kazakhstan is participating in the construction of international transcontinental corridor Western Europe – Western China. In other words, Kazakhstan is taking part in the revival of the Silk Road, as a significant portion of the corridor passes through the territory of our country: the total length of the path is 8445 km, the length of the territory of Kazakhstan is 2,787 km.

Another important program in the plan of the transit potential development is to create a free economic zone "Khorgos – Eastern Gate", involving the construction of the airport, dry port, railway Zhetygen – Horgos highway and direct communication with the sea port of Aktau. Horgos is located along a major international transport corridor East – West with further access to the North-South ITC in the west of the country. For the effective management and development of ICBC "Khorgos" and Aktau seaport there is conducted partnership with DP World – third largest operator of marine terminals in the world.

Operator of container service is a joint venture YuXinOu (Chongqing) Logistics So.Ltd., founded by steel subsidiaries of "NC" KTZ "JSC" Russian Railways », Deutsche Bahn AG, MOR China and the municipality of Chongqing.

There is established LLP «Airport Management Group», the company to manage the network of public airports with the participation of a strategic partner – Zurich Airport International AG. Stateowned stakes of Astana, Kostanai, Kokshetau and Petropavlovsk airports were transferred. Lufthansa Consulting has conducted a survey of airports for LLP "Airport Management Group".

The implementation of the above-mentioned directions increases cargo traffic between Europe and Asia, which contributes to increase in revenue in the budget of transport companies and the state budget of Kazakhstan.

Worldwide logistics itself is a very profitable segment. The world market of transport logistics is estimated about 2.7 trillion. US \$ m. e. about 7% of global GDP. In developed countries, the share of transport logistics is at the level of 13-14% of GDP. For example, in Ireland the figure is 14.2%; 13.9% in Singapore, Hong Kong-13.7%; Germany-13.0%, and so on. This fact suggests that these countries pay special attention to the development of this sector as a source of national income. In Kazakhstan, this figure is approximately equal to 8% [3].

With the creation of the EEU there are common market and common tariffs.

In this regard, route of the Customs Union's area is the actual, thanks to the creation of transport and logistics base for the development of economic relations within the Common Economic Space. There are carried out works on the creation of an integrated transport and logistics company of railways between Kazakhstan, Belarus and Russia. Combining transport and logistics assets of these three countries will allow the market to offer transit integrated holistic service for the delivery of goods to the trough rate and technological conditions of customers on the territory of Common Economic Space.

The logistics market has been divided between the major players, and common goal in the framework of the EEU work is to attract foreign players to promote transit potential of the territory. Due to high market competition, customers need to be provided by global level service. One of the key factors in the implementation of the global transport and logistics market is the rapid development of necessary competencies. This fact requires a breakthrough solution. Such a solution is to attract the world leaders in transport and logistics business.

The development of transport logistics is a state task. By 2016 Kazakhstan should become a trade, logistics and business hub of whole Central Asian region. To achieve this goal, firstly, there need to create strategic vision for the development of transport logistics. National transport and logistics system in Kazakhstan should be based on three key principles. The first is the promotion and positioning of Kazakhstan as economical and low-costly alternative transit corridor between South-East Asia – China – Central Asia – Europe.

Secondly, the elimination of physical and nonphysical barriers and reducing the costs of transport and logistics component to increase the competitive advantage of national exports and imports.

Finally, the third is to increase in the share of the transport component of GDP by benefit of services in the transport and logistics sector.

Successful implementation of principles of the national transport and logistics system of Kazakhstan, in our opinion, should involve usage of logistics "green" technologies and transition to "green" logistics, as an integral part of the "green" economy.

"Green" logistics, basing on environmentallyfriendly "green" logistics technologies can solve the problem of reducing impact of road transport emissions on air pollution [4].

The development of "green" technologies in logistics depends on condition of transport, so it is very important to harmonize transport infrastructure in Kazakhstan according international standards.

The study «SMART 2020" conducted by a nonprofit organization «The Climate Group» and thanks to the support of new information and communication technologies showed that to 2020 carbon dioxide emissions can be reduced by 15 percent and it will save 600 billion euros on energy. Industrial association BITKOM notes secondary effects, due to which "smart" information technology will save five times more carbon dioxide than is required for the implementation of these technologies.

Thanks to innovative methods of resource management, "green" solutions based on usage of "smart" logistics software allow to implement the principles of green logistics at all levels, from in-plant optimization to improve the interaction between different points and enterprises, as well as the design and planning of the supply chain. Software «Green through IT» allows implementing green solutions. The mission of "smart" perspective logistics software «Green through IT» is seeking of green solutions through information technology.

For example, management of vehicle fleet, transport planning and organization of flights through a system of transportation management PSI-tms, can make better use of transport, helps to avoid empty runs and understaffed transport. Integrated planning and control system PSI-global was designed for display, analysis, management and optimization of multi-stage, multi-modal logistics networks for continuous monitoring and analysis of logistics processes of value creation and this system expressly provides functions to optimize environmental parameters. Through the definition of costs and emissions of harmful substances or multimodal optimization of supply chains, aspects of costs and services with environmental criteria can be associated and optimal proportions depending on the desired conditions and parameters can be achieved.

Transit potential of Kazakhstan should be considered as a point of economic growth. To do this, there need to ensure the creation and increase the attractiveness of the most modern and efficient transport and logistics system in the CIS. As well as following points should be developed: the improvement of transport and logistics operations in any mode of transport with the provision of a wide range of services, offering competitive rates; further improvement of corridors for transit traffic on a consistent straight-line basis, which will be clearly defined timeframe for completion, the cost and the systematic use of these corridors; organization and development of optimal conditions and infrastructure for incoming and outgoing cargo traffic, followed by local distribution to the final destination.

Taking into account strategic location between the capacious markets in Europe and Asia, firstly, it needs to intensify trade flows, which will give impetus to the investment process. Logistics framework should be attractive for foreign investors in order to organize production on our territory and the subsequent sale of our neighbors. In general, modern logistics of Kazakhstan should be an integrated complex, designed to provide the necessary volume of quantitative and qualitative services to ensure smooth transport in any direction, at any distance, for any goods and services. In addition, like other infrastructure systems, logistic system should contribute to the increase of competitiveness of domestic products, by reducing the time of delivery, cost reduction, diversification of destinations. At the same time, logistics must remain profitable, self-sustaining with a high level of reinvestment in their own development.

One of the tools to ensure international standards of logistics services is the implementation of the "principle of 5C" – speed, service, value, safety and

stability. This principle was voiced by the head of state during the 25th plenary session of the Foreign Investors Council and is a competitive advantage of the project "Kazakhstan – New Silk Road" [5]. The introduction of the "principle of 5C" will not only improve the performance of the industry, but also will provide an opportunity to achieve synergy.

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