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**Logistics Centres in St Petersburg, Russia:  
Current status and prospects**

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# Logistics Centres in St Petersburg, Russia: Current status and prospects

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# 1 Introduction

Nowadays, many companies are studying market research of warehouses as of real estate. In the state of demand deficit, accommodation of warehouses and its processing capacity is considered as a practical issue of the day. One of the most important reports in this field is the report of Research and Design Institute of Regional Development and Transportation (NIPI TRTI)<sup>1</sup>.

Another consulting company “ASTERA-group” made an analysis of St Petersburg warehouse premises at the first half of 2006.<sup>2</sup> Information centre “Vybor” publishes on a regular basis supplemental information on transport-warehouse companies of St Petersburg.<sup>3</sup> However, all these operations have its drawbacks. The reports from the Research and Design Institute represent solid works written in an utterly scientific language. The reports of “ASTERA-group” are focused more on the people, dealing with real estate than on those, dealing with transport business.

Directories of Information Centre “Vybor” (Choice) are useful sources for searching companies, however, there is no analytical information. Majority of them are not translated into English; moreover, reports of Research and Design Institute are not publicly accessible. Nevertheless, publication of the reports in English language is absolutely necessary, as a plenty of foreign investments are coming to the region.

At present, more than half of the import and one fourth of export freight goes through St Petersburg. For processing this constantly growing cargo volume, a warehouse complex network is a necessary aspect. Many companies are actively participating in organising a logistics network of the city. The given report will take into consideration mainly of the cargo in pieces and perishable as well as of container terminals. All these matters are different components of one concept – Transport-warehouse complex of St Petersburg.

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<sup>1</sup> [www.ipr.ru](http://www.ipr.ru)

<sup>2</sup> [www.asteragroup.ru](http://www.asteragroup.ru)

<sup>3</sup> <http://www.icvybor.spb.ru/izdat.htm>





## 2 A brief review of the region

According to the rating agency “RA-Expert”<sup>4</sup>, population of St Petersburg is 4.6 million. Despite loss of half of the indigenous population of St Petersburg during the Blockade of Leningrad in Second World War, St Petersburg still maintains its multinational and multi-religious characteristics. On the other hand, the modern St Petersburg has a high proportion of elderly population; therefore the city is not attractive enough for the immigrants. As a result, the population of the city, having reached a boundary of 5 million inhabitants, is decreasing promptly.

The basic economic advantages of St Petersburg consist in its economic-geographical position, its universal, cultural and historical value, intellectual and professional qualification potential of the population. With the disintegration of USSR, the city became, once again, “window to the Europe” for Russian Federation and received status of free economic zone. Serious drawbacks, interfering its economic growth, are high density of the military-industrial enterprise complexes and neglected infrastructure of the city.

During the Soviet period, St Petersburg has gradually turned – from a cultural-educational capital of the empire into a large industrial-transport centre of USSR. For a long time the city was the base for development of Arctic region and the Antarctic. The city industry specialises on power and transport engineering. St Petersburg is the largest centre of museums in Russia that is attractive to the foreign tourism.

The basic fields of industries provide stable and high volume of freight not only in domestic trade, but also in foreign trade. The city is the largest centre of mechanical engineering industry, engineering tools and instrument making industries. Ferrous and nonferrous metallurgy, chemical, food, polygraph and light industries are as well developed in this region. St Petersburg industries are considered as monopolists in Russia on manufacturing 16 kinds of industrial products, including portal cranes, hydraulic turbines, dredges, escalators, etc.

According to the statistics from Ministry of economic development of Russia in January – November 2006, Russian economy maintained high growth. Growth of GDP by corresponding period of 2005, according to the Ministry, has been 6.8% (against 6.2% in the past year). In November, growth of gross domestic product has been 7.8% (in October 8.4%)<sup>5</sup>.

Special feature of economic growth of Russian Federation in 2006 was the changes in its investment policy in favour of industrial and infrastructural fields. Investments have grown remarkably in the type of activities that are not related to the natural resource extraction. For example investments were made in production of cars and equipments, in metallurgy, in pulp and paper and chemical industries etc. investments has grown substantially in the fields related to transportation in pipelines and communication. Change in investment policy brings improvement in quality of economic growth.

According to January – November 2006 results, in comparison with the corresponding period of 2005; there has been a growth in basic economic and social parameters in the majority of regions. Significant volume of capital investments have been made in this period of 2006 in St Petersburg and Leningrad region making more than 6.3% of total investments.

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<sup>4</sup> <http://www.raexpert.ru/database/regions/spb/>

<sup>5</sup> [www.economy.gov.ru](http://www.economy.gov.ru)

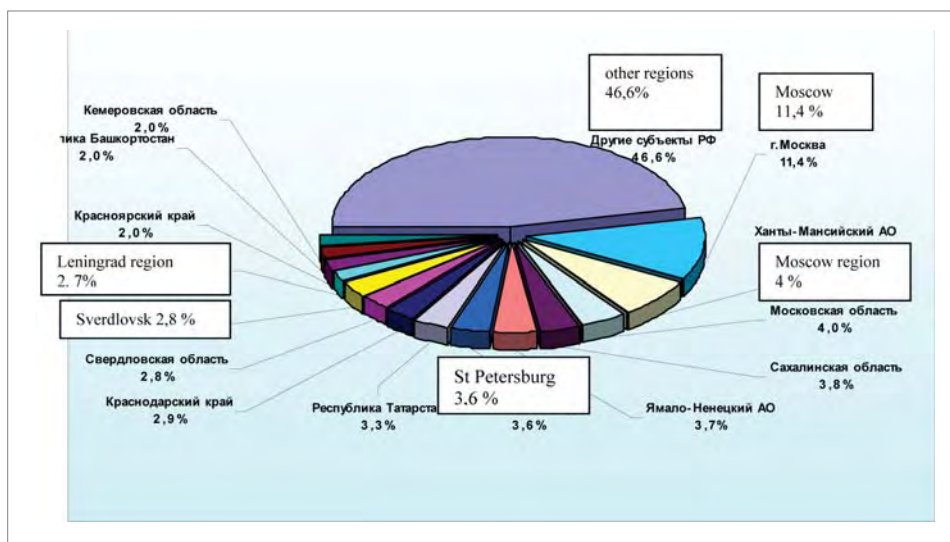


Figure 1 Share of subjects of the Russian Federation in volume of investments into a fixed capital in January – November, 2006

According to the committee of economic development, industrial policy and trade of St Petersburg, Gross regional product of St Petersburg is going to be 758 billion Roubles in 2006 against 630 billions in 2005. (Nominal exchange rate of Euro against roubles in 2005 – period average ~ 35 roubles/Euro) <sup>6</sup>

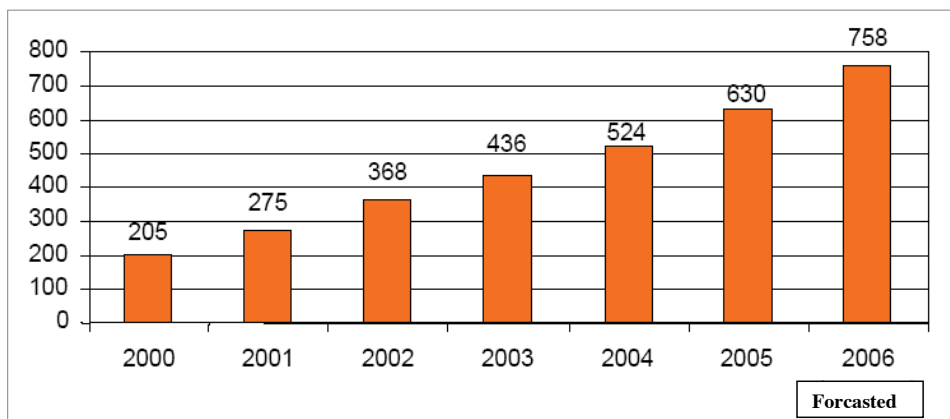


Figure 2 Gross Regional Product of St Petersburg. Billion Roubles

For the year of 2006, 38 billion roubles will be allotted from the federal budget for constructions and development of the city. This amount is 6.69 billion roubles more than the last year allotment. The city is investing large amount of money into construction of roads, transport infrastructure, housing complexes, preparing new areas for residential, industrial and social construction. There has been a long-term plan for implementing a number of important project, like – construction of new power sources, tunnel under the river Neva, development of water supply system and water disposal.

<sup>6</sup> [http://www.cbr.ru/eng/statistics/credit\\_statistics/print.asp?file=ex\\_rate\\_ind\\_05\\_e.htm](http://www.cbr.ru/eng/statistics/credit_statistics/print.asp?file=ex_rate_ind_05_e.htm)

## 3 Role of St Petersburg as a transport centre in Russian Federation<sup>7</sup>

At the end of 2003, the project “Transport strategy of Russian Federation” has been reviewed by the State Soviet and later by the Government of RF. The project is planned until the year of 2025 and its prior directions will be developing infrastructure for different modes of transportation:

### 3.1 Railway transport

Growth of releasing and carrying capacity at the most intense areas of the network by electrification and construction of another route, modernization and construction of new access-ways to the seaports and seaport stations.

### 3.2 Pipeline transport

Development of pipeline transport infrastructure in the northern and eastern regions of RF for diversified export of energy.

### 3.3 Sea transport

Diversification of port industry in accordance with its future scenario of foreign trade development, increasing capacity for providing export of bulk cargo, coal, fertilizer as well as for container processing. Completing construction of nuclear icebreaker “50 years of Victory” and starting a project for latest nuclear icebreaker of the new generation.

### 3.4 Motorway transport

Finishing formation of a single motorway network in RF, modernisation and development of new accesses to the large cities and construction of their transit routes, improving street-highway network and system of organising and regulating the motorway traffic.

### 3.5 Internal waterway transport

Radical modernisation of the areas at the main internal waterway routes, reconstruction of the mostly used hydraulic works with a purpose to provide security to the internal waterway operation.

### 3.6 Air transport

Optimisation of the number of international and central airports, transition to a united operating system in air transport according to contemporary international requirements.

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<sup>7</sup> [http://logistika.spb.ru/logistics/transport/practice/plan\\_terminal.php](http://logistika.spb.ru/logistics/transport/practice/plan_terminal.php)

Main aspects of improving transporting technology in the field of freight transportation are integration of industrial and transport processes based on the principles of transport logistics. The State is inspiring this process, by supporting creation of a multimodal logistics centres in transport infrastructure, multimodal transport operators in the field of transport market services by promoting complex information system of transport process. Implementation of transport logistics principles at the level of different freight traffic is a task for business world.

Development of multimodal freight transportation is based, first of all, on containerisation of freight transport, which takes into account:

- Growth of capacity of the existing container terminals and creation of additional ones. Thus combination of several large terminals in the sea transportation hubs with lower capacity and numerous functions seem to be most appropriate way.
- Establishing free economic zone at the ports for attracting main flow of export container traffic, transit and transshipment
- Creation of national container operators in Russia, aiming for providing transit containers through Russian territories via main transport corridors.
- Development of transport-customs technology and substantially decreasing number of container controlling processes at the border stations.
- Fair conditions for increasing container manufacturing, specialized rolling stocks for container transportation and equipments for container processing operations at the terminals.

## 4 Concept of Key plans for Development

For a long time, town-planning activity in St Petersburg has been caused by its special geopolitical position on Baltic. With an expansion of the EU borders, significance of St Petersburg as a sea and overland communication centre increases repeatedly.

As a strategic reference for the city, steady development is considered as major element for the transport bridge between the Europe and Asia Pacific. The following steps of development have been taken in the field of foreign trade:<sup>8</sup>

- A remarkable enhancement in the role of the city as a large international trade-transport and transit centre with an annual freight volume of 460–500 million ton, as a result of its development in all transport modes as well as related services.
- Transformation of St Petersburg into a tourist centre of international significance with an increase of 6 million tourists a year.

Development of transport complex should concern all of the 6 components:

- Motorway transport
- Railway transport
- Sea transport
- River transport
- Air transport
- Pipeline transport

All these components should provide competitiveness to the city in comparison with other modes of transport complexes in Baltic region and should not bring any discomfort to the inhabitants.<sup>9</sup>

The concept of this key plan considers extension of international corridors “North-South” and “West-East” in the framework of Baltic region and its main components – Big port of St Petersburg, freight volume of which should increase in one and a half time in the year of 2010.

In the development plan of coastal infrastructure, a reconstruction of St Petersburg railway hub has been regarded. According to this plan, the transit freight traffic will be moved out from the city area, stations and routes will be developed that will provide works to the Big port operations and will implement work on increasing throughput of the Volga-Baltic waterway.

The Key plan also considers locating the terminals and logistics centres in the area of Ring road; creation of a single regional highway system; development and reconstruction of the airport “Pulkovo”, as well as creation of sea passenger region on the Vasilevsky Island, construction of new river boat station.

St Petersburg belongs to the cities that have been named as “Aqua city”. It’s not a surprise that future plans of development of this mega-polis are related to aquatic themes.

<sup>8</sup> <http://mbsz.ru/01/01.php>

<sup>9</sup> <http://mbsz.ru/01/01.php>

It is specially shown in the plan on development of aqua area at bay of Neva. It reaches from Neva river delta in the East, up to the protective construction of St Petersburg from flooding (KZS- series of protective construction against flood) in the West, by Gorskaya-Krondshadt-Bronka and has a length of 21 km and maximum width of 15 km. It carries out 14 functions for the city among which sea business is most actively presented.<sup>10</sup>

It is enough to mention that in last five years, freight traffic of the Big port, water area of which is almost the whole area of glossy surface of the Bay of Neva, has increased twice and in 2003 it reached 42.1 million ton. New and Reconstructed technological complexes of the port are being built almost along the whole coastal area of Bay of Neva, and almost one fourth of freight traffic will be concentrated in the range of KZS (protective construction against flood) close to 2010.

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<sup>10</sup> <http://mbsz.ru/01/01.php>

## 5 Development plan

According to the Key plan, new terminals of sea transportation are being planned to be located on the Kanonersky Island. In the merchant harbour of Petrodvorets, in Lomonosov, in the area of Bronka and Gorskaya. In the master plan of city development, it has been considered to create a channel along the northern coastal area of Bay of Neva, from Lahtinsky to the village of Lycyi Nos for increasing speed of current along the coast and improvement of this part of the coastal area. According to the plan there will be a change in the design position on the coastal line of Vasilevsky Island. It will be moved to the water area of Bay of Neva for future highway construction of “Western high-speed diameter” Motorway putting on the same territory mentioned above for passenger area of sea and river boats.<sup>11</sup>

Among the other projects, development project for the Krestovsky Island is included. Formation of an Island in the Neva’s mouth, so that part of the flow will go along the western border of Gutuevsky Island and along the sea channel to the Southeast area of the Bay of Neva. Work will be carried out on defining the scheme for optimal position of the southeast coastal line of Lahtinskaya bank between the JSC “Petersburg Oil Terminal” and Konstantinovsky Palace for improving the existing water exchange in this area of Bay of Neva. This also includes a very keen attention to the ecological problems.

The concept of the transport complex was presented at the international conference “Contemporary city-port in new Europe; Development, anticipations”, held on August 20, 2004 in Riga. It is noticeable that on this day there has been a protest demonstration in Riga against development of Rizhsky port. This event has once again shown that development of port complexes in large cities requires serious decision-making, as from the point of view of economy, and as of ecology.

At present the Committee on transport-transit policy of St Petersburg administration is working on regulating oil products in the city and the region; strengthening North – West informative analytical centre of transport logistics, with a more precise coordination to the transport business of border point and customs services; has started to work on the coastal legislations.

Undoubtedly, role of the executive authority of the city in defining the strategic actions in developing one of the main city and budget making factors – St Petersburg transport hub – has to grow.

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<sup>11</sup> <http://mbsz.ru/01/01.php>





## 6 Brief review of existing literature on this aspect

There has been an active discussion on future development of St Petersburg in the press. All the authors have agreed on the matter that the city needs a transport infrastructure development. Some opinions on transformation of the city from a transit point to a distributive-supply centre have occurred as well. A centre that will work not only in the Northwest Russia, but also at the central federal region. An analytical report exists, that has been made by the ASTERA Group, where the main aspect is the warehouses, as an object of real estate. It is necessary to mention that there is a document made by the NIPI on territorial and infrastructure development: "Strategy of transport complex development in St Petersburg". A number of actions and events are offered in the concept of the key development plan until 2025.

There are a number of publications, where the Development Strategy of the transport complex has been criticized quite strongly.<sup>12</sup>

For example: The Strategy represented for transport-logistics complex development is not revolutionary, but its measures of implementation are not effective. The planned review of the strategy by the St Petersburg administration has never occurred until December 2006.<sup>13</sup>

The fact is that the committee of transport – transit policy (KTPP) could not prepare a specific plan in time for implementation. And accepting strategy without a plan, according to the members of the committee on coordination of transport activities, is not sensible.

Of course, there is nothing dangerous in changing the schedule. For last 20 years, St Petersburg transport logistics centre has developed without any strategy. There have been some future plans for different modes of transportation. The key plan was for the road-highway network. But these documents did not have any connection between each other. There were absolutely no plans from the administration on problems of terminal-warehouse management.

A few years ago Smolny has, at last, found that the city transport infrastructure has long ago exhausted its traffic capacity. This became the barrier to the further development of the city that does not allow implementing its transport potential in full. The roads were constructed according to the Soviet master plan, considering that the number of cars, that the city is having today, will reach in the year of 2036. Today the city is basically engaged to connect the KAD – the ring road – to the road-highway network. It is important, but according to the experts, it is necessary to construct new highways immediately. Intensiveness of motorway traffic in the city has already reached a level that after starting KAD; there won't be any substantial change in the motorway traffic. "The situation can not be fixed only by correcting the mistakes with a limited resource. It is essential to make new decisions related to the construction of underground and overland highways" – thinks the first vice-rector of St Petersburg State Transport University Mr. Alexander Ledyayev. "The Europeans has calculated that 0.5–1% of their GDP are lost in the traffic jams. This phenomenon speaks for economic stagnation in Europe in many respects. As to St Petersburg, transport today is not the stimulator, but an obstacle in its further development" – confidently says Alexander Golovizin, the assistant General Director of "Company "Ust – Luga".

<sup>12</sup> [http://www.expert.ru/printissues/northwest/2006/36/strogegii\\_razvitiya\\_transportno\\_logisticheskogo\\_kompleksa/](http://www.expert.ru/printissues/northwest/2006/36/strogegii_razvitiya_transportno_logisticheskogo_kompleksa/)

<sup>13</sup> [http://www.expert.ru/printissues/northwest/2006/36/strogegii\\_razvitiya\\_transportno\\_logisticheskogo\\_kompleksa/](http://www.expert.ru/printissues/northwest/2006/36/strogegii_razvitiya_transportno_logisticheskogo_kompleksa/)

Officials have realized that without a uniform strategy of development road-highway network and terminal-warehouse complex in transport-logistics will not move forward.

## **6.1 Closer to the reality**

Businessmen, who have to match their operation with the Strategy, are quite sceptical about it. They confirm that the Strategy has a lot of serious flows. Smolny, according to the data by “Expert”, does not welcome the idea of development of St Petersburg as a transport-logistics centre. It is understandable: this is the time to solve these serious problems, which need substantial investments. But the positive results will come not earlier than 5–10 years. Officials are not used to wait so long for their dividends.

The officials suggested to ways of development. One of them has offered to transform the city of St Petersburg into a regional distributor centre, second after Moscow, in the European part of RF. The other plan is to maintain the city as it was before, that is a transshipment centre for overseas goods. Expenses for the first option would be 467 billion roubles and the second option would cost 439 billion roubles. In this case the State budget would be taking care of the most expensive areas like infrastructural projects (roads, territories etc.), and the business will fill the areas with terminals, warehouses, parking, service centres for the freight transport manufacturers.

Officials are hoping to receive parts of the capital from the federal budget for the programme “modernisation of transport system of RF 2002–2010”. However, counting on this money is not really a good idea, because the federal budget is already taking care of the KAD construction for Western highway, Orlovsky tunnel, passenger port “Morskoi fasad” etc. the city independently can not invest this amount, nor can any private investment.

## **6.2 Plus and minus**

The majority of interrogated businessmen prefer serious analytical work, done by the Strategy developers -Research and Design Institute for Regional Development and transportation. However, as the general director of Moscow “National customs broker” Ilya Kozlov mentions, “I would like to see the document that everyone could understand clearly what, when and where the development and construction will be”. Alexei Tsatsulin, the commercial director of Relogix agrees with him : “the work could be a direction for future business, as it states in detail current situation, but objectives and projects for investment is not defined yet”. Meaning the goal is set, but how to reach the goal in not clear.

Just to mention, last month administration of Moscow Region approved the programme “Development of transport-logistics system in Moscow region for 2006–2010”. In the framework of this programme, specific steps on development of this centre and methods for receiving additional sources of financing have been suggested.

The local companies are more critical about the document. Company Eurosib says that the developers are going from one side to another by giving general solutions as a whole. “There are serious mistakes: the authors are once agreeing with the “internal customer” and lobbyists or others, later they are agreeing with the container people or the port – says the general director of Eurosib Mr Dmitri Nikitin

– and this is not their fault. The tasks are divided like that. If it will continue, the Strategy could become ‘delayed- action mine’ and bring to a negative result that was not expected at all. Implementation of the Strategy will disintegrate the local market of transport logistics services; local actors will lose their position. And then the highly profitable import traffic, coming to RF, will change its course and move from St Petersburg port to the neighbouring countries and Leningrad region.

The authors of the document suggest: construction of new logistics terminal and the existing centres, to correct the paradoxical situation, especially when freight ship, reaching the St Petersburg port, first go to Moscow and then (after it has reloaded and rearranged according to the destinations) return to the Northern capital of Russia. However, real cause for this phenomenon is not the deficit of warehouse capacity, but its backward and non-transparent characteristics of the customs. Today it is more comfortable and cheaper to go through the customs procedures in Moscow. The differences between the costs of customs procedure are so big, that it even covers additional transport costs from St Petersburg to Moscow and return. Transferring the customs on to the civilized rails will make economy non profitable for the “shuttle” deliveries, which will bring the goods from Moscow to St Petersburg.

One more complaint that concerns disagreement between the city and the regional development plan for Transport-logistics complex: St Petersburg and Leningrad Oblast can not come to an agreement on this matter, although they are both interested in this: the city has growing freight volume, but has a lack of land, the region – is just the contrary. This problem is more political than economical.

### **6.3 Chaos in the Foundation**

In Petersburg, automobile transportation has a lead in volume. It plays significant role in delivering containers and refrigerated cargo. In future the role of motorway transportation will grow even more. Substantial changes in the structure of freight turnover of port will bring an increase to the share of container transportation. It is expected that share of port cargo, transported by road transportation, will increase from 33% (19 million ton annually) up to 55% (63 million ton/year). At the same time, none of the participants of the market will say that the city is having precondition for uninterrupted container export.

To struggle against this chaos is possible on the street, but a systematic work is needed for this purpose, minimum by two directions:

First of all: development of Road – Highway Centre. The Strategy does not open anything new in this matter, it only says about extending the existing highways, construction of over bridges, road junctions etc. Soviet time is absolutely forgotten. “The only way to solve transport problems of St Petersburg – is highways outside the street traffics, which means tunnels and overpasses. But it is not accepted in here to consider these kinds of alternative solutions for the centre of the city, – says Alexander Ledyayev. – But there has been a project in 1979 to conquer the underground world of Leningrad that is quite practical even today. For example, the project suggests a development work on highway construction under Nevsky Prospect, a few tunnels under Neva etc. No one can run from the necessity of moving a few houses from the city centre for constructing the new highways”. It seems that Smolny does not welcome any alternatives – so no houses are going to be moved or no tunnels will be dug under the city.

Secondly, it is necessary to make quality changes in the motorway transportation companies itself. The Strategy provides their enlargement and renovation of a cargo motor vehicle park and recovery of professional training system for the particular field; allocation of territory for contemporary parking area and trucks etc. However, instead of implementing at least these (far from revolutionary) suggestions, Smolny and Motor licensing and inspection department actively struggling with the spontaneous areas of “sediment” of motorway transportation around the port area by hanging out “bricks” on the roads and thus only aggravating the problem.

## **6.4 Following the old fashion**

One of the main reasons for “strategic” failure of KTHP is that it did not listen to the voice of business world. At least so the businessmen think. “If our opinion was considered, it was opinions from certain interested parties, not from the whole transport – logistics community”, – say a few owners of large companies to the Expert N-W correspondent. Partly it could be explained by the low “weight” (with a rare exception) of the local actors. According to the director of Petersburg STS Logistics representative Andrey Mihalev, compare to Moscow, the level of business and business activity is much lower in St Petersburg. “Power of Moscow actors of Transport-logistics centre allows not only to bring their suggestions to the authority, but also to achieve it”, says Mihalev.

The Strategy considers different options for simplifying the recent situation without changing anything fundamental. In an ideal situation the port would be moved from the centre of the city, which will solve all the transport problems of St Petersburg. On the free land there would be new constructions. But the city will not go through this kind of radical changes, as this will prove them wrong in all the other large transport projects that have been already implemented. For example, Motorway “Western high-speed diameter” is being constructed basically for the port, especially southern side of the construction. That is why authors of the Strategy chose the way of “correcting the mistakes on limited resources”, but even here not all the solutions could be implemented. Unfortunately, once again the private business has shown its powerlessness: majority of the businessmen are blaming the Smolny with pleasure, but are not able to give any suggestions in return, not capable to express and inform the authority about their ideas.

## **6.5 Non-constructive criticism**

Aleksey Minkin, representative of Board of Directors of Holding Company Morportservice –Eurotransservice writes in Expert:

“Future development of transport-logistics complex of St Petersburg, in many respects, depends on normal functioning of the road components. For objective reasons, 90% of the container freight traffic is handled by the motorway transportation via Big port. This will continue also in future. A separate city project of development on cargo motorway transportation could help to solve this whole set of problems that are holding back development of this market segment.

First of all, it is necessary to create preconditions for enlargement of the companies by integrating the forwarders with the transporters. About 50–60 enlarged companies will be the strength at the transport market of the city and due to their own financial capacities, they could actively solve the problems of renovation of motor-vehicle park for cargo. This does not mean that

motorway transport companies should leave from the market. Absolutely not! But when share of the large companies will become prevailing, it will be possible to exclude uncontrollable rise of tariffs on motorway transportation, that occurs every year during autumn – winter, during the period of closing foreign trade contracts.

Secondly, to help the transport forwarding companies to achieve and normally operate the cargo transportation, it is necessary for the manufacturer to have powerful service centres, built at the directions that would correspond to the geography of freight transportation. For now, in Saint Petersburg there are none of the companies that produce tractors, except Volvo and Scania, own a centre. I know that a number of other manufacturers, foreign and domestic, have already been inspired by this idea and actively enough searching for premises for service centres. Each of them could sell and provide services at the Petersburg market to 2–3 thousands cars a year.

Integration of the operators at the transport market could bring profit to everyone. The manufacturer could sharply increase their sale, as technique is always profitable to possess, specially the one that has guarantee for technical services. Forwarders, who have their own rolling stocks, could offer the customers much more stable tariff rates than it is now. The city could have additional tax revenue. It is true that tractor manufacturers, generally, do not let out trailers by themselves, but for forwarders it is important that technical service would take place at the same place for the whole transport vehicle – for tractors, for trailers etc. This problem is quite possible to solve, and the manufacturers of trailers will go for it that their technique will provide services in the service centres for the tractor manufacturers.

To accommodate the new motor transport, received by the forwarding companies, it is necessary to have large engineer-made premises. Considering deficit of free land in Saint Petersburg, possible solution to this problem should become coordination of actions by the city administration and Leningrad region.

At last, a very difficult question – skills of the personnel. It is no secret that soviet system of professional education is totally destroyed, and new system is not yet ready. Today it is not only difficult to educate new drivers, auto mechanics, tool makers, but also to retrain the already existing specialists in companies. Lack of professionals reached such a level that if one company discharges its driver for any reason, he will immediately find a job in another company. In this situation it is difficult to demand discipline, and without discipline it is impossible to develop in a transitional period.

However, at present analyses of import-export freight flow is absent from the point of view of European companies and analyses of possibilities for its investments. The given report tries to analyse the warehouses in Saint Petersburg as a whole and to recognise the bottlenecks in warehouse operation. It also considers technical possibilities for additional freight volume.

Let's have a look at the geography of Saint Petersburg complex and its future development possibilities.





## 7 Development of warehouse complex in St Petersburg

At present, there are a plenty of warehouse complexes situated around the territory of St Petersburg surrounded by housing estates. This is caused by gradual development of the city and interchanging location of housing estates and industrial buildings. Many of the existing terminals are situated in the area of commodity stations (St Petersburg-commodity and Vitebsky, St Petersburg-commodity and Moskovsky; St Petersburg-commodity and Finljandsky) or near them. However, warehouses in these areas usually represent old and relatively smaller buildings, which are not appropriate for modern technology. Mainly these are the warehouses of class B, C and D (appendix 1), that have low transport accessibility during the day due to low carrying capacity of the motorway network at the centre of the city. In future, the city administration plans to move part of the stations with its full warehouse infrastructure to the outskirts, i.e. to place the terminals along the Ring road.

Nowadays, the significant amount of import and export freight traffic passes through St Petersburg. A broad network of warehouse complexes is required for processing these growing volumes. Now many companies are actively participating in creating a logistics network in the city.

In this article we will have a look at the geographical location of warehouse complexes in Saint Petersburg as well as future perspectives for their development.

The major plan for development of the city is to:

- Provide accommodation for terminals and logistics centres in the region of Ring road;
- Create united system of regional highways;
- Development and reconstruction of “Pulkovo” airport as well as creation of sea area for passengers on Vasilevsky Island.

According to the logistics system of the city, it is possible to find certain specifically active developing “industrial zone”. Its position is caused by the fact that it is close to the transport infrastructure and main highways. Necessary condition today is joining the railway stations. Following areas can be chosen for this purpose:

- Shushary
- Predportovaya
- Area of Large Seaport “Saint Petersburg”,
- Ruchya
- Parnas

We will pay attention to the areas that are actively building logistical infrastructure, starting from the very southern areas and continuing towards northern region of the city (see figure 4).

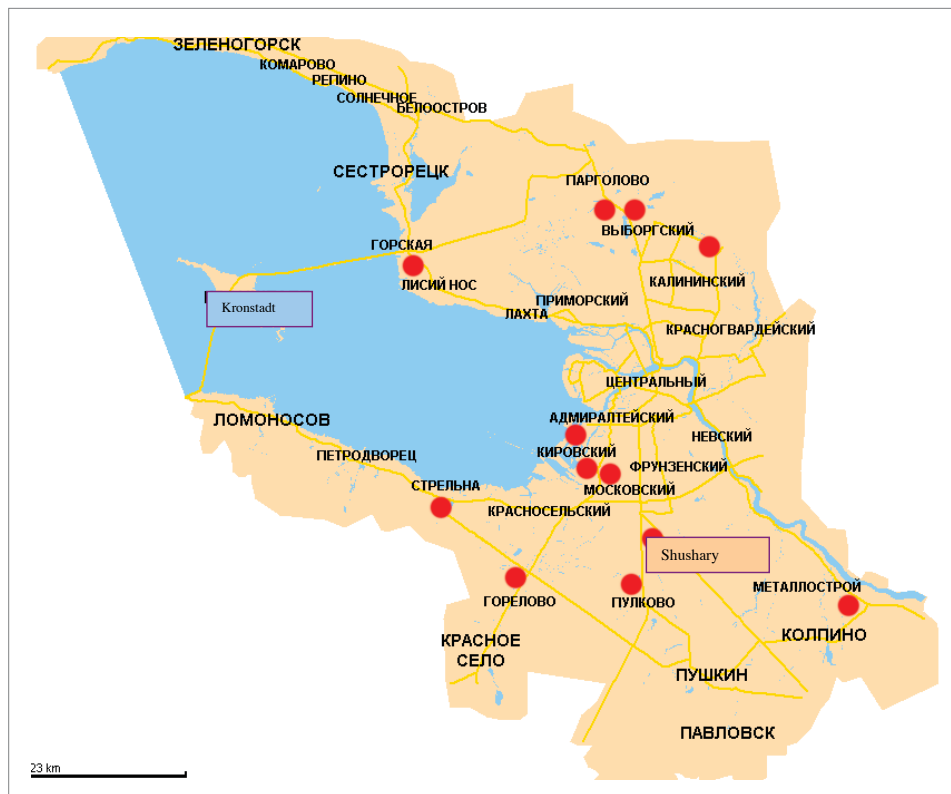


Figure 4 Areas of active logistics infrastructure constructions in St Petersburg

Industrial area of Shushary – is a dynamically developing area. Situated in a very advantageous geographical position (exit to the road to Moscow, Moscow highway, Marshalling yard of Shushary, the Ring road are located nearby). Nowadays a customs terminal is operating in the territory of Shushar named as “VOSHOD” (cargo yard to the station Shushary). There is a plan for making a few other terminals (see figure 5 and table 1).



Table 1 Logistics centres in St Petersburg

–	Description	Class	Total area sq m	Investors	Capital Investments	Date of implementation
1	Logistics Terminal	–	80 000	JSC «National Container Company»	25 million USD. No. 1 turn	4 quarter 2006 – 1 turn.
2	Logistics complex for auxiliaries	–	128 000	Company «Resource-Economia»	70 million USD	2007
3	Logistics complex	N/A	231 000	Nevatransterminal	107 million USD	2007
4	Logistics complex (moving the cargo yard of Petersburg – Moscow Tovarny)	N/A	N/A	JSC RZD	N/A	N/A
5	Logistics complex	–	30 000	«Eurosib»	20 million USD	4 quarter. 2007
6	Logistics complex	–	N/A	«Avalon-Logistics»	N/A	2007

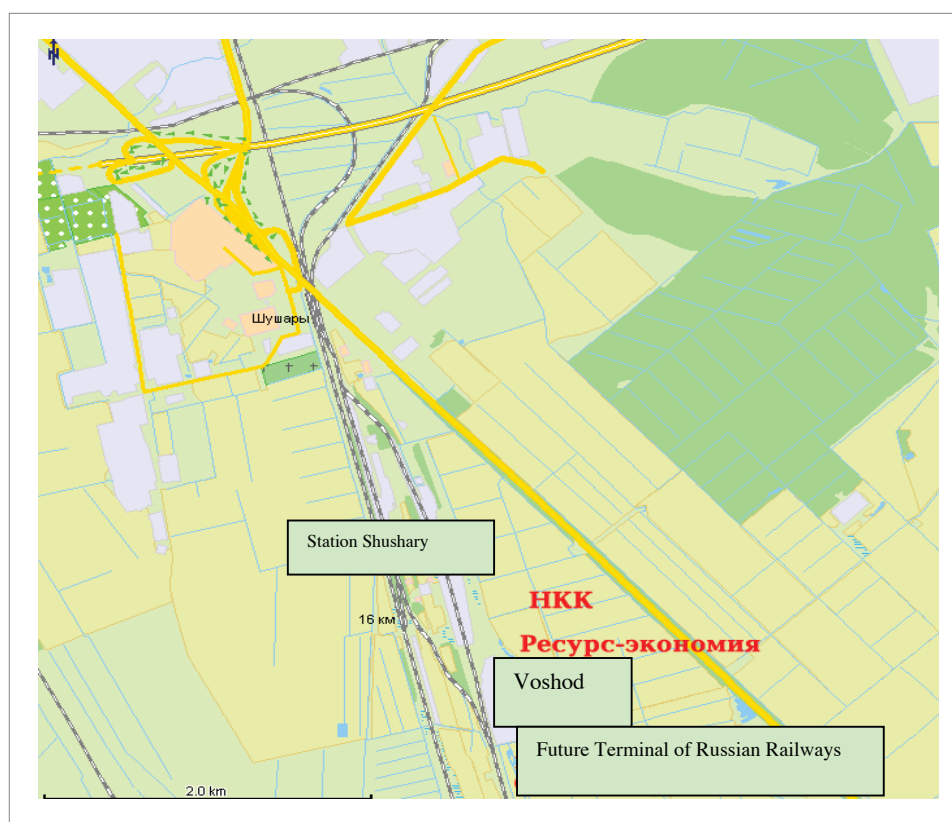


Figure 5 Developing “Shushary”

Area between Moscow highway and station Shushary is practically fully given to the private companies, by the city administration. However infrastructure of this land is considered not enough developed and requires large amount of investments. Another problem is the huge number of warehouses on this, not very big, territory. This could cause a barrier to the growth in this region. For example, in 1996, major plan for development of the Shushary station area was to expand the cargo yard of the station. However, now this plan is impossible to implement because of the fact that the lands are being sold to the private companies.

Nevertheless if Shushary is considered as the most dynamically developing industrial area of St Petersburg. It is good to have a look at the active position of Pushkinsky and Pavlovsky administration, responsible for these lands. Very close to this land, there are new constructions of well known factories like: Coca Cola, Toyota, terminal Tsarskoe Tselo. That is why it is necessary to talk about the support from the authority of large private investment projects.



Figure 6 Existing customs terminal “Voshod” (station Shushary)

A warehouse complex of class ‘A’ has opened in Shushary. This complex is owned by the company Tablogix (British and American business). The area that the new terminal covers is about 12,350 sq.m, which makes this terminal the second in the city by its size of a ‘A’ class logistics centre in St Petersburg (the undoubted leader of warehouse complex “Interterminal – Predportovyy”, which is a ‘A’ class warehouse with 64,900 sq. m. area)

According to the information by Expert N-W, the new logistics centre will provide a full range of services on receiving, storing and on pre purchase preparation of the goods, including packaging and bar-coding. The warehouse will work with such type of goods like: home

appliances, cosmetics, food products and automobile accessories.

Attention of the logistics complex towards automobile industry is not incidental: In Moscow Tabloix handles the warehouse of Ford Motor Company. It is not excluded that Toyota at Shushary will become another large customer of the warehouse complex. "In future St Petersburg could be very well the second Detroit, and this will be a powerful inspiration to the development process for warehouse business in St Petersburg – says Anna Velskaya – we are going forward to meet the market.

Holding company Eurosib (St Petersburg) is continuing implementation of a wide range project on construction of transport logistics terminal complexes in the large cities of Russian Federation. Now the holding company is working on construction of these matters in Shushary. Project cost – 20 million USD.

Transport-logistics centre in Shushary, located in 15 km from the seaport of St Petersburg, will include two warehouses with an area of 30 000 sq.m, a container terminal with an area of 2.5 hectors and separate area for cars. Maximum volume of container storage at the same time will be 2 000 TEU. Planned annual turnover will be – 420 000 ton general cargo and 50 000 TEU. Time of launching: IV quarter of 2007.

At present, company Eurosib has already built one similar complex at the Predportovaya station in St Petersburg. The complex is oriented to export-import cargo of St Petersburg seaport. The terminal of 4.9 hectors is designed for processing cargo, when it is transported from the sea vessel to overland transport and vice versa. The complex is located in 6 km from the seaport and attached to the railway station Predportovaya. It gives a possibility to process 60 wagons at once. Besides, there are exits to the main highways from the territory; to Kiev and Moscow highways and to the Ring road. There is a closed and centrally heated 'A' class warehouse with an area of 4, 5 000 sq.m, Storage capacity of the container terminal at Predportovaya is 1,5 000 TEU:

Similar kind of construction is already being going on in Novosibisk region. Star of the Sibirsky terminal was planned for next autumn as well. For implementation of terminal construction, company Eurosib has drawn 119.5 million USD from International financing corporation (IFC, investment division of the World Bank).<sup>14</sup>

There are warehouses called 'Tsarskoe Selo' in the city of Pushkin, suburb of St Petersburg. 'Tsarskoe Selo' represents heated warehouses with completely reconstructed modern facilities as well as office premises for employees and representatives of their clients.

During the reconstruction, international requirements for warehousing complex, storage of raw-materials and other, storage of finished products have been taken into account. Adjoining area to the warehouse has been isolated and has its separate entrance. The warehouse is located between the Kiev and Moscow highways. A branch line approaches to the warehouse premises directly.

Total warehouse territory makes 22 000 sq m. Among this,

- 3000 sq m are equipped by refrigerating utilities from 0 to +5 C.
- 1 000 sq m has a quarantine area
- area for processing and placing 26 000 pallets
- loading and unloading technology of company Linda, VT

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<sup>14</sup> <http://www.expert.ru/news/2006/10/17/extrosibterminal/>

- The warehouse territory contains separate area for unloading and container storage.

Figure 7 Terminals at Predportovaya Station



Figure 8 Modern warehouse complex 'Interterminal' (Kubinskaya str.)

Table 2 Existing and future terminals near Predportovaya Station

Description	Class sq m	Total area	Investors	Capital Investments	Date of implementation
Terminal and Logistics complex	–	4500	Limited company «Eurosibterminal»	\$15 millions	1 quarter 2006
Logistics complex	–	6840	Holding company «Interterminal»	\$30 millions	4 quarter 2005
Production and warehouse building	N/A	6000	Limited company «Agroindustrial concern»	N/A	4 quarter 2006
Logistics complex / second and third in order	–	47500	State company «Interterminal»	N/A	3 or 4 quarter 2006
Warehouse complex	–	6000	Limited company «Korta»	\$1.5 millions	

In 2006 company 'Eurosib' opens its terminal come logistics centre named as 'Predportovy'. Let's have a look at its activities and services as common for the terminals in Predportovy region. The terminal is mainly oriented for dealing with export-import cargoes as in the hinder railway terminal of Seaport St Petersburg. The terminal mainly meant for handling freight transportation from sea to the land, and vice versa. Transport Logistics Centre or TLC 'Predportovy' offers a complete logistics service package including 'door to door' delivery, arranging intermodal transportation and customs clearance.

#### SERVICES offered by the terminal:

- Receiving, processing and dispatching export, import and transit cargoes by road transport and rail in wagons and containers;
- Receiving, storage and dispatching cargoes in refrigerator containers;
- Formation and delivering private and liner container trains for loading and then transport to further destination.
- Formation and dispatch of block trains between Predportovy and the St Petersburg Seaport
- Consolidation of sea freight consignments for shipping by deep sea from the St Petersburg Seaport
- Formation of freight consignment at the warehouse;
- storage of empty containers of deep sea operators
- dispatching empty containers by block trains to the consignor for loading
- arranging customs clearance
- freight handling, palleting
- repairing liner equipments
- making reports on cargo movement at the terminal and on the way
- Stock taking according to the clients' requirements.
- consulting on customs aspects
- renting premises for office use
- Premises with technical facilities at the terminal as well as connection to the Local Area Network of Baltic customs for arranging electronic declaration, are offered to the customs brokers.
- Surveyor's control
- cargo insurance<sup>15</sup>

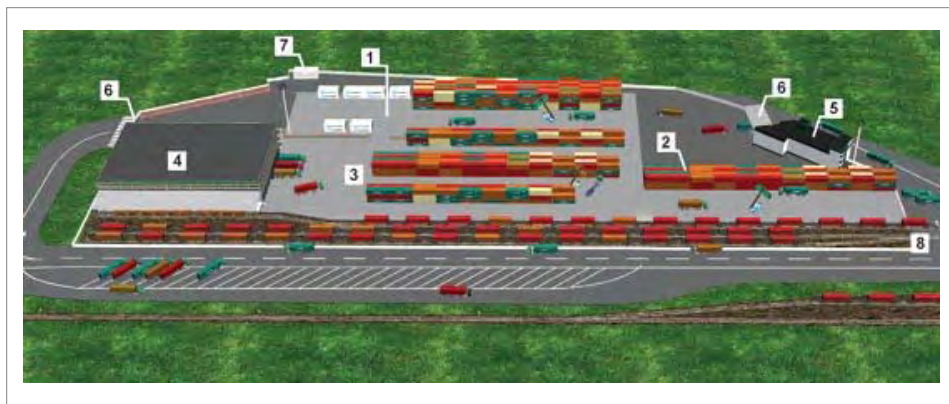


Figure 9 Scheme of Predportovy Terminal

<sup>15</sup> [http://eurosib.biz/services/terminal/predportovy\\_terminal.html](http://eurosib.biz/services/terminal/predportovy_terminal.html)



Table 3 Characteristics of Predportovy terminal

–	Description	Characteristic
1	Area for handling of refrigerated and empty containers	Capacity - 600 TEU
2	Area for handling of containers with export goods	Capacity - 350 TEU
3	Area for handling of containers with import goods	Capacity - 550 TEU
4	Covered warehouse	Area - 4 500 sq.m, capacity for 6 900 pallets
5	Administrative and common building	Area - 1 964 sq.m
6	Entrances for motor vehicles	Separated entrances for warehouse and container field
7	Depot for repairing of reloading equipment and containers	Area - 270 sq.m
8	Door-way tracks and capacity of 60 wagons	3 tracks with total length of 1240 m

In a few kilometres from the Station Predportovaya, there is the St Petersburg Seaport square. Regardless the heavy load of the Port and its transport infrastructure, today there are plans for developing the Port. However due to the limits at the area, this development plan is concentrating on technological development and on buying extra equipments.

A brief description of Big port St Petersburg that is on the Russian side of Finnish Gulf will help to understand its role.<sup>16</sup>

<sup>16</sup> <http://www.expert.ru/printissues/northwest/2004/45/45no-sptran/>





## 8 Big port St Petersburg

The Port contains the former Sea trading port, the forestry port (Petrolesport), berthing areas of shipbuilding and ship-repairing companies, and areas of port of Lomonosov and Kronstadt. At present the port can process all kind of freights and can receive at its 70 docks, vessels with an 11 m depth of immersion.

In the plan of port modernisation, the emphasis is made on development of St Petersburg Oil terminal, Baltic bulk and container terminals. In connection with this, the main waterway will be deepen up to 13 m and expanded up to 140 m in the years of 2005–2006. Some minor waterways will be modernised as well that will provide continuous movement of vessels with a depth of immersion up to 5 m. Till 2007 there will be construction of a passenger terminal at the western coast of Vasilevsky island. All these measures together will increase number of vessels and freight turn over of the port by 20–30%.

### 8.1 Port of Lomonosov

In the port of Lomonosov there will be construction of Sea trading port for transshipment of main freight. The project, with an expense of 210 million USD, includes construction of container and reefer terminals as well as terminal for metal reloading. The new port with its facilities should be at the eastern side of already existing military port of Lomonosov, near to the channel with a width of 80 m and depth of 7 m. According to the plan, volume of processed freight at first will make 2,08 million ton annually. In future it should exceed up to 6 million ton a year.

### 8.2 Port of Kronstadt

This sea trading area is located in the western part of Kotlin Island – at the harbour of Litke. Container terminal of the company ‘Mobidick’ operates there with a capacity of 75 000 TEU. This is the first construction item of this trading complex in which 10 million USD has already been invested.

By the end of 2007 it has been planned to increase capacity of Mobidick terminal up to 200 000 units or 350 TEU, a by 2008 – up to 500 000 TEU a year. The berthing area will expand up to 450 m for receiving four vessels at the same time. The approaching channels will be deeper and new warehouse platforms will be built.<sup>17</sup>

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<sup>17</sup> <http://www.expert.ru/printissues/northwest/2004/45/45no-sptran/>



## 9 Ports of Leningrad region

The main scheme for developing the port complex of Leningrad region includes four ports: two of them are operating for a long time: port of Vyborg that process mainly bulk and general cargoes, and port of Vysotsk, specialised in export of coal and iron ore rolled briquette. The other two ports are new ports: port of Primorsk, oriented for oil and oil products transshipment and multifunctional port Ust-Luga.

Expected turn over of the ports in Leningrad oblast will be increased up to 50 million ton a year at the end of 2004. This volume is more than St Petersburg port's turn over. Close to 2007, turn over would be increased from 4.3 million of 2001 to 92.7 million ton a year. Close to 2010, the estimation is to increase turn over up to 13 406 million ton. The highest growth – 86 million ton – will be provided by the transshipment at the port of Primorsk as well as at the port of Ust-Luga (with an annual turn over of 35 million).

### 9.1 Port of Primorsk

Turn over of the port has increased from 12.3 million ton a year in 2002 up to 45 million at this period. After completing the constructions of two other berths for crude oil and dark mineral oil shipment that have started since 2004, daily turn over of the port could increase up to 90 million ton a year.

At present company JSC Transnefteprodukt is designing terminals and preparing constructions of four berths for shipment and processing of light mineral oil. Estimated turn over at first – 7.6 million ton, later – 16.4 and 24.6 million tons per year respectively.

Until 2010, according to the plan there will be construction of traffic intersection with railway traffic system for transshipping mineral oil products with a capacity of up to 25 million ton per year, as well as construction of an oil refinery with a capacity of 10 million ton. Besides, company NK Rosneft is considering development of additional terminals at the port area for shipment of mineral oil with a capacity of 30 million ton a year.

### 9.2 Port of Vyborg

Now at the port, 7 berths out of 12 are in working condition. The rest of the berths stopped operating 20 years ago. Development plan of Vyborg port does not estimate increasing its turn over. It will remain about 1 million ton a year.

The structure will be kept the same as well, although in future the port will be reoriented on non-polluting goods. There will be an increase only in receiving passenger ferries. For this purpose, at present work is being carried out at the port on deepening and repairing of two berths.

### 9.3 Port of Vysotsk

This port contains to port complexes: multifunctional company Port Vysotsk, which is used mainly for coal transshipment, and specialised oil terminal JSC RPK – Vysotsk- Lukoil-II, built in June 2004. Both of them operate in the framework of one single port, but with independent structure.

In future, there will be a distributive-transshipment complex for pumping mineral oil up to 12 million ton a year. The coal terminal, belonging to the company Port Vysotsk, will be renovated, which will increase bulk transshipment up to 7 million ton in 2007. Currently it is about 3.6 million ton.

## 9.4 Port of Ust-Luga

The port is being built at the south west of Finnish Gulf, at the mouth of Luzhckaya. This port will be specialised in maintaining and reloading of coal, bulk cargo, woods, and container freights. For the year of 2004, it is expected to find 901 million roubles from national investments. Next year – more than 1 billion roubles. Inflow of this significant private investment (about 1 billion roubles) started in 2003 and now it has grown almost three times. Total amount of investments into the project is about 1 billion USD, including private investments of 600 million USD.

At present, a starting area of the coal terminal is in operation with a monthly shipment of 30 000–50 000 ton. Input of the first round (4 million ton a year) is planned for September 2005. Besides, at the port of Ust-Luga, the Company Ust-Luga has started its construction of oil terminal with a capacity of 2 million ton a year. Cost of construction would be 30–35 million USD. In 2006, motorway-railway sea ferry Ust-luga; Baltic – port of Germany, will began.



Figure 10 Map of St Petersburg Port

Turnover of goods 50 million ton per year is expected to reach by 2007. Project of strengthening external railway towards the port is included in the investment programme of Russian Railways RZD. Till 2008, there should be nearby 770 million USD invested into this project.

There are a number of development projects in the Northern side of the city as well. These projects are oriented on Import-Export transport. For example, Logistics Park at Station Ruchya area. International transportation operator of Holding company "Transsfera" has commissioned the first turn of the logistics park which is under construction and situated near one of the descents of East semi-ring KAD in Petersburg.

Total amount of investments in creating this logistics park is estimated in \$ 70–80 million, the first turn has been constructed on company resources. "First round of construction work of the campus is practically completed; modern control system WMS or Warehouse Management System has been installed. It has gone through successful testing process in last few months" says S. Shidlovsky. According to his comments, the first round of construction will include a warehouse of 3000 sq.m, office area of same size and a special square area of 5 hectare for heavy vehicle parking. At the same place there will be a customs post with the given facilities the customs broker will function at 'Transsfera Terminal' and a new section of the holding group 'Transsfera Distribution', created for retail trade. The management is considering the well known local retailers as well as medium companies as their future clientele as far it concerns this new branch. According to the information from Mr Shidlovsky, there have already been a few preliminary negotiations with certain traders and companies.

Second round of logistics campus is considering hotel construction for the drivers of 'A' class distributor warehouses. The area needed is 70 000 sq.m, a container terminal for refrigerator containers with 50 connecting points, and a household zone. The finishing stage would be creating an infrastructure for handling railway freight: taping/bending a railway branch line from Station Ruchya to warehouses, warehouses with household premises, an unloading platform, check points for dispatching on the door ways. The project is supposed to be implemented and completed in 2008–2009. The total area of the ground on which this project will be implemented makes 24.5 hectares.

At present the management of holding company is planning a scheme of investments for construction of second and third round of the project. 'Different versions of investments are being looked at – like: possible loans from Russian and overseas banks, creation of investing companies specially for implementing this project etc', explains Shidlovsky. According to him, overseas companies would be, without a doubt, the best choice for a project planner. 'I don't know a single company in Russia, who could design a logistics park' says the President of Transsfera. After 2–3 months, together with 'Okhta Group' of companies, the holding company is planning to complete work on developers projects of second and third round construction of the campus as well as call for tender on the builders' choice. As predicted, recoupment this project would be covered in 6.5 years.<sup>18</sup>

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<sup>18</sup> <http://www.bsn.ru/news/company/spb/7326>



## 10 A portrait of warehouse in St Petersburg – 2006 and 2015

Warehouses, not really a social matter, but more likely industrial infrastructure, have always been situated in the suburb areas. However, the city of St Petersburg grew larger and the border of the city has moved constantly from the country bypass, along which industries were located. Gradually the industries were 'pressed' into the area of Ring road motorway, where a rapid construction of warehouse infrastructure has been started. Level of transport availability at the warehouses in the area of Obvodny channel (country bypass) and the seaport, in comparison with the motorway, is much lower. However relative percentage of such warehouses is quite high. Therefore, the average portrait of warehouse complex in St Petersburg in 2006 could be drawn as follows:

- Location of warehouses in the city
- Low level of transport availability
- Low level of applied technologies



Figure 11 Park Transfera

According to the General plan, new terminals of the sea transport will be placed on the Kanonersky Island, in the Merchant harbour of Petrodvorets, in Lomonosov, in the region of Bronka and Gorskaya. The capital plan for the development of the city includes creation of a channel along the northern coast of Neva, on the site from Lahtinsky stream up to the country area of Lyicy Nos, with the purpose of increasing current speed along coastal area and improvement of this part of coastal territory. For a perspective passage to the Western high-speed highway and for accommodation of sea and river passenger fleets on this territory, there is another plan of changing project position from the costal line Sea quay of Vasilevsky Island to the 'Aquatory' of Neva.



## 11 Informative coordination operation at transport-logistics complex in St Petersburg

On March 10, 2007 the Governor V.I. Matvienko has held a final conference, dedicated to regulating the driveway entrance for heavy-cargo vehicles in the Big port area of St Petersburg. Non-regulated driveways at Big port have caused troubles for many years to the transportation process of adjacent areas. Besides, vehicles from other regions, waiting for loading / unloading, parked at the streets and at the yards in front of the houses in Kirovsky. This problem has been looked over many times during the meetings with the Governor V.I. Matvienko and at the conference of Coordination Committee of Transportation under St Petersburg city administration.

Today the representatives of limited company "Pervyi containerni terminal", i.e. The First container terminal held a presentation on regulating system of delivering freight motor vehicle to the terminal that would reduce stopping time of the vehicles. The vehicles, waiting for being transported to the port, take place at the special parking area in Shushary and approach to the port only on dispatcher's signal. This system has been introduced on December, 2006. Similar system is planned for JSC Petrolsport, as well as for other stevedoring companies that are working with motorway freight transportation.<sup>19</sup>

As a result of the meeting, Governor Matvienko mentions that problem with un-authorized parking on the streets by heavy motor vehicles are already solved by 70%.

"The tasks that companies have asked me to fulfil are on its way to be solved. Extremely serious measures have been taken on this account. Today this problem does not exist in Kirovsky region. It occurs sometimes in Krasnoselsky region even now. At present this problem has to be solved by transporting light cargo vehicles. It is necessary to work on this aspect", – says the Governor. She points out that this problem is going to be solved completely in May 2007. Besides, the meeting has also discussed about the situation with Road-highway network around the seaport.

The Governor has noted that this year the driveways to the port will be completely repaired as well as work on connecting the Road-highway network with the Motorway "Western high-speed diameter" will start. Establishing this connection will solve all the problems for transit heavy-cargo vehicles concerning parking.

In 2008, both import and export transportation will be provided from the port without using any of the city highways.

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<sup>19</sup> <http://gov.spb.ru/today?newsid=40237>



## 12 Conclusions

Now in the warehouse market of St Petersburg there is a critical deficiency of warehouses of class "A". Despite of large quantity of investment projects for near future, it is obvious that demand will not be completely fulfilled. Especially it is connected with wishes of city authorities to change the concept of city development from the "transshipment point" to a « distribution centre ». Freight yards of the city will be gradually moved from the limits of Motorway "Western high-speed diameter", and on the free territories a plenty of trading and residential area will be under construction. Average "portrait" of a warehouse also will gradually vary. From the out-of-date cargo courtyard it will gradually turn into a contemporary modern terminal.

### **According to the Strategy, to the year of 2015, transport-logistics complex of St Petersburg will look like this:<sup>20</sup>**

- The core of the centre – Big port – it will remain in the city. Terminals, processing the ecologically polluted, piled and liquid cargo, will be removed from the city centre. Their place and new territory will be occupied by the terminals that process containers, refrigerated goods, and Ro-Ro cargoes. Goods will be at the port maximum half of the day. Quick processing will be achieved due to the effective customs procedures, contemporary technical equipments for checking the goods, excellent system of professional studies for the specialists. Graphic of schedule will be introduced for 24/7 operational hours.
- Main freight flow between the port and the hinder terminals will be provided by the cargo motor transportation.
- Reconstruction of railway station Novyi Port, Avtovo, Predportovaya, Sredne-Rogatskaya. Second and third routes would be provided by the growing volume of cargo traffic to the Big port.
- Dimensions of the main ship waterway will be increased, vessel releasing constructions C-2 and C-1 will be introduced, new site Kronstadt and Western Kronstadt waterway and reconstruction of North Kronstadt waterway will be carried out.
- Sea tourism will be developing due to the passenger boat complex called "Morskoi fasad" on the inwash territory of Vasilevsky Island.
- Station Petersburg – Tovarny – Moskovsky, Petersburg – Tovarny – Vitebsky, and Petersburg – Baltyisky will be moved out from the central area with compact buildings.
- 51 cross roads out of 220, that are now situated on the same level with motorways, will be removed.
- Construction of Ring road and access roads to it, Orlovsky tunnel, Motorway "Western high-speed diameter", wide highway with a bridge through Neva at the range of Fainsovi and Zolny street, minimum five temporary bridges through Neva and its inflows.

<sup>20</sup> [http://www.expert.ru/printissues/northwest/2006/36/neidealno\\_i\\_idealno/](http://www.expert.ru/printissues/northwest/2006/36/neidealno_i_idealno/)

- Single bottom tanker and vessels will not be allowed to pass under the bridges of St Petersburg.
- Creation of large and medium motorway transportation companies specialised on transportation of goods of particular type. Freight traffic schedule will be changed from day to night shift.
- All the driveways to the city as well as exits will be equipped dynamically.
- Airport Pulkovo will operate as a large junction-hub. An airline will be represented to the market at airline company-discounter.
- Programme on development of different types of transport and road – highway network will be carried out and implemented in co ordination with warehouse capacity development. Moving the warehouse goods from the territory will be accompanied by implementation of corresponding programme in the Leningrad region.
- Warehouse complexes will be constructed on limited number of territorial zone, located out of the dense central area, close to the Ring road, on the highways or on its crossing area.
- Logistics complexes will be operating with industrial territories of Shushary -2, Metallostroi -2, Konnaya Lahta, Noidorf, in Strelnja, Predportovaya -3, and South – Western. In the industrial area of Shushary and in Beloostrov, there are logistics companies, warehouses, dealers of the centre.
- All the problems concerning information, corresponding to norm and jurisdiction and technical services of the traffic organisation will be solved.
- The law of “Transport codex of St Petersburg” will pass.

# Appendix 1

Classification of warehouses according to the level of development

## Warehouses of class A

№№	Необходимые условия	Наличие
1.	Современное одноэтажное складское здание из легких металлоконструкций и сэндвич панелей, предпочтительно прямоугольной формы без колонн или с шагом колонн не менее 12 метров и с расстоянием между пролетами не менее 24 метров.	Обязательно
2.	Площадь застройки 40-45%.	Обязательно
3.	Ровный бетонный пол с антипылевым покрытием, с нагрузкой не менее 5 тонн/кв.м., на уровне 1,20 м от земли.	Обязательно
4.	Высокие потолки не менее 13 метров, позволяющие установку многоуровневого стеллажного оборудования (6-7 ярусов).	Обязательно
5.	Регулируемый температурный режим.	Обязательно
6.	Наличие системы пожарной сигнализации и автоматической системы пожаротушения.	Обязательно
7.	Наличие системы вентиляции.	Обязательно
8.	Система охранной сигнализации и система видео наблюдения.	Обязательно
9.	Автономная электроподстанция и тепловой узел.	Обязательно
10.	Наличие достаточного количества автоматических ворот докового типа (dock shelters) с погрузочно-разгрузочными площадками регулируемой высоты (dock levelers).	желательно не менее 1 на 500 кв.м.
11.	Наличие площадок для отстоя большегрузных автомобилей и парковки легковых автомобилей.	Обязательно
12.	Наличие площадок для отстоя большегрузных автомобилей и парковки легковых автомобилей.	Обязательно
13.	Наличие офисных помещений при складе.	Обязательно
14.	Наличие вспомогательных помещений при складе (туалеты, душевые, подсобные помещения, раздевалки для персонала).	Обязательно
15.	Наличие системы учета и контроля доступа сотрудников.	Обязательно
16.	Опτικο-волоконные телекоммуникации.	Обязательно
17.	Огороженная и круглосуточно охраняемая, освещенная благоустроенная территория.	Обязательно
18.	Расположение вблизи центральных магистралей.	Обязательно
19.	Профессиональная система управления.	Обязательно
20.	Опытный девелопер.	Обязательно
21.	Ж/Д ветка.	Желательно

## Warehouses of class A

№№	Необходимые условия	Наличие
1.	Современное одноэтажное складское здание из легких металлоконструкций и сэндвич панелей, предпочтительно прямоугольной формы без колонн или с шагом колонн не менее 9 метров и с расстоянием между пролетами не менее 24 метров.	обязательно
2.	Площадь застройки 40-45%.	обязательно
3.	Ровный бетонный пол с антипылевым покрытием, с нагрузкой не менее 5 тонн/кв.м., на уровне 1,20 м от земли.	обязательно
4.	Высокие потолки не менее 10 метров, позволяющие установку многоуровневого стеллажного оборудования.	обязательно
5.	Регулируемый температурный режим.	обязательно
6.	Система вентиляции.	обязательно
7.	Наличие системы пожарной сигнализации и автоматической системы пожаротушения.	обязательно
8.	Система охранной сигнализации и система видео наблюдения.	обязательно
9.	Наличие достаточного количества автоматических ворот докового типа (dock shelters) с погрузочно-разгрузочными площадками регулируемой высоты (dock levelers).	желательно не менее 1 на 700 кв.м.
10.	Наличие площадок для отстоя большегрузных автомобилей и парковки легковых автомобилей.	обязательно
11.	Наличие площадок для маневрирования большегрузных автомобилей.	обязательно
12.	Наличие офисных помещений при складе.	обязательно
13.	Наличие вспомогательных помещений при складе (туалеты, душевые, подсобные помещения, раздевалки для персонала).	обязательно
14.	Опτικο-волоконные телекоммуникации.	обязательно
15.	Огороженная и круглосуточно охраняемая, освещенная благоустроенная территория.	обязательно
16.	Расположение вблизи центральных магистралей.	обязательно
17.	Профессиональная система управления.	обязательно
18.	Опытный девелопер.	желательно
19.	Наличие системы учета и контроля доступа сотрудников.	желательно
20.	Автономная электроподстанция и тепловой узел.	желательно
21.	Ж/Д ветка.	желательно

## Warehouses of class B

№№	Необходимые условия	Наличие
1.	Одноэтажное складское здание, предпочтительно прямоугольной формы вновь построенное или реконструированное.	обязательно
2.	Площадь застройки 45-55%.	обязательно
3.	Ровный бетонный пол с антипылевым покрытием, с нагрузкой не менее 5 тонн/кв.м., на уровне 1,20 м от земли.	обязательно
4.	Высота потолков от 8 метров.	обязательно
5.	Регулируемый температурный режим.	обязательно
6.	Наличие системы пожарной сигнализации и автоматической системы пожаротушения.	обязательно
7.	Наличие достаточного количества автоматических ворот докового типа (dock shelters) с погрузочно-разгрузочными площадками регулируемой высоты (dock levelers).	желательно не менее 1 на 1000 кв. м
8.	Система охранной сигнализации и система видео наблюдения.	обязательно
9.	Система вентиляции.	обязательно
10.	Пандус для разгрузки автотранспорта.	обязательно
11.	Наличие площадок для отстоя и маневрирования большегрузных автомобилей.	обязательно
12.	Наличие офисных помещений при складе.	обязательно
13.	Наличие вспомогательных помещений при складе (туалеты, душевые, подсобные помещения, раздевалки для персонала).	обязательно
14.	Опτικο-волоконные телекоммуникации.	обязательно
15.	Огороженная и круглосуточно охраняемая, освещенная благоустроенная территория.	обязательно
16.	Расположение вблизи центральных магистралей.	обязательно
17.	Профессиональная система управления.	обязательно
18.	Опытный девелопер.	желательно
19.	Наличие системы учета и контроля доступа сотрудников.	желательно
20.	Автономная электроподстанция и тепловой узел.	желательно
21.	Ж/Д ветка.	желательно

## Warehouses of class B

№№	Необходимые условия	Наличие
1.	Одно-, двухэтажное складское здание, предпочтительно прямоугольной формы вновь построенное или реконструированное.	обязательно
2.	В случае двухэтажного строения – наличие достаточное количества грузовых лифтов/подъемников, грузоподъемностью не менее 3 тонн.	желательно не менее 1 на 2000 кв. м
3.	Высота потолков от 6 метров.	обязательно
4.	Пол - асфальт или бетон без покрытия.	обязательно
5.	Система отопления.	обязательно
6.	Пожарная сигнализации и система пожаротушения.	обязательно
7.	Пандус для разгрузки автотранспорта.	обязательно
8.	Наличие площадок для отстоя и маневрирования большегрузных автомобилей.	обязательно
9.	Охрана по периметру территории.	обязательно
10.	Телекоммуникации.	обязательно
11.	Система охранной сигнализации и система видео наблюдения.	обязательно
12.	Наличие вспомогательных помещений при складе.	обязательно
13.	Система вентиляции.	желательно
14.	Офисные помещения при складе.	желательно
15.	Наличие системы учета и контроля доступа сотрудников.	желательно
16.	Автономная электроподстанция и тепловой узел.	желательно
17.	Ж/Д ветка.	желательно



### Warehouses of class C

№№	Необходимые условия	Наличие
1.	Капитальное производственное помещение или утепленный ангар.	обязательно
2.	Высота потолков от 4 метров.	обязательно
3.	Пол - асфальт или бетонная плитка, бетон без покрытия.	обязательно
4.	В случае многоэтажного строения – наличие грузовых лифтов/подъемников.	желательно
5.	Ворота на нулевой отметке.	желательно
6.	Наличие площадок для отстоя и маневрирования большегрузных автомобилей.	желательно
7.	Система вентиляции.	желательно
8.	Система отопления.	желательно
9.	Пожарная сигнализации и система пожаротушения.	желательно
10.	Офисные помещения при складе.	желательно
11.	Ж/Д ветка.	желательно
12.	Пожарная сигнализации и система пожаротушения.	желательно
13.	Пандус для разгрузки автотранспорта.	желательно
14.	Охрана по периметру территории.	желательно
15.	Телекоммуникации.	желательно
16.	Наличие вспомогательных помещений при складе.	желательно

### Warehouses of class D

№№	Необходимые условия	Наличие
1.	Подвальные помещения или объекты ГО, не отапливаемые производственные помещения или ангары.	обязательно
2.	Наличие площадок для отстоя и маневрирования большегрузных автомобилей.	желательно
3.	Пожарная сигнализации и система пожаротушения.	желательно
4.	Система отопления.	желательно
5.	Система вентиляции.	желательно
6.	Офисные помещения при складе.	желательно
7.	Ж/Д ветка.	желательно
8.	Телекоммуникации.	желательно
9.	Охрана по периметру территории.	желательно



## Appendix 2

Exemplary questionnaire (from Oktan web page)

### General parameters

1	Название компании		
2	Контактное лицо (Ф.И.О., должность, телефон, факс, email)		
3	Тип товара <i>(продукты питания, радиоэлектроника, бытовая химия и т.п.)</i>		
4	Общее кол-во товарных позиций (артикулов)		
5	Кол-во активно используемых товарных позиций (артикулов)		
6	Размер короба (см)	мин	макс
7	Вес короба (кг)	мин	макс
8	Требования к условиям хранения (температура, влажность, опасные грузы, аптечный склад и т.п.)		
9	Требуемый режим работы склада		

### Поступление товара на склад

1	Тип поставки, (грузовик, контейнер и т.п.) укажите существенные особенности доставки, если таковые имеются		
2	Товар, поступающий на паллетах (%)		
3	% смешанных паллет (более 1 артикула) от кол-ва, указанного в п. 2		
4	Тип используемых паллет (евро, финск)		
5	Максимальная высота паллета с грузом (см)		
6	Наличие негабаритных грузов	Да	Нет
7	Кол-во машин в месяц	Среднее	Максим.
8	Кол-во машин в день	Среднее	Максим.
9	Кол-во паллет в одной машине	Среднее	Максим.
10	Кол-во артикулов в одной машине	Среднее	Максим.
11	Кол-во артикулов на одном паллете	Среднее	Максим.
12	Вес одного паллета с грузом (кг)	Среднее	Максим.
13	Тип упаковки товара (короб, бочка и т.п.)		
14	Единица учета товара (короб, паллет и т.п.)		
15	Кол-во коробов на паллете	Среднее	Максим.
16	Требования к приему по качеству		

### Хранение на складе

1	Требуемое кол-во паллетомест хранения на складе		
2	Требуется ли контроль за сроками реализации товара, FIFO и т.п.?		
3	Выдерживаете ли Вы требование: 1 артикул = 1 паллетоместо?	Да	Нет

### Выдача товара со склада

1	Кол-во заказов в месяц	Среднее	Максим.
2	Кол-во заказов в день	Среднее	Максим.
3	Кол-во машин в месяц	Среднее	Максим.
4	Кол-во машин в день	Среднее	Максим.
5	Процент смешанных паллет (более одного артикула) в заказе.	Среднее	Максим.
6	Кол-во наименований (артикулов) в заказе	Среднее	Максим.
7	Комплектация (количество коробов в месяц)	Среднее	Максим.
8	Товар, отгружаемый на паллетах (%)		
9	Минимальная единица выдачи заказа (паллет, короб, штука и т.п.)		
10	Объем среднего заказа	Паллет	Коробов
11	Объем максимального заказа	Паллет	Коробов
12	Особые требования к отбору		
13	Требования к загрузке в автотранспорт		

### Прочее

1	С какого срока требуется предоставление складских услуг?		
2	Необходимость осуществлять переупаковку товара, формирование Metro Unit? (Указать)		
3	Необходимость осуществлять Cross-Docking	Да	Нет
4	Количество возвратов (коробов/штук) в день	коробов	штук
5	Критерии отбраковки товара		
6	Возможность передачи заявки на прием и отгрузку в XL-формате с помощью электронной почты по установленному нами шаблону		
7	Срок подачи заявки на прием до момента поступления ТС на склад (часов)		
8	Срок подачи заявки на отгрузку до момента готовности товара к отгрузке (часов)		
9	Время подачи заявок (пример: до 16-00 дня, предшествующего отгрузке)		
10	Какие услуги, дополнительно к складским, Вас интересуют? (транспорт, офис, и т.п.)		
11	Ваши пожелания, замечания.		

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- B 1      Markku Huhtinen & al.:  
**Laivadieselien päästöjen vähentäminen olemassa olevissa laivoissa** [1997].
- B 2      Ulla Pietilä, Markku Puustelli:  
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- B 3      Markku Huhtinen & al.:  
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- B 17     Ulla Pietilä, Markku Puustelli:  
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**Straightway 1996—2003. Kansainvälinen transitoreitin markkinointi** [2003].
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