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THE ROLE AND SIGNIFICANCE OF ST.-PETERSBURG TRANSPORT NODE IN THE INTERNATIONAL GOOD MOVEMENT SYSTEM

Abstract: The present article is concerned with the St.-Petersburg transport node, its role and significance in the international goods movement system, assessment of the transportation system of St.-Petersburg and Leningrad region, participation of various kinds of transport in the international and Russian cargo traffic. Both problems of functioning of St.-Petersburg transport node and possible ways of their decision are described.

Keywords: transport node, international goods movement system, cargo traffic, Grand Port of St.-Petersburg

The international trade of goods and services is one of the basic elements of global economic. Throughout several millenia since origin of civilizations export of the goods in foreign countries in exchange for the overseas goods was the integral part of the world economy.

Today the prompt growths of manufacture, development of transport and communication have led to the expansion of sphere of foreign trade and the increase of its volume. At the same time there was a process of formation of the goods movement system in which frameworks the delivery of the goods from manufacturers to consumers is carried out.

The goods movement system is defined by the Russian scientists as a complex of means, communications and all types of transport, warehouses, material base of broker and agency firms, the transport-forwarding companies rendering their services in the organisation of transportation and maintenance of shipment and cargo reception, material base of the leasing companies, means of information-administrative systems. Along with it the goods movement system covers the set of the technological, organizational, legal, social and other relations arising during transport, information and other maintenance of economic communications [2, 3]. The goods movement system, overstepping the bounds of one state, can be defined as the international one.

St.-Petersburg transport node located in the North-West of Russia and integrated with Leningrad region by the unified transportation system is an important link in the international and Russian goods movement system.

These two neighbouring subjects of the Russian Federation, St.-Petersburg and Leningrad region, accumulate almost all kinds of industrial production, a wide spectrum of the extracted minerals, developed agriculture. St.-Petersburg and Leningrad region have external borders with the states of the European Union; possess powerful scientific potential and the developed military-industrial complex. It is difficult to find a similar territorial formation which transportation system would be simultaneously presented by the branched out railroad transport, widely-developed sea transport, all structures of river transport providing the internal river and external sea transportations, all forms of road and air transport, pipeline transport, cargo, passenger, city and inter-regional transport (Fig. 1).

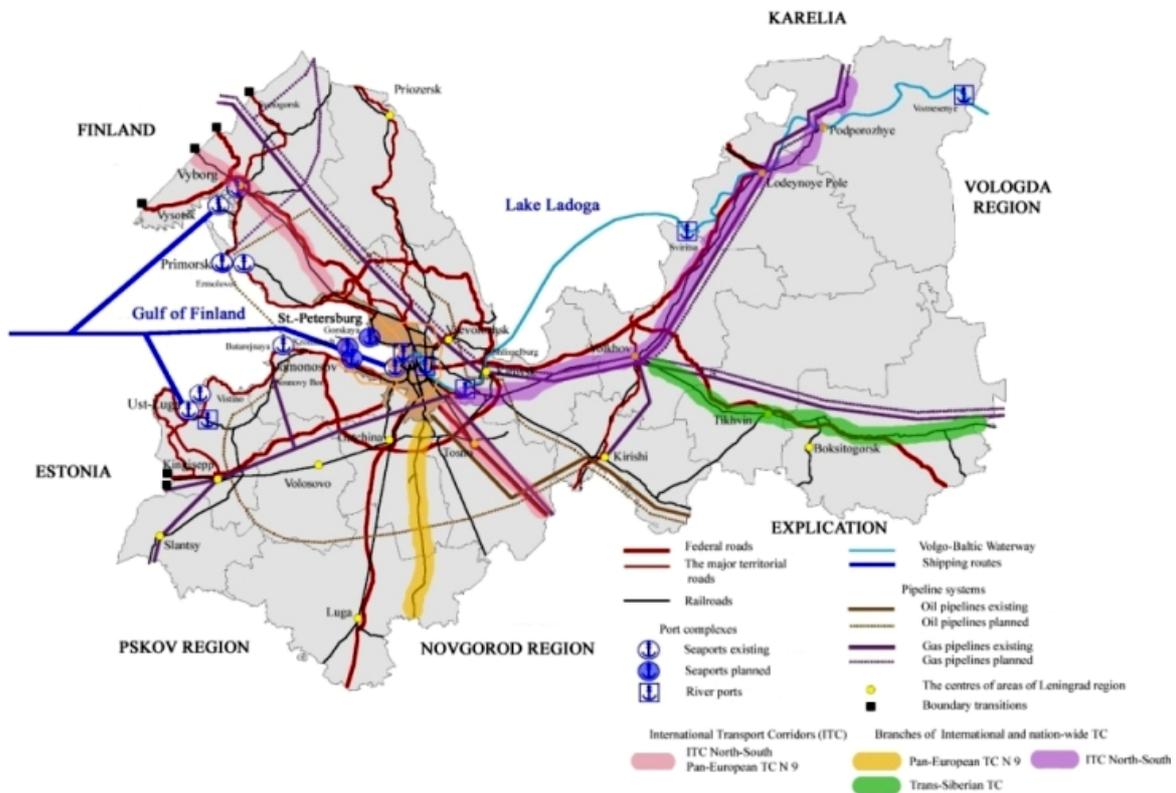


Fig. 1. Transportation system of St.-Petersburg and Leningrad region

The transportation system of St.-Petersburg and Leningrad region provides import and export, mono-modal and multimodal traffic of the Russian Federation. Both federal transport corridors – Volga-Baltic Waterway, Trans-Siberian transport corridor, and the international transport corridors – Pan-European transport corridor N 9, Euroasian transport corridor North-South cross the territory of St.-Petersburg and Leningrad region. Two of named international transport corridors run through the territory of Saint-Petersburg – the Euroasian transport corridor North-South and Pan-European transport corridor N 9, as well as a nation-wide transport corridor the Volga-Baltic Waterway.

The routes of the Euroasian transport corridor North-South and Pan-European transport corridor N 9 coincide on the territory of St.-Petersburg and Leningrad region. The given circumstance tells that the international transport corridors N 9 (Finland – St.-Petersburg -

Moscow with branches to Astrakhan and Novorossiysk) and N 2 (Berlin - Warsaw - Minsk - Moscow - Nizhniy Novgorod – Yekaterinburg), also transport infrastructure of Volga and Don, including Volga-Baltic and Volga-Don channels, ports of the Astrakhan region (Astrakhan, Olya) and Dagestan (Makhachkala) became components of the Euroasian transport corridor North-South [8].

The St.-Petersburg branch of Pan-European transport corridor N 9 comprises the Grand Port of St.-Petersburg, the St.-Petersburg river port, the largest railway hub, air ports Pulkovo-1 and Pulkovo-2 with their infrastructure and terminal complexes in St.-Petersburg. The Leningrad region branch of Pan-European transport corridor N 9 consists of sea ports Vyborg and Vysotsk, the numerous river ports, railway junctions of Tosno, Volkhov, Tikhvin and Lodeynoye Pole. In the territory of Leningrad region are also located the Ust-Luga Sea Port and oil port of Primorsk.

The transportation system development of the St.-Petersburg site of a Pan-European transport corridor N 9 defines dual character of decisions essential for its full-scale functioning. On the one hand, all branches of transport arteries in the direction of 9th corridor operate. On the other hand, the raising responsibility of an initial site of this transport corridor in the territory of Russia demands special actions for provision of the corridor functioning with necessary volume of cargo traffic in St.-Petersburg. Therefore the building of the Ust-Luga Sea Port, oil port of Primorsk, sea port terminals in Lomonosov and Kronshtadt, reconstruction and expansion of the Grand Port of St.-Petersburg [6, 7] and setting of industrial areas on the St.-Petersburg territory [6] to accommodate the logistical centres are priorities for provision of appropriate functioning of 9th transport corridor and transportation system of St.-Petersburg and Leningrad region.

The main feature of the St.-Petersburg's site of a Pan-European transport corridor N 9 is a huge sea component of intercontinental export-import cargo traffic. The Baltic Sea region is the transport base of St.-Petersburg and Leningrad region. Russian foreign trade communications with the countries of Western Europe, USA, Canada and South America are realised through the Baltic Sea ports. The cargo transit from Japan and South East Asia to the Western Europe is carried out through the Baltic Sea region. The share of the Europe, Northern and South America regions accounts for 2/3 in the foreign trade turnover of Russia. It is important to notice, that total volumes of cargo traffic through the Russian ports on Baltic in 2008 accounted for 27% (fig. 2) [1].

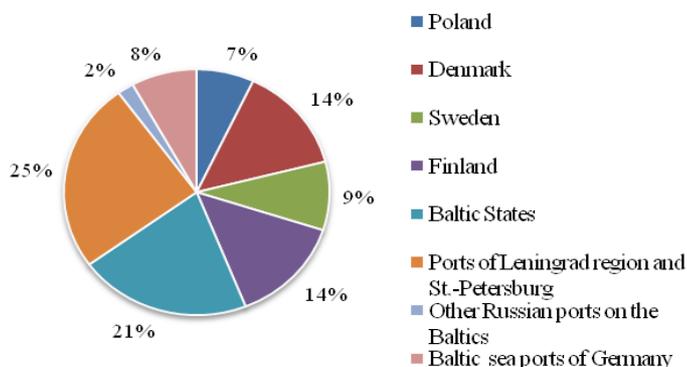


Fig. 2. Distribution of cargoes on the Baltic Sea (tonnage), in 2008

Undoubtedly the activity of functioning of 9th international transport corridor is defined by development of the transit freight traffic arising or passing through St.-Petersburg functioned as the largest transport-distributive and transit node in Russia.

Due to the unique geographical position on the coast of Baltic Sea in immediate proximity to the countries of European Union (hereinafter - EU) and to the largest ports of Europe, Saint-Petersburg has become the gate into Russia, through which an essential share of export-import cargoes of the country is being transported.

The transport node of St.-Petersburg plays primary role in "Russia-Europe", "Russia-Asia" communications (the majority of goods from Europe and Asia is transported into the central part of Russia through the Grand Port of Saint-Petersburg), and also provides a part of transit freight traffic in "Europe-Asia" communication. The share of the EU countries accounts for 52% of the foreign trade turnover of the Russian Federation and 55% of export of the Russian products [4]. The transport node of St.-Petersburg of Saint-Petersburg provides traffic of the most part of international cargoes in the direction of "Russia - EU countries" promoting development of trade and international relations.

Owing to the transport node of St.-Petersburg, exports of the Russian primary goods, products of the Russian enterprises, as well as stable deliveries to Russia of imported articles of consumer goods, materials, accessories and equipment for all branches of the national economy are provided (Fig. 3, Fig.4) [1].

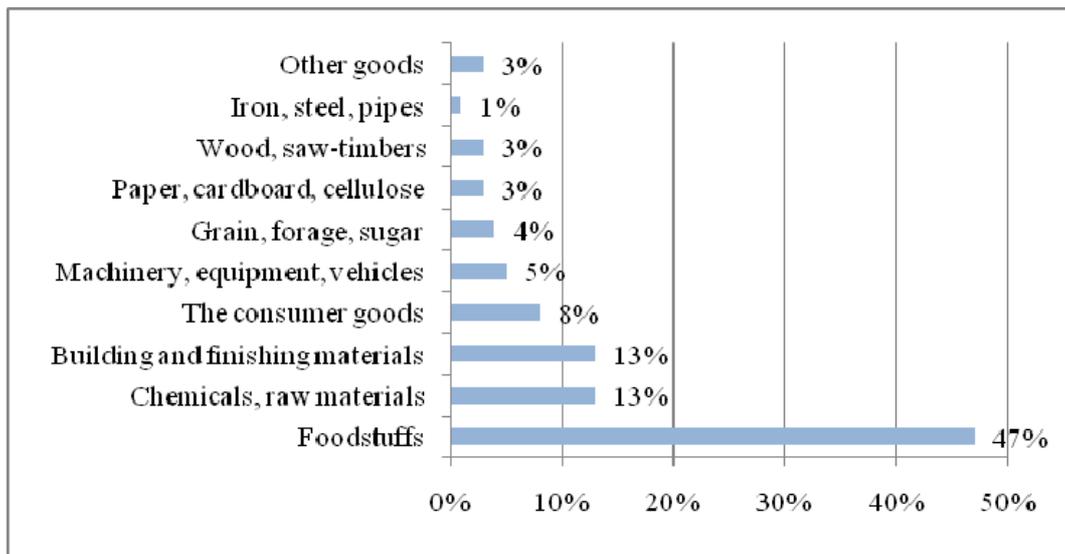


Fig. 3. Shares of the goods in the general container import, %.

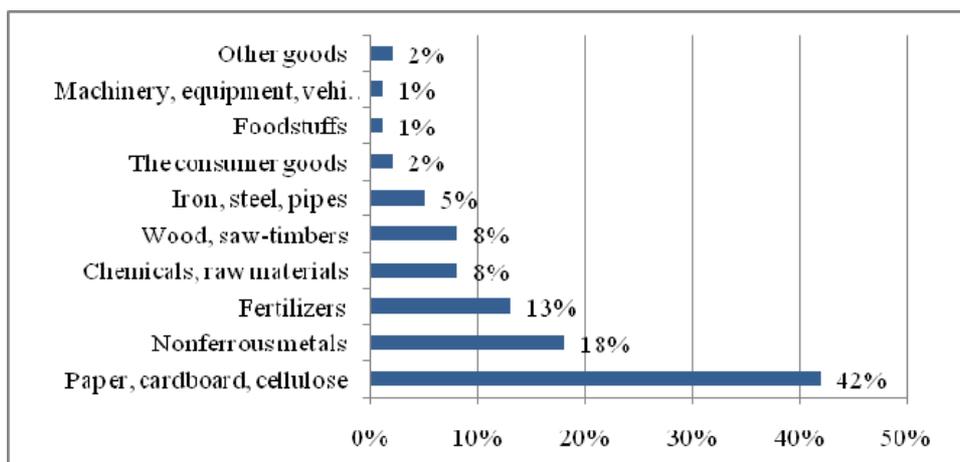


Fig. 4. Shares of the goods in the general container export, %.

The advantages of a geographical position of St.-Petersburg which do not depend on a political conjuncture in the country enable the transport node of St.-Petersburg to take leading positions on volumes of processed transit cargoes in Russia and provide more favourable conditions for development of transport-logistics activity. At present, about 20% of the total amount of transportations of the Russian foreign trade and goods in transit is carried out through the territory of St.-Petersburg. Total volumes of transportations of cargoes through Saint-Petersburg in 2009 made about 234 million tons, out of which, export-import cargoes accounted for 43 % (Table 1).

Table 1.

Participation of different modes of transport in cargo handling and transportation in 2009, million tons (%)

Parametrs	Export cargoes	Import cargoes	Other cargoes	Total
In total by all types of transport, including:	101 (43%)	-	133 (57%)	234 (100%)
Sea transport	39,3 (78%)	11,1 (22%)	-	50,4 (100%)
Railroad transport	25,9 (27%)	-	70,1 (73%)	96 (100%)
River transport	7,56 (90%)	0,17 (2%)	0,67 (8%)	8,4 (100%)
Road transport	15,2 (20%)	-	61 (80%)	76,2 (100%)
Air transport	0,006 (30%)	-	0,014 (70%)	0,02 (100%)
Pipeline transport	2,49 (83%)	-	0,51 (17%)	3 (100%)

The railway hub of St.-Petersburg serves passenger transport and delivery of goods within the city, as well as the freight transport to seaports and border-crossings. From the total turnover of goods of the railway hub, which in 2009 reached 96 million of tons, cargo of enterprises of the city amounted 30%, 27% were made by cargo addressed to the Grand

Port of St.-Petersburg and 43% - by transit cargo, which passed through the hub without processing [4,9].

In 2009, road transport work in St.-Petersburg amounted to some 76,2 million tons, 77% being intracity and interregional transport, 20% - freight over the grand Port of St.-Petersburg, and 3% - international transport [4,9].

The main water thoroughfare in St.-Petersburg is the Volgo-Baltic waterway (VBW). The length of its St.-Petersburg section is 36 km and there are ten drawbridges and one cable-stayed bridge across the waterways within the city boundaries. In 2009 cargo transport via the St.-Petersburg part of the Volgo-Baltic Waterway totaled 7,56 million tons – from the Volga to the Baltics and 0,17 million tons - from the Baltics to the Volga [9]. Such disparity by directions is due to the fact that most transport operations on the VBW are export-oriented. About 92% of the overall transport on the VBW is international goods deliveries going via St.-Petersburg.

Value of the transport node of St.-Petersburg multiplies by the fact, that the nearest to Moscow and the central part of the country sea port is located there. The Grand Port of St.-Petersburg plays a key role in the provision of international traffic in the Russian Federation, carried out by sea transport. This is due to the fact that 50% of the total amount of imported cargoes and 11% of the total amount of exported cargoes are transported by sea transport are carried out via the Grand Port of St.-Petersburg.

The Grand Port of St.-Petersburg is the leader in trans-shipment of dry, container and refrigerator cargoes among the sea ports of Russia. The foreign trade communications with the countries of all continents are carried out through the Grand Port of St.-Petersburg. Its share in the total amount of container transfer accounts 67 %, and 80 % in the total amount perishable cargoes transfer in sea ports of the Russian Federation [9].

Despite the negative dynamics of cargo turnover in the Grand Port of St.-Petersburg in 2009 in connection with a world economic crisis when the port cargo turnover reached 50,4 million tons what is less than the level of 2008 by 16 %, in January 2010 the cargo turnover of the Grand Port St.-Petersburg has grown by 18 % in comparison with an indicator of the similar period of last year - to 3,5 million tons. Container turnover of the Grand Port of St.-Petersburg also has grown by 25,6 % to 112 290 TEUs (Fig. 5) [1,9].

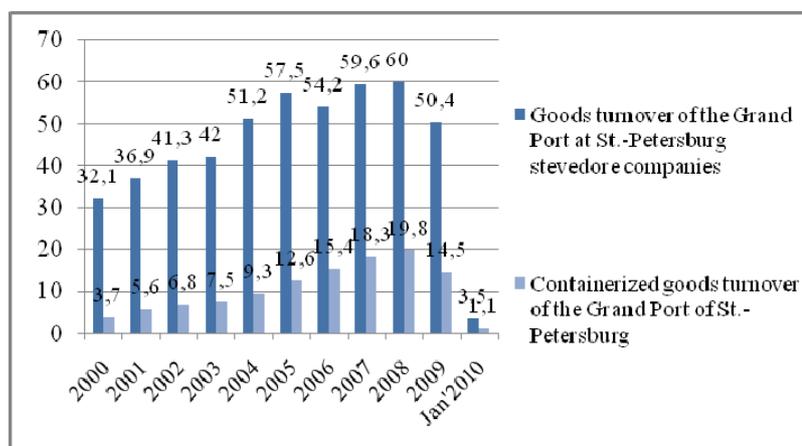


Fig. 5. Evolution of goods turnover at the Grant Port of Saint-Petersburg in 2000-the beginning 2010, mln tons

Not only the export-import cargoes from the subjects of the Russian Federation adjoining the city of Saint-Petersburg have a propensity for the Grand Port of St.-Petersburg, but also from many other regions of the Russian Federation located at a considerable distance from St.-Petersburg – the Central, Ural, Privolzhskiy and Siberian federal districts. Nearly the entire European part of Russia, whose population amounts to 95 million people (about 65% of the total number of the population of the country), where dominant undertakings of key economic branches of the industry are located, many of which use imported equipment for modernization of their manufacture, have a propensity for delivery of imported goods through port complexes of St.-Petersburg. The aforementioned fact, on the one hand, results in a considerable increase of cargo flows running through St.-Petersburg, and on the other hand, stimulates development of Saint-Petersburg as a transport-distribution node of international significance.

The development of the St.-Petersburg transport node as a trading and transport centre in the international goods movement system would be influenced also by following circumstances:

- globalisation of international trade, which drives to an increase in exchange of goods between the countries and growth of intercontinental transportations;
- change of directions of the basic cargo transportation in international exchange of goods in connection with fast economic growth of China, India, other developing states of Asian-Pacific region (hereinafter – countries of APR), which would cause a considerable increase of intensity of cargo traffic between Europe, the countries of APR and Russia;
- considerable modification of the structure of cargo traffic, associated with the development of logistics principles of organisation of production and distribution, expansion of global distribution networks, optimisation of network systems of regular delivery of goods by small consignments, which results in continuous increase of the share of container transportation of cargoes.

In the long view, the strongest influence on both the development of international trade, and change of volumes and structures of manufacture, would be caused by entry of Russia into the World Trading Organisation (hereinafter - WTO). Accedence of Russia to the trade agreements achieved by the countries-participants in WTO would mean formal removal of barriers on the way of the Russian goods to the world markets, with simultaneous oncoming final opening of the domestic market for foreign commodity producers. This would result in increase in the volumes of international trade, would demand an increase of throughput and productivity of the transport infrastructure, towards concentration of the basic transit freight traffics, first of all in the key transport nodes, to which St.-Petersburg belongs.

In spite of positive tendencies there are a variety of causes that still prevent the St.-Petersburg transport knot from taking a key position in the international goods movement system. Among them were the development trends of the market of transport-logistics services of St.-Petersburg.

The segment of complex logistic is not yet generated in St.-Petersburg. Therefore many foreign companies entering the Russian market observe a considerable slippage in the country (including St.-Petersburg) as regards the issues of granting comprehensive logistics services of 3PL-operators, which include transportation, warehousing, distribution, management of logistics chains, that is, the entire spectrum of additional services with a considerable added value. Now only few transport-logistics companies of

Saint-Petersburg are ready to render the entire spectrum of such services to the clients [1,6].

The Grand Port of St.-Petersburg today operates at its ultimate capacity, which does not allow increasing the international freight traffics [1]. This is associated with the following problems: limited capabilities of territorial development of the port in the central part of St.-Petersburg, because of dense building-up and occupation of the coastal line by industrial enterprises; deficiency of areas in the zone adjoining the port, for creation of the zones of storage, processing and distribution of cargoes; unpredictable time delay of cargoes in the port, associated with customs clearance procedures, thus reducing throughput of the terminals; restrictions of throughput of the system of navigation canals; exhaustion of throughput of road-transport approaches and inconsistency between the level of development of railway infrastructure at both the short-distance approaches to port, and at long-distance approaches to St.-Petersburg, and the needs for increase in volumes and speed of processing of port cargoes; insufficient volume of investment into the port infrastructure.

Taking into consideration the existing situation and perspective economic tendencies the priority development of the Grand Port of St.-Petersburg, creation of distribution centre for the European part of Russia in St.-Petersburg, creation of a network of the transport-logistics centres and "terminal villages", rendering logistics, warehousing, informational and distribution services, enhancement of the efficiency of operation of the transport node based on growth of its throughput, optimisation of transport communications, reduction of expenditures on logistics, reduction of the time of delivery of cargoes are the major tasks in the contribution to growth of competitiveness of St.-Petersburg transport node in the international goods movement system [5]. The integration of efforts of the authorities, business and scientific-expert community, for promotion of St.-Petersburg as a transport-logistics and distribution node of a world scale and improvement of transport accessibility of St.-Petersburg for the population and cargoes of other subjects of the Russian Federation and foreign countries are also the priority directions. Realisation of the specified principles is directed towards coordinated development of the transport node of St.-Petersburg, enhancement of competitiveness and efficiency of its functioning in the international goods movement system.

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ROLA I ZNACZENIE SANKT-PETERSBURSKIEGO WĘZŁA TRANSPORTOWEGO W MIĘDZYNARODOWEJ WYMIANIE TOWAROWEJ

Streszczenie: W artykule przedstawiono Sankt-Petersburski węzeł transportowy, jego znaczenie i rolę w międzynarodowej wymianie towarowej, a także ocenę systemu transportowego Sankt-Petersburga i Leningradzkiej Oblasti, udziału różnego rodzaju transportu w przewozie ładunków. Opisano problemy funkcjonowania węzła transportowego Sankt-Petersburga oraz przedstawiono propozycje ich rozwiązania.

Słowa kluczowe: węzeł transportowy, międzynarodowa wymiana towarowa, przewóz ładunków, Wielki Port Sankt-Petersburga.