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FINAL THESIS REPORT

ST. PETERSBURG – A LOGISTICS PERSPECTIVE

Report of a research project conducted for liquid transportation company Haanpaa Group concerning the liquid logistics requirements, competitive situation and future infrastructural development of St. Petersburg, Russia

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ABSTRACT

This research report presents an overview of the current state and future perspectives of logistics and related infrastructure in the city of St. Petersburg, located in Northwest Russia.

Research for this report was commissioned by liquid logistics company Haanpaa Group. The main purpose of the project was to supply the Haanpaa Group with basic marketing information regarding potential customers, competitors and infrastructural development in the City of St. Petersburg. The point of view of the research was that of logistics. The topic was divided into three distinct parts which together form a balanced review of the research subject.

The main objectives of the project were to identify potential customers, existing competitors and ongoing or forthcoming development projects of the St. Petersburg transport and logistics infrastructure.

The search for potential customers included collecting data from Russian corporate websites and business portals. A number of Russian companies were also approached by e-mail to request additional information. Competitors were identified by collecting data online as well as by relating to recent literate sources. The third part of the research, concerning infrastructural development of St. Petersburg was realized mainly by using literary sources.

As a result of the project, 51 potential customers, 51 competitor companies and 7 development projects were identified. These listings are accompanied in this report by overviews and analyses of the main subjects, including the current state of Russian transport logistics and future direction of infrastructural development in St. Petersburg.

The results of this research can be used in forming an overall understanding of the current logistics and business environments in St. Petersburg as well as in directing marketing effort in the region. They can also be applied in further research.

Key words Logistics, transportation, liquid logistics, liquid transport, infrastructure, Russia, St. Petersburg, market research, chemical industry, pharmaceutical industry, forest industry

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TIIVISTELMÄ

Tämä tutkimusraportti esittää yleiskatsauksen Luoteis-Venäjällä sijaitsevan Pietarin kaupungin logistiikan ja tähän liittyvän infrastruktuurin nykytilasta ja tulevaisuuden näkymistä.

Toimeksiantaja raportin pohjana olevalle tutkimukselle oli nestekuljetusyritys Haanpaa Group. Tutkimuksen tarkoituksena oli tuottaa Haanpaalle markkinoinnin perustietoja liittyen potentiaalisiin asiakkaisiin, kilpailijoihin ja infrastruktuurin kehitykseen Pietarin kaupungissa. Tutkimus tehtiin logistiikan näkökulmasta. Aihe jaettiin kolmeen erilliseen osioon jotka yhdessä muodostavat tasapainoisen kokonaiskatsauksen tutkimusaiheesta.

Tutkimuksen päätavoitteita olivat potentiaalisten asiakkaiden, olemassa olevien kilpailijoiden sekä meneillään tai tulossa olevien Pietarin kuljetus- ja logistiikkainfrastruktuurin kehityshankkeiden tunnistaminen.

Potentiaalisten asiakkaiden etsintä suoritettiin käymällä lävitse venäläisiä yritysverkkosivustoja ja yritystietokantoja. Joiltakin venäläisyrityksiltä myös pyydettiin lisätietoja sähköpostitse. Kilpailijoita tunnistettiin keräämällä tietoja verkosta sekä käyttämällä apuna viimeaikaisia kirjallisia lähteitä. Tutkimuksen kolmas osio, liittyen Pietarin infrastruktuurikehitykseen, toteutettiin pääosin kirjallisten lähteiden avulla.

Projektin lopputuloksena tunnistettiin 51 potentiaalista asiakasta, 51 kilpailijayritystä sekä 7 kehitysprojektia. Listauksien lisäksi raporttiin laadittiin katsauksia ja erittelyjä pääaihealueista, mukaan lukien Venäjän logistiikan nykytilasta ja Pietarin infrastruktuurikehityksen tulevaisuuden suunnasta.

Tutkimuksen tuloksia voidaan hyödyntää yleiskuvan muodostamiseen Pietarin alueen logistiikan ja liike-elämän nykytilasta sekä markkinoinnin kohdentamiseen Pietarin alueella. Tuloksia voidaan myös hyödyntää jatkotutkimuksessa.

Avainsanat: Logistiikka, kuljetusala, nestelogistiikka, nestekuljetus, Venäjä, Pietari, markkinatutkimus, kemianteollisuus, lääketeollisuus, metsäteollisuus

Foreword

This work is dedicated to my sons Leo Rafael and Kai Mikael and my wife Susanna.

Kai was born in the course of this project.

I would like to thank the following individuals for support and inspiration during my studies at TAMK and in the course of this project:

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Thank you also to the Haanpaa Group for providing such an interesting topic for my final thesis.

Tampere May 2009

Petri Markus Tuominen

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1 Introduction

In late 2008 I was offered an opportunity by liquid logistics operator Haanpaa Group to conduct a research project and write the final thesis of my studies related to the logistics sector of St. Petersburg, Russia. Having a major interest in the field logistics and a general fascination on Russia, I accepted this offer with the aim of providing the Haanpaa Group with useful market information and gaining personal knowledge and understanding of logistics in Russia.

Russia and logistics are both subjects which have greatly increased their influence over our everyday lives during the last decade. After the collapse of the Soviet Union, the Russian Federation has rapidly climbed from the level of an economic waste land to one of the fastest growing economies in the world. At the same time, logistics and supply chain management have become socially accepted fields of science due to the increasing awareness of the competitive advantages introduced by optimized and flexible logistics routines. Russia and logistics together form a duo loaded with future potential which can take a lifetime to master. This research does not attempt to this but rather to add to the existing pool of information so that chances of success in Russia might be increase by anyone using the results.

1.1 Research Problem

Although the Haanpaa Group has carried goods between Russia and Finland since the 1980s, the company did not establish a permanent presence in Russia until 2004, when a subsidiary in St. Petersburg was started. The main function this subsidiary has been to serve as liaison for transports originating from outside of Russia. Its role has been mainly operational and it has not actively pursued new customers in the region. This is because of the limited size of Haanpaa's current transport capacity in Russia.

The Haanpaa Group is currently in the process of developing its Russian operations. This development will include the introduction of additional truck capacity and expanding the scope operations in St. Petersburg to include offering liquid transportation and related value-added services to local customers. The starting of

marketing efforts in St. Petersburg has created a requirement for marketing information concerning potential customers, competitors and to-be-expected development of the local logistics infrastructure.

The target of this research is to provide the Haanpaa Group with basic marketing information of the St. Petersburg area. The main focus will be on 1) finding potential customers with possible liquid transportation requirements, 2) listing competitors and their offered services and 3) identifying future infrastructural changes affecting the logistics sector, mainly in form of currently ongoing or forthcoming construction projects.

1.1.1 Format

This research report is written in the format of a final thesis for a Bachelor's Degree. The aforementioned main sections will be supplemented with introductions to main research areas as well as analysis and review of the current state, competitiveness and future prospects of the Russian logistics infrastructure. Conclusions and recommendations based on the findings of the research will also be presented.

1.2 Haanpaa Group

Haanpaa Group is a provider of liquid logistics services in Scandinavia, Russia and the Baltic States. The company's main processes are the transport of hazardous and non-hazardous liquid chemicals and the supply of 3rd party liquid logistics solutions tailor made according to customer requirements.

Haanpaa operates a fleet of 400 trucks with an annual transport capacity of 6,000 kilotons. The Group's two headquarters are located in Vantaa, Finland and Helsingborg, Sweden and it employs approximately 560 persons in five countries. The majority of Haanpaa Group is owned by London-based Pamplona, Ltd. (Haanpaa Group).

Haanpaa Group serves over 300 customers including some of the most important chemical and petrochemical manufacturers such as Dow Chemicals, Neste Oil, Kemira,

Celanese and Royal Dutch Shell. The company is also the leading liquid chemicals logistics service provider for the Northern European paper and pulp industry. (Haanpaa Group 2008a).

Due to the economies of scale resulting from the company's size and wide spread over the area of Northern Europe, Haanpaa Group is able to offer its customers total cost optimization and unique value. The company has also established extensive partnerships and alliances with companies like Bridge Terminal Transport and DB Schenker. (Haanpaa Group 2008b).

1.2.1 Company History

The Haanpää transportation company was founded in Oulu, Finland in 1949 by Jussi Haanpää. The company started transporting liquids in 1968 after the acquisition of its first fuel tank trailer. In 1976 the company bought three more chemical tankers which also marked the beginning of the company's specialization in the transport of liquids. During the late 1970s and early 80s the company expanded through several takeovers. Veljekset Haanpäää Oy began international transports in 1981. (Haanpaa Group).

According to The History of ADR-Haanpaa Oy (Haanpaa Group), during the 1990s Haanpaa started subsidiaries in Sweden, Norway, Germany and Estonia. In 1998, along with the acquisition of ADR-Transport AB of Sweden, the company changed its name to ADR-Haanpää. Through the 2000s, Haanpää continued to grow through further takeovers and the the founding of a subsidiary in St. Petersburg, Russia in 2004 and Moscow in 2007. In 2008 ADR Haanpäää merged with Eurotank AB, Sweden and became known as the Haanpaa Group.

1.2.2 Services

The services provided by Haanpaa Group can be divided to three categories (Haanpaa Group 2008b):

- Liquid transport in tanker trucks
- Logistics Liquid PROTM 3rd party logistics solutions and
- Container services in alliance with Bridge Terminal Transport (BTT)

1.2.2.1 Liquid transports

Haanpaa operates a fleet of single- and multi-compartment tanker trucks with capacities up to 40 tons or 60 cubic meters. The types of trucks include chemical and lube oil tankers as well as tankers used s for the transport of liquefied petroleum gas and other gaseous goods. The company uses state-of-the-art technology including onboard computers and offers various electronic services to guarantee its customers real-time knowledge of the whereabouts of transported goods.

1.2.2.2 Liquid PRO™

Haanpaa Group is a supplier of advanced liquid logistics outsourcing solutions. These tailor-made services aim at the optimization of the customer's supply chain and relieving the customers from spending valuable time on in-house logistics planning which seldom is a core competence of industrial manufactures.

Haanpaa provides both partial and complete outsourcing services for its customers. 3PL services provided by Haanpaa Group include storage of liquid chemicals in tanks, containers and intermediate bulk containers (IBC) as well as tank monitoring and various logistical consulting services. The implementation of Haanpaa Liquid Pro solution is different from one customer to another. The common element is the process of co-optimization of customer's supply chain management. This is accomplished by cooperation between Haanpaa Group and the customer organization in analyzing and

designing the existing and future supply chain.

1.2.3 Haanpaa Group in Russia

Although the company had been involved in transports to the Soviet Union and Russia already before, ADR-Haanpaa started its own subsidiary, OOO ADR-Haanpaa in St. Petersburg in 2004 and began developing another one to Moscow in 2007. Haanpaa Group currently operates a fleet of 16 trucks in Russia (Haanpaa Group). Until 2008 the Russian operations have been mainly operational. Starting in 2009 Haanpaa will also start sales and marketing operations in St. Petersburg in order to gain foothold in the local logistics market.

1.3. Logistics

Logistics as a concept has its roots in the French military where it was originally used to imply to transportation and supply of food and ammunitions (Weele 2003, 206). As important as the functionality of these factors is to a military force, optimal logistics routines are to businesses today.

Although sometimes mistakenly attributed to solely transportation, the field of logistics today encompasses the integrated management of forecasting, inventory control, transportation, warehousing, order-entry, customer service and production planning functions. In basic terms, logistics refers to the management of flows of materials and products from source to user. It includes all flows starting from the acquisition of raw materials to the delivery of finished products to ultimate customers. (Copacino 2007, 6-7).

Today, supply chain management is used as a virtual synonym of logistics. Although essentially meaning the same, the term relays a more complete image of the scope of the subject matter. According to Copacino (2007, 7) logistics is often used to refer specifically to the activities of transportation, warehousing and finished goods inventory management. These are also the main areas of concentration for the Haanpaa Group.

1.3.1 Liquid logistics

Liquid logistics refers to the performance of the previously described logistics activities on goods in liquid form. Although the primary goals of the logistics processes performed on liquid and solid goods are the same, a supply chain for liquids takes into consideration the natural benefits of liquid goods.

Limiting excess packaging is one of the key elements of liquid logistics. Liquid goods loose their natural advantages when packaged in bottles, jugs, drums or other form of packaging. (Klatch 2006). Once packaged into solid units, they require physical moving, more storage space and more complex security and quality monitoring systems. This is why liquid logistics aims at transporting and storing liquid goods in large quantities using containers, tanks and pipelines.

Some of the natural advantages of liquid goods according to Klatch (2006) are:

- Liquid goods flow from higher to lower levels without propulsion or manual intervention
- Liquids adapt to the form of the container they are stored in thus allow highly efficient use of available storage capacity
- Quantity of liquid goods can be continuously monitored and easily determined from the liquid's surface level in a tank or container
- Quality of liquid goods can be determined from changes in their characteristics

Liquids are primarily categorized to hazardous and non-hazardous goods. They can also be classified according to various other criteria, for example into chemicals and foodstuff.

The main equipment for the transportation of liquid goods include tanks, tank containers and flexi tanks. Equipment used depends on the characteristics of the transported liquid as well as the transportation medium used.

1.4 Russia and the St. Petersburg Region

1.4.1 Russia

Russia is spread across Eastern Europe and Northern Asia is the largest country in the world. From the Baltic Sea in Europe to the Bering Strait on the Pacific Ocean, the country measures almost 10 000 kilometers in width. On the north-south axis, Russia is over 4000 kilometers in length. The country encompasses about one-ninth of the world's land area and is almost twice the size of Canada, the second largest nation in the world. (MSN Encarta).

Table 1 Russia in a nutshell (Spiridovitsh 2009, 4-6)

Official Name	Russian Federation (Российская Федерация)
Total Area	17 075 400 km^2
Population	141,9 million (12/2008)
Urban inhabitancy	73%
Largest Cities (population)	Moscow (10,1 million) St. Petersburg (4,57 million) Novosibirsk (1,42 million) Nizhny (1,31 million) Novgorod (1,29 million) Jekaterinburg
Bordering countries	Norway, Finland, Estonia, Latvia, Lithuania, Poland, Belarus, Ukraine, Azerbaijan, Georgia, Kazakhstan, North Korea, Mongolia, China
Government	
President	Dmitri Medvedev
Prime Minister	Vladimir Putin
Official language	Russian
Life expectancy	
Male	60,4 years
Female	73,2 years
Currency	1 ruble (RUB) = 100 kopeks
Exchange rate	*1 € = 44,5323 RUB (15.2.2009)*
GDP (PPP)	41 500 billion RUB (2008 est.)
GDP per capita (PPP)	16 200 USD (2008 est.)
GDP Growth Rate	6% (2008 est.)
Rate of Inflation	13,4% (1/2009)
Natural resources	Oil, gas, coal, timber, precious metals, diamonds
Main Exports	Oil, natural gas, metals, wood and wood products, chemicals, defense technology
Main Imports	Machinery, consumer goods, medicines, food products, semi-finished metals
Main export partners	Netherlands, Italy, Germany, Turkey, Belarus, Ukraine
Main import partners	Germany, China, Ukraine, Japan, USA, Belarus

The Ural River and Ural Mountains geographically divide Russia into European and Asian Russia. Four-fifths of the Russian population lives in European Russia, west of the Ural River which also hosts the capital city of Moscow and St. Petersburg, the country's second largest city. (MSN Encarta).

Figure 1 Map of Russia (CIA - The World Factbook)

Russia possesses extensive natural resources and encompasses a multitude of differing natural regions. The northern and western parts mainly consist of plains while the southern and eastern parts are dominated by belts of mountains and plateaus.

In terms of logistics and transportation, the country's enormous size is the most important feature contributing to Russia being a totally unique case. Together with the Slavic social and political culture, Russia remains a land of opportunity where western ways of conducting business do not always guarantee success.

1.4.1.1 Administrative division

The Russian Federation is divided into 46 oblasts (regions), 21 republics, 4 autonomous okrugs, 9 krays, 2 federal cities and 1 autonomous oblast. Additionally the aforementioned federal subjects are divided into seven federal districts. For economic and statistical purposes Russia is also separately divided into twelve economic regions. (CIA – The World Factbook).

To demonstrate: St. Petersburg is one of two federal cities (the other one being Moscow). St. Petersburg is surrounded by the Leningrad Oblast (region) and it is also the region's administrative center. The city of St. Petersburg and the surrounding Leningrad Region both belong to the Northwest Federal District.

1.4.2 St. Petersburg

The city of St. Petersburg lies on the Neva River delta, in the Northwest of the Russian Federation, in the Eastern end of the Gulf of Finland on the Baltic Sea. It is Russia's second largest city with a population of 4,6 million and land area of approximately 606 km^2. St. Petersburg is the fourth largest city in Europe and the world's northernmost city with over 1 million inhabitants. St. Petersburg is also the administrative center of Russia's Northwest Federal District and the surrounding Leningrad Region. (Official Portal of the St .Petersburg Government).

Figure 2 Map of Northwest Russia, Leningrad Region and St. Petersburg (Russia Travel Guide)

1.4.2.1 Environment

The city of St. Petersburg encompasses over 40 islands on the swampy Neva delta and it is characterized by numerous inland waterways and bridges. This is why St. Petersburg is sometimes called the *Venice of the North*. The city is subject to annual flooding

because of the city's average raise of only 4 meters above sea level.

Due to its proximity to the Baltic Sea, the St. Petersburg region enjoys moderately warm summers and equally moderately cold winters. The average temperature in July is 18,1°C and -6,3 °C in January. The average rainfall is 634 millimeters per year.

St. Petersburg and the Leningrad Region have vast natural resources of granite, sand, clay, limestone, combustible shale, bauxite, peat, and phosphates used in construction and by the chemical industry.

(Source: Official Portal of the St. Petersburg Government).

1.4.2.2 History

St. Petersburg was founded in 1703 by Peter the Great after the area was captured from Sweden during the Northern War (1700-1721). It served as the capital city of Russia from 1712 until 1918 during which time the city developed into the country's cultural and commercial center. In 1914 the city's German-sounding name was changed to Petrograd. In 1924 Petrograd was renamed Leningrad as a symbol of its transition into a socialist city. The original name of St. Petersburg was restored after the collapse of the Soviet Union in 1991. (WayToRussia.Net Guide to Russia 2002).

1.4.2.3 Economy

According to the U.S. Commercial Service, St. Petersburg is one of Russia's most socially and economically developed areas and it is the most western-style city in the country. St. Petersburg is also often describes as the cultural and intellectual capital of Russia. With approximately 6,3 million inhabitants, St. Petersburg and the surrounding Leningrad Region make up the second largest regional market in Russia. In Russia, only the Moscow Region compares with St. Petersburg in terms economic and social development.

Since the 1990s, successful efforts have been put into turning St. Petersburg attractive to investment and tourism. As the administrative center of the Northwest Federal district,

St. Petersburg has been able to set its own moderately liberal foreign investment legislation. (U.S. Commercial Service). Today the St. Petersburg Region has the largest concentration of foreign investment in Russia. For many foreign companies, St. Petersburg is the safest place to get acquainted with the Russian market thanks to investment friendly policies and the city's western business culture.

During the recent years, St. Petersburg and the surrounding Leningrad Region have shown the highest levels of economic growth among the 11 regions belonging to the Northwestern Federal District. As the administrative and economic center, St. Petersburg accounts for approximately one third of the district's gross regional product. The city's population of 4,3 million makes up a third of the population of Northwest Russia. St. Petersburg is also home to a well-diversified industry and the area has the most highly developed investment and consumer products markets in the entire country. Additionally, the city's geographical location and good transport connectivity to Moscow make St. Petersburg an important hub of logistics activities in the region. (Hernesniemi 2006, 20)

Table 2 shows the economic structure of St. Petersburg in the first half of 2008. The share of wholesale and retail trade is especially large because of the above average wealth of the city's inhabitants.

Table 2 St. Petersburg economic structure, % of total sales (Helsinki School of Economics 2008)

Manufacturing	17,5 %
Production and distribution of electricity, gas and water	3,2 %
Construction	7,1
Wholesale and retail trade	54,0
Transport and communication	10,0
Real estate intermediation	5,2
Others	3,0
Total	**100**

1.4.2.4 Industries

According to the Official Portal of the St. Petersburg Government, there are approximately 700 large and medium sized industrial enterprises operating within the City of St. Petersburg. During the Soviet Union the region was known for a massive

machine building sector which remains the most common industry in the region today. Food processing industry and the service sector also make up a large part of the region's total output because of a large consumer base with an above-average income. Northwest Russia is also a traditional hub for the Russian forest industry. The forest industry in the region is responsible for a fifth of the total production of the Russian forest industry. Paper mills in the region produce 8% of the paper and 14% of the cardboard produced in Russia.

Amounts of large and medium-sized companies operating in the various industrial sectors in St. Petersburg:

- 2 in the Electric Power Industry
- 21 in the Metallurgy
- 34 in the Chemical and the Oil and Gas Industry
- 308 in the Machine-Building and Metal Processing Industry
- 42 in the Lumber, Wood Processing and Paper-Making Industry
- 33 in the Building Materials Industry
- 59 in the Light Industry
- 85 in the Food Industry
- 3 in the Flour, Cereal and Fodder Industry

(Official Portal of the ST. Petersburg Government).

The most significant growth during the recent years has taken place in the food, tobacco and energy sector which have also been very attracting to foreign investment in the St. Petersburg area (Hernesniemi 2006, 21). Other industries attracting high levels of foreign investment include the forest sector, construction materials manufacturing and oil production.

Approximately a quarter of the working population of St. Petersburg is employed by the industrial sector. As displayed in Figure 3, food processing is the city's largest manufacturing industry in terms of sales with machinery production and the metal industry following close behind.

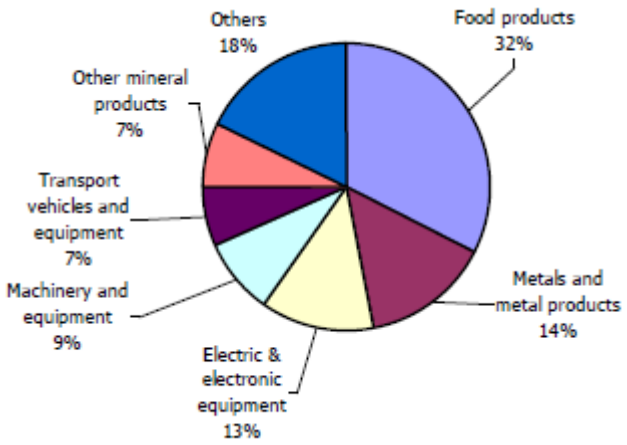

Figure 3 St. Petersburg manufacturing, sales by sector (Helsinki School of Economics 2008)

1.4.2.5 Recent development

Industrial companies operating in the region have shown fast growth during the last decade due to favorable local policies and the region's attractiveness to foreign investment. St. Petersburg is one of the most hospitable places for businesses in Russia due to the city's federal status which has given it autonomy in deciding on liberal, business-friendly legislation.

Until 2007, the city's gross regional product grew faster than the Russian GDP (Hernesniemi 2006, 20). This growth slowed down during the second half of 2008 due to the effects of the global financial crisis.

According to Lautanen, Kakkonen, Lauronen and Soininen (toim.) (2005), the main future benefits of the St. Petersburg region in terms of business development, are:

- Increasing political importance – parts of the federal government might be moved to St. Petersburg in the future
- Increasingly important role in international trade
- Possibilities of a vast and developed market area
- Innovation potential
- High-quality work force due to a multi-level educational system and considerable social capital

1.5 Russian Transport Logistics

The country's geographical location and size give Russia considerable advantages in the field of transit logistics. It is possible to cross from Eastern Europe to the Far-East as well as the Baltic Sea to the Middle-East with a single border crossing through Russia.

The Russian transport system is specialized in long routes and carriage of cargo by railroad and inland waterways. This is because traditionally the main processing industry has been located in Southern Siberia and European Russia while raw materials have been mainly found in the Asian part of Russia. (Pekkarinen 2005, 51)

According to Pekkarinen (2005, 109) the Russian logistics service sector is not as highly developed as similar sectors in some Western countries because of the traditional concentration of exports on raw materials and other bulk products. Logistics services offered by Russian companies are largely concentrated on transport of goods only with fewer companies offering supply chain management and 3PL logistics services. As Russian industries move towards more specialized production also the need for more advanced logistics services will increase.

The costs of transportation to industries operating in Russia are approximately 15-20 percent of total production costs while the similar percentage is 7 -8 in some more developed countries. Long distances and harsh weather conditions affecting transport of goods only explain part of this inefficiency. (Pekkarinen 2005, 53). Underdeveloped transport infrastructure therefore adds considerable costs to doing business in Russia.

In short, the Russian transport infrastructure can be characterized by

- Extreme unevenness and fragmentation of transport routes
- Very long distances in freight transport
- Distance and isolation from most of the world's transport networks
- Unfavorable conditions and transport routes

(Pekkarinen 2005, 58)[1]

[1] Original source: Hernesniemi H., Auvinen, S., Dudarev, G. 2005. Suomen ja Venäjän logistinen kumppanuus – Liikenne- ja viestintäministeriön SVULO-projektin loppuraportti. p. 18. Etla: Series B 209. Taloustieto Oy, Helsinki.

The current transport infrastructure in Russia suffers from severe deficiencies and will require heavy investment in order to face future challenges in terms of growing traffic volumes and increased demands of quality and efficiency. However, positive change in the transport area is currently occurring.

Before judging it to harshly, it is worth noting that the Russian transport system has been able to fulfill its duty satisfactorily in spite of many shortcomings. If this was not the case, the fast economic development in Russia would not have been realized since the fall of the Soviet Union. There is also considerable potential for future development, as the volumes of transported cargo were twice or even two and half times larger in the Soviet-era than today. (EATUCenterConsult 2005, 20)

1.5.1 Main Transport Routes

As a result of enormous size of the Russian Federation, the country is host to several transit routes of global importance. The most important transport corridors are the West-East corridor which connects Europe to Asia and the North-South connection from the Baltic Sea to the Persian Gulf. The main elements giving Russia considerable advantages in the field of transport are the Trans-Siberian Railroad and the Unified Deep Water System of European Russia. Russia's main transport routes are highlighted in Figure 4 (Russian Railways) and are thereafter shortly introduced.

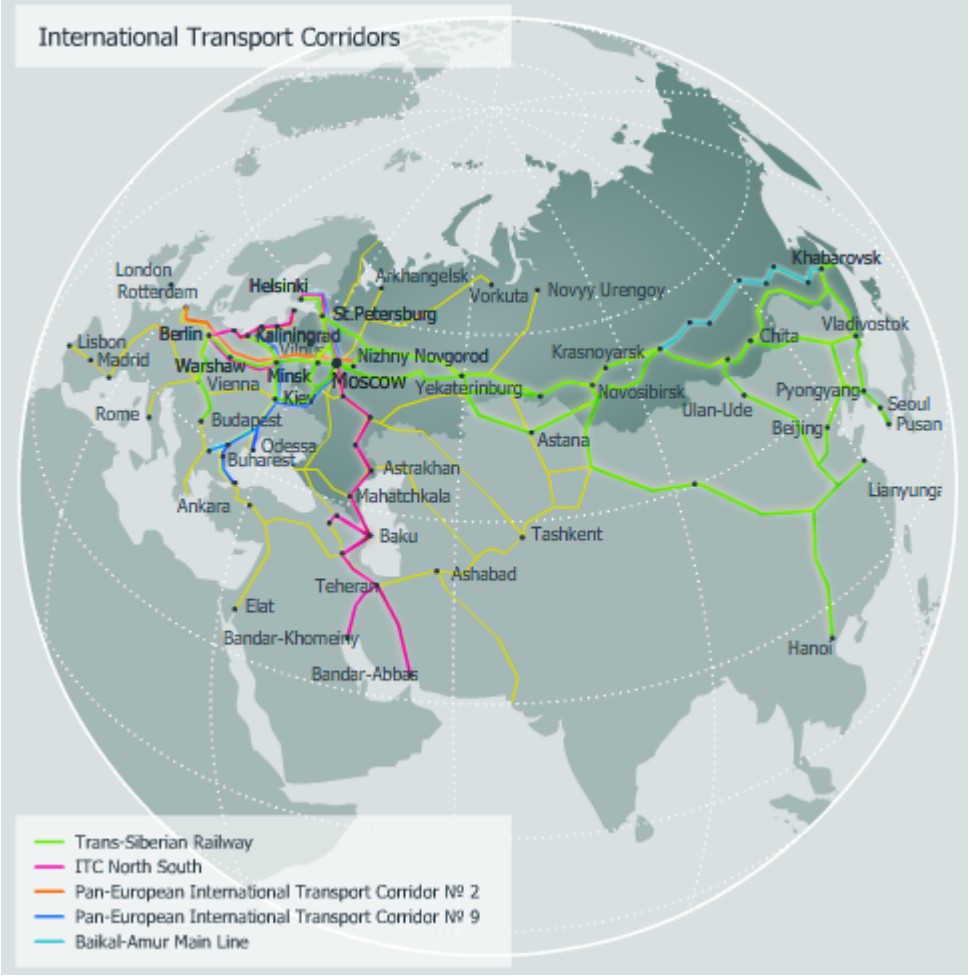

Figure 4 Russian transport corridors (Russian Railways)

1.5.1.1 The Trans-Siberian Corridor

The Trans-Siberian transport corridor is the most important and competitive transport route in Russia. It is made up of European and Russian railroad lines which connect to Mongolian and Chinese railroad networks in the East. The longest and most important link in the corridor is the Trans-Siberian Railroad (TSR) which runs between Moscow and Vladivostok. The average time for transport of containers from the Far-East to Moscow is approximately 11 days, which is considerably shorter compared to the sea route through the Suez Canal (Lautso, Venäläinen & Lehto 2005, 44). Use of the TSR by non-Russian operators remains problematic because of heavy bureaucracy and conflicting legislation in different administrative regions of Russia.

Figure 5 Trans-Siberian corridor (Russian Railways)

Possible improvement of relations between North Korea and its neighbors, the Trans-Siberian connection will have connectivity to the Trans-Korean railroad. This connection would provide a real alternative to the sea transport route from Europe to Asia via the Suez Canal. (EATUCenterConsult 2005, 28)

1.5.1.2 Baikal-Amur Mainline

The Baikal-Amur Mainline (BAM) is a railroad which parallels the TSR, bypassing Lake Baikal from the north. The BAM is an important route which provides an alternative railroad connection to the Pacific Ocean which is also less congested than the TSR.

Figure 6 Baikal-Amur Mainline (Russian Railways)

1.5.1.3 The North-South Connection

The North-South transport corridor from the Baltic Sea to the Middle-East consists of railroads, highways and inland waterways. The Unified System of Deep Water System (UWDS) is a vital element in the corridor. Potentially the North-South connection will provide a considerable alternative to shipment of goods by sea routes.

Figure 7 The North-South Connection (Russian Railways)

1.5.1.4 Pan-European Transport Corridor IX

Russia is the main host of the Pan-European transport corridor IX, one of ten Pan-European corridors chosen in the Pan-European Transport Conference in Crete in 1994 as routes requiring most investment during the next 10-15 years. The main route of corridor IX runs from Helsinki to Odessa with branches to Kaliningrad and Alexandroupoli. (United Nations Economic Commission for Europe).

Corridor IX has had a positive effect on development of the transport infrastructure of St. Petersburg. Related to the development of the corridor are the high-speed rail connections between Helsinki-St. Petersburg-Moscow and the planned Moscow – St. Petersburg highway.

Figure 8 Transport Corridor IX (Russian Railways)

1.5.1.5 Pan-European Transport Corridor II

The second Pan-European Transport corridor runs from Nizhny Novgorod to Berlin. It is also an element in the Trans-Siberian corridor and it is the main transport connection between Russia and Central Europe.

Figure 9 Transport Corridor II (Russian Railways)

1.5.2 Dynamics between transportation modes

The total length of railroads in Russia is approximately 85 000 kilometers and about 50 000 km of tracks is electrified. The length of the railroad network has remained the same since the 1970s. Russia constitutes the third largest railroad network in the world after the USA and the European Union. Russian railroads also have the second largest traffic density after China. (Pekkarinen 2005, 60). Railroad transport is the country's most important mode of transportation both in terms of freight turnover and tonnage of

transported goods. It has also steadily increased its share of total transport turnover while the share road transport has been declining since the fall of the Soviet Union. According to Pekkarinen (2005, 62), the largest single commodity transported by rail in Russia is coal.

The share of road transportation in Russia is modest in the national scale but is much higher if only taking into account European Russia where transport distances are shorter and the density of the road network is considerably higher. The total length of hard surface roads has grown by almost 300 % since 1970 and currently approximately 745 000 kilometers (Pekkarinen 2005, 63).

Inland water transport has traditionally been an important element of Russian transport infrastructure especially in Western Russia, which is home to the United Deep Water System. The improvement of motor transport infrastructure has however begun to challenge inland water transport in European Russia.

Due to the small number of deep water seaports, sea transportation is highly concentrated to a small number of ports. The main ports on the Baltic Sea are St. Petersburg and Kaliningrad, Murmansk in the Northwest, Vladivostok in the East and Novorossiysk and Tuapse on the Black Sea. The official number of large ports in Russia is 43.

Air transport holds the smallest share of the total volume of freight traffic in and is the least developed mode of transport in Russia.

On Table 3 is displayed the balance between different modes of transport in Russia in 2003. The dominance of railroad transportation is clear. However the share of road transportation varies depending on the measure used. It comes fourth when measured in ton-kilometers but is a clear second in terms of transported tons. According to Pekkarinen (2005, 55) this is because transport routes of road transportation are considerably shorter than those of any other mode.

Table 3 Freight turnover and transported goods in 2003 (Pekkarinen 2005, 55)[1]

Transportation mode	Freight turnover		Transported goods	
	Bn tkm	share	Mn tns	share
Railroad	1669	91.2%	1161	65.2%
Inland waterway	71	3.9%	104	5.8%
Maritime	65	3.6%	24	1.3%
Road	22	1.2%	490	27.5%
Air	2.7	0.1%	0.8	0.05%
Total	1829.7	100.0%	1779.8	100.0%

1.5.3 Transportation infrastructure of St. Petersburg

Due to the city's ideal geographical location and the scarcity of Russian ports on the Baltic Sea, St. Petersburg is Russia's foremost hub of logistics. The condition of the transport infrastructure of the city has a significant impact both on the flow of goods in and out of the western half of Russian territory as well as the flow of transit cargo. Main export and import centers and the area of influence of the St. Petersburg transport system is shown in Figure 10.

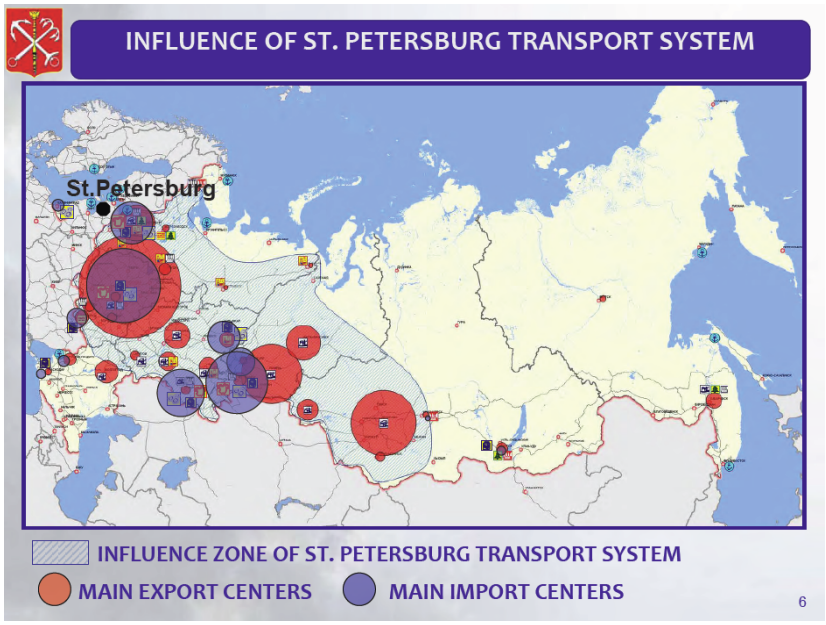

Figure 10 Influence of St. Petersburg Transport System (Asaul 2008)

[1] Original source: Goskomstat 2004, Main Indicators of Transport Performances in Russia, 2004: Statistical handbook. Federal Service of State Statistics (Goskomstat), Moscow, 109 pp.

During the last decade, St. Petersburg has suffered from the effects of poorly coordinated planning of the transport network as a whole. Even so, the city has a significantly more highly developed transport infrastructure than most other Russian cities. St. Petersburg has begun aggressive efforts of developing its transport and logistics infrastructure to meet the new and modern demands both in terms of cargo volume and level of sophistication.

1.5.3.1 Road transport

The motor transport network in Northwest Russia is physically in much better condition than on average in the whole country. The density of the roads is characterized by regional unevenness. The City of St. Petersburg and the surrounding Leningrad Region have the highest density of roads while regions with less inhabitants and industries mainly processing natural resources have the lowest road densities. (Pekkarinen 2005, 63).

The length of the St. Petersburg road network is approximately 1 300 km. Within the city are hundreds bridges and dozens of tunnels due to the city's location on a large number of small island. Federal highways from St. Petersburg lead to all directions, parallel to main railroad lines. (Doing Business in St. Petersburg). The city center remains problematic for road transport as bypassing routes and the Ring Highway have not yet been completed.

The main highway routes from St. Petersburg (Doing Business in St. Petersburg):

- St. Petersburg – Moscow
- St. Petersburg – Murmansk
- St. Petersburg - Vyborg – Finland
- St. Petersburg - Ivangorod - Estonia Estonia
- St. Petersburg – Pskov
- St. Petersburg - Vologda
- St. Petersburg - New Ladoga

1.5.3.2 Railway transport

St. Petersburg is serviced by Oktyabrskaya (October) Railroads, a subsidiary of the national railway company RZD. The total length of railways tracks in the St. Petersburg is approximately 568 km. and 3000 km in the Leningrad Region. In the Leningrad Region, 30% of tracks are electrified.

There are five large railway stations in St. Petersburg:

- Baltiyskyi
- Finlandskyi
- Ladozhskyi
- Moskovskyi and
- Vitebskyi

Additionally, there are approximately 100 platforms and branch stations. (Official Portal of the St. Petersburg Government).

Many industrial companies have their own railroad connections which however are used little or not at all. The railways are the most efficient and dynamic form of transport in St. Petersburg in spite of the poor condition of cargo handling facilities and their location in the congested central areas. The railroad network is also connected to the Large Port of St. Petersburg and other port complexes in the region.

1.5.3.3 Sea transport

Shipping is the mode of transport used to move the largest share of cargo worldwide. This is especially because of the large one-time capacity of seagoing vessels. Sea transport is also one of the most important transport modes in St. Petersburg especially due to the rapidly increasing volumes of container traffic. Cargo arriving to the St. Petersburg area by sea is loaded to numerous different types of secondary transports, including river boats, trucks and trains. The requirement for port complexes to be able to accommodate various combinations of multimodal transport is one of the biggest

challenges of the future development of the regional logistics infrastructure.

Russia lost a majority of its port capacity in the Baltic Sea when Estonia, Latvia and Lithuania declared independence during the collapse of the Soviet Union. Since then, there has been a considerable strain on the Northwest Russian port infrastructure which today is heavily concentrated on the eastern end of the Gulf of Finland, mainly in St. Petersburg. (Pekkarinen 2005, 66-67).

The five main ports, located in Northwest Russia are:

- St. Petersburg
- Primorsk
- Kaliningrad
- Murmansk and
- Ust-Luga

Smaller ports belonging to the St. Petersburg port authority close to St. Petersburg are located in Vyborg, Vysotsk, Kronstadt, Bronka, Lomonosov and Batareinaya. The only Northwest Russian ports that are free of ice round the year are Kaliningrad and Murmansk. (Pekkarinen 2005, 68). Ports near St. Petersburg are shown in Figure 11.

Figure 11 Ports near St. Petersburg (Pekkarinen 2005, 68)[1]

[1] Original source: Hernesniemi H., Auvinen, S., Dudarev, G. 2005. Suomen ja Venäjän logistinen kumppanuus – Liikenne- ja viestintäministeriön SVULO-projektin loppuraportti. p. 140. Etla: Series B 209. Taloustieto Oy, Helsinki.

According to Brodin (2003, 102), the only Russian ports on the Baltic Sea capable of handling large volumes of liquid chemicals are ports of St. Petersburg, Primorsk and Kaliningrad. However, today there is also an operational fertilizer terminal at the port in Ust-Luga.

1.5.3.3.1 Large Port of St. Petersburg

The Large Port of St. Petersburg is located at mouth of the Neva River and alongside the channel leading to the Baltic Sea. It is Russia's main port of foreign trade and the country's main sea gate to Europe. The central port is connected to the Baltic Sea by a narrow 34-km channel. The port includes several separate areas, including the main port complex in central St. Petersburg, Kronstadt on Kotlin Island as well as the complexes at Bronka and Lomonosov. The port also includes a massive system of flood protection dams.

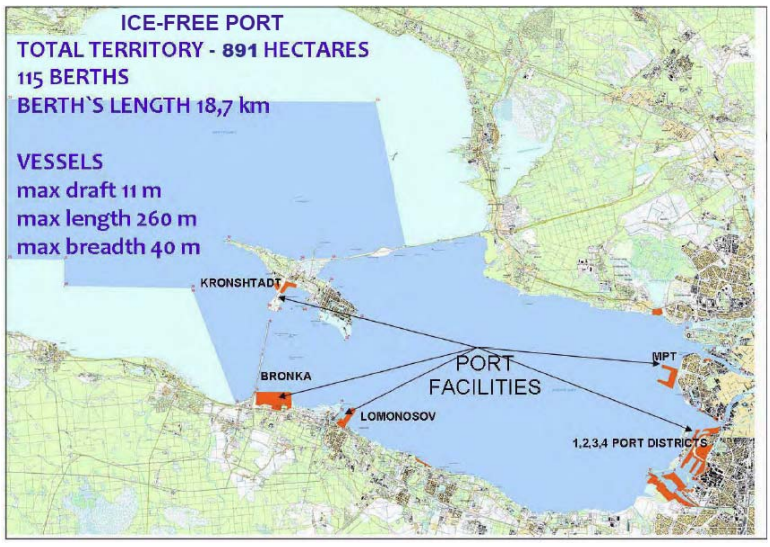

Figure 12 The Large Port of ST. Petersburg (Asaul 2008)

The port of St. Petersburg handles many types of cargo including dry and liquid bulk, paper and cellulose, automobiles, timber and refrigerated goods. Construction and renovation of berths and container terminals is ongoing. In 2008 the Large Port of St. Petersburg handled 60.204.6 million tons of cargo (*RZD-Partner 20.01.2009).*

There are approximately 30 stevedoring companies operating at the Large Port of St. Petersburg.

According to the port guideline published by St. Petersburg-based port agent S-Continental Group (2008), the main port complex is divided into four cargo areas:

1) The first section, located in Gutuevsky Kovsh at the mouth of the Neva River, services ships that are over 185 meters in length and which have a draught of up to 9,76 meters.

2) The second cargo area alongside the sea channel serves import and export vessels, including container ships with a maximum draught of 11 meters and length of 260 meters. This area also has berths for passenger vessels.

3) The third section of the port located in Lesnoy Mole mainly handles machinery, pipes and other heavy cargo. The western part of this area has a container terminal which has deep-water berths for RO-RO and container vessels. The section serves ships up to the length of 260 meters and draught of 11 meters.

4) Cargo area number four is located in the Coal Harbor and handles mainly bulk cargo. This is also the location of a new cargo terminal which will have a capacity of 150 thousand TEU once completed. There are also two oil berths in the northern side of cargo area four.

1.5.3.4 River Transport

St. Petersburg and the Neva River is the terminal point for the **Volga-Baltic Waterway** (displayed in Figure 13), formerly known as the Mariinsk Canal System. It is a series of canals and rivers linking the River Volga to the Baltic Sea. The waterway is part of the *Unified Deep Water System* (UDWS) of European Russia, which together with the White Sea-Baltic Canal, Volga-Baltic Canal, Volga-Don Canal and Moscow Canal provides an inland water connection from the Baltic Sea all the way to the Caspian Sea,

the Black Sea and onwards to the world oceans.

Inland water transportation is approximately three times cheaper than railroads but has the disadvantages of low speed and limited time of navigation (Dudarev, Hernesniemi & Filippov 2002, 151). Although the UDWS was originally constructed in the 18th century, the system of waterways was most actively used and developed during the Soviet era. During the last few years the importance of inland waterways has again been realized and its development and restoration has been started. Inland water transportation is one of the biggest and most unique logistical competitive advantages of the St. Petersburg Region and entire Northwest Russia. The waterway is actively used for transport of various cargos, including petrochemical products and timber.

The inland waterway infrastructure is owned by the state, but riverboats are commonly privately owned. A small number of shipping companies holds a considerable market share on the inland waterway transport market. (Pekkarinen 2005, 71).

Figure 13 The Volga-Baltic Waterway (MSN Encarta)

1.5.3.5 Air transport

The share of air cargo transport in Russia has decreased considerably since the collapse of the Soviet Union. This is because in the Soviet times air transport was considered equal to other modes of transport and was heavily subsidized by the state.

The St. Petersburg Region is served by the Pulkovo International Airport, located 16km south of downtown St. Petersburg. The airport has two runways and two terminals of which Terminal 1 mainly services flights to Russia and CIS countries while Terminal 2 is for international flights. (Pulkovo Airport). Main area of influence of the Pulkovo Airport is displays in Figure 14.

The cargo terminal is operated by a private company, ZAO Cargo Terminal Pulkovo which has the annual cargo handling capacity of 30 000 tons (ZAO Cargo Terminal Pulkovo). Due to comparatively small volumes of air freight, most cargo from Pulkovo is transported in the cargo holds of passenger planes. The airport is connected to the city via the St. Petersburg Ring Highway.

Figure 14 Pulkovo Area of influence of the Pulkovo Airport (Asaul 2008)

The Rzhevka Airport is the second largest airport in the Leningrad region. It is located 16 kilometers northwest of St. Petersburg. The airport has been under development since 2004 and is not currently being used for aviation. (Rzhevka Airport).

2 Potential Customers in the St. Petersburg Region

The following section will introduce a number of companies operating within the City of St. Petersburg and the Leningrad Region that potentially have requirements for new expertise and solutions in the field of liquid logistics. The search for potential customers was conducted by using public sources of information as well as by contacting several companies for additional information. The e-mail message used to inquire information from Russian companies is included as Appendix 3 at the end of this report.

It should be noted that the author had no prior information concerning the already existing customer-relations Haanpaa Group might possible have established in Russia.

2.1 Target industries

According to guidance from the research client, the scope of the search for potential customers was narrowed down to three industrial sectors which have a foreseeable requirement for the transport of liquid goods. These target industries also make up a considerable share of the client's existing customer base. The number in parentheses after the name of each industry represents the number of companies from that particular industry included in this report.

- Pharmaceutical industry (14)
- Chemical industry (28)
- Chemical forest industry (9)

Chemical industry is used here in the broad meaning and it includes companies operating in the petrochemical industry.

Following are introductions to each of the target industries.

2.1.1 Pharmaceutical industry

After a period of rapid growth in the turn of the 20th century, the Russian pharmaceutical industry today suffers from the consequences of Soviet-era economic and scientific policies. During this time pharmaceutical production operated without patents and trademarks which led to manufacturing of Western drugs under different names. Pharmaceutical production today is still largely concentrated on the manufacture of generic drugs while innovation and development of new drugs is considerably less common. The future goal set by the Russian government is for the pharmaceutical industry to transform from generic manufacturer to innovator of new drugs.

Since the collapse of the Soviet Union, Russian pharmaceutical manufacturers have started to implement the international code of Good Manufacturing Practices (CMP) for their products. There are however large differences between the Russian and European interpretation of the CGM. This has limited the growth of the industry and export of Russian pharmaceuticals to foreign markets. According to Class (2008), only 50 out of Russia's 528 pharmaceutical manufacturers comply with the international CMP standards. (Class 2008)

In spite of the mentioned difficulties, drug manufacturing is one of the fastest growing industries in Russia with annual growth rates of 10-12%. In 2008 the Russian Ministries of Trade and Industry drafted a strategy for the development of the Russian pharmaceutical industry until 2020. The strategy emphasizes the development of innovations sector and simultaneously satisfying the needs of the domestic healthcare system. According to the strategy the share of homemade drugs should be at least 50% by 2020. (Russian Agency for Small and Medium Business Support 2008)[1].

The sample gathered of the pharmaceutical manufacturers in St. Petersburg suggests that the region has more innovative drug producers than Russia on average. Almost all the pharmaceutical companies in the below listing operate research facilities and have patented new self-developed drugs. This finding goes well together with the fact that St. Petersburg is one of the foremost places of business and industry in Russia.

[1] Original Source: ITAR-TASS, 20.8.2008

2.1.2 Chemical Industry

The Russian chemical industry is very small in comparison the United States and even some individual chemical conglomerates. It still suffers from the effects of an expedited transfer to capitalism during which about 900 Soviet chemical enterprises were transformed into over 6500 Russian chemical companies. The industry is far behind its Western counterpart in the development of manufacturing methods.

According to Butrin (2004), the facilities using more modern technologies are commonly built as Western industrial projects. Until lately, foreign investment in the chemical industry has not been common because of extremely long payback periods related to chemical projects. Similar to many other industries, also the chemical industry still specializes in simple and low value-added production.

During the 1990s the Russian chemical industry saw a decade of decline and some experts anticipated the disappearance of the entire industry. However, in 2001 the industry began to show signs of new growth and in the 2000s it has become one of the most attracting targets for investment in the Russian economy.

Butrin (2004) argues that the most successful operators in the Russian chemical industry are companies which process raw materials (e.g. fertilizer producers) or build production chains with other operators. During the recent years, the Russian chemical sector has seen many mergers and hostile takeovers as part of a process of returning to more of a socials-era industrial structure of concentrated capital. This development has lead to growth of efficiency and profitability of the entire industry.

In spite of its small size, the Russian chemical industry has global significance in certain segments. For example, Russian manufacturers control 15% of the world market and a third of the world trade of carbamide (urea) and ammonia used as fertilizers.

According to Brodin (2003), the production of chemical fertilizers is one of the most profitable branches of the Russian chemical industry. Russian fertilizers and other synthetic organic products are sold all over the world including in the United States.

According to the Official Representation of the Leningrad Region, there are 13 large and medium sized enterprises operating in the chemical and petrochemical industry in the Region. The assortment of production is wide, the largest products being sulphuric acid, soda ash, mineral fertilizers and synthetic resin and plastic.

2.1.3 Chemical Forest Industry

The pulp and paper industry makes up approximately 40 % of the total value of the gross output of the forest industry in Russia and about half of the country's large paper and pulp production facilities are located in the Northwest Federal District. Like most industries, also the Russian paper and pulp sector is largely concentrated on low value-added manufacturing. (Karvinen, Välkky, Torniainen & Gerasimov 2006, 74).

In the future the Russian chemical forest industry can be expected to move towards more specialization production. The issue was widely discussed in 2008, when Russia introduced new toll tariffs for the export of raw wood materials in order to limit the export of raw wood.

2.1.3.1 Pulp production

In Northwest Russia the production of pulp is concentrated in the Arkhangelsk Region where about half of the pulp manufactured in the region is manufactured. As Figure 15 shows, the Leningrad region surrounding St. Petersburg is also a considerable pulp production area.

Region	1,000 tonnes
Russian Federation	5,764
Northwest Russia	3,598
Arkhangelsk region	1,895
Leningrad region	510
Republic of Komi	506
Republic of Karelia	430
Kaliningrad region	216
Vologda region	42

Figure 15 Pulp Production in Russia in 2003
(Karvinen, Välkky,Torniainen & Gerasimov 2006, 78)

Small and medium size manufacturers most commonly use the sulphite method for manufacturing of pulp while larger manufacturers mostly produce sulphate pulp. The share of sulphate pulp of the total volume of pulp produced is considerably larger than that of sulphite pulp. Most pulp production in Russia is based on the use of chemicals. Mechanical pulp is manufactured to a much lower degree in Russia than in the Western companies. (Karvinen et al. 2006, 77). Therefore the Russian pulp manufacturing industry has a higher requirement level of chemicals than its Western counterpart.

Most manufacturers also still use chlorine bleaching. However in the recent years the use of non-chlorine or elemental chlorine free (ECF) bleaching techniques has become more common.

Mechanical pulp consists of fibres that have been separated completely by mechanical instead of chemical means. Sulphite pulp is manufactured by cooking wooden materials in liquor containing sodium hydroxide and sodium sulphide. The production of sulphate pulp instead requires the use of a mixture of sodium, magnesium, ammonium or calcium bisulphite. ECF bleaching refers to the use of chronide dioxide instead of elemental chlorine gas in the pulp bleaching process. (Paper Glossary & Dictionary)

2.1.3.2 Paper and cardboard production

About 50% of the paper manufactured in Russia consists of newsprint and approximately 50% of produced paper and cardboard is exported outside Russia. Although development towards more specialized production has taken place, foreign imports still dominate in certain segments of high quality paper and cardboard products.

Figure 16 shows that production of paper and cardboard in St. Petersburg is quite marginal in comparison to the Leningrad Region and Northwest Russia.

Region	Paper 1 000 t	Utilisation rate, %	Cardboard 1 000 t	Utilisation rate, %
Russian Federation	3,682	83	2,696	76
Northwest Russia	2,194	-	1,398	-
Republic of Karelia	759	70	65	13
Republic of Komi	526	100	183	100
Leningrad region	416	97	367	97
Arkhangelsk region	333	99	705	100
Kaliningrad region	71	89	23	95
Vologda region	43	34	26	100
St. Petersburg	32	84	12	-
Novgorod region	13	81	14	59
Pskov region	0	-	4	95

Figure 16 Paper and cardboard production in Russia in 2003 (Karvinenet al. 2006, 79)

2.2 Selection criteria

To be included in the listing of potential customers in this report, companies of the aforementioned industries had to fulfill the following criteria:

- Existence of manufacturing facilities and operations in St. Petersburg or the Leningrad Region
- Use of liquid-form raw materials and -/ or production of liquid finished goods
- WWW-presence in form of a public website

In the course of the research, a large number of companies initially considered to be potential customers proved to only have headquarters or sales offices located in St. Petersburg. Also lack of evidence concerning the use of liquid raw materials or production of liquid finished goods caused dismissal of several companies from the below listing.

2.2.1 Geographical location

A majority of the listed companies are located within the city of St. Petersburg. However, some companies from the surrounding Leningrad Region are also included. This is usually either because of a particular company's regional importance or the apparent lack of representation of a particular industry within the City of St. Petersburg.

This is especially the case with chemical forest industry, which is more often situated further away from the city.

2.2.2 WWW-presence

The Internet-presence of companies in the form of a public website in Russian or English was decided as the factor that would be used to set limits for the scope of the research. This was also necessary, since the corporate websites were most important source of initial information regarding most companies.

A significant portion of Russian businesses have not yet established a presence in the Internet. This could be both because of a comparatively early stage of development of Russian Internet services as well as lack of expertise inside companies. Internet could also be viewed as irrelevant by certain companies of small size or those having a stable and deeply rooted customer base.

Smaller companies without a corporate website operate in a very limited geographical area, often inside the City of St. Petersburg or the Leningrad Region. These companies oftentimes have limited Internet presence in the form of an ad in online business directories such as the local Yellow Pages. Limited Internet presence was, however, not enough to qualify in the listing of potential customers within the scope of the research. A significant number of companies having their own corporate website were also listed in online business directories. Very often contact and other information in business directories was out of date and contradictory in comparison to corporate websites.

2.2.3 Excluded companies

The 51 potential customers listed as a result of this research project were chosen from an initial listing of several hundred businesses operating in or near St. Petersburg. The elimination of a large share of initially promising companies was caused by a few common reasons. Common reasons for exclusion are briefly described next.

2.2.3.1 No manufacturing in St. Petersburg

Several companies which originally stood out from business directories as potential manufacturers in the target industries turned out to have only sales offices or other representative presence in St. Petersburg. Especially companies operating in the chemical and forest industries oftentimes had offices in the city while their manufacturing or refining operations were located in other regions or districts.

Most companies which were examined during the research had their headquarters either in Moscow or St. Petersburg. Typically, if a company is based in Moscow it will have a secondary headquarters or large representative office in St. Petersburg, and vice versa. Companies with headquarters in St. Petersburg typically have the concentration of their operations in Northern Russia and Siberia, while companies which are based in Moscow more often have concentrations in the southern parts of Russia. This is no rule but rather the general idea which was relayed by the research project on the author.

2.2.3.2 Distributors and logistics operators

In some cases, a company chosen for the initial listing of potential customers proved not to have any kind of manufacturing operations of its own. Most typically, a company chosen as a potential manufacturer in the pharmaceutical or chemical industry turned out to be a distributor elsewhere manufactured chemicals or pharmaceuticals. Also some logistics operators concentrating solely on the chosen industries were mistakenly thought to be manufacturers.

2.4 Potential customers

2.4.1 Notes

As a result of the research project, a total of 51 companies in the St. Petersburg area were identified as potentially having requirements for the liquid transport services offered by the Haanpaa Group.

The companies in the listing all fulfill the earlier defined criteria of having manufacturing operations in or near the City of St. Petersburg, using liquid raw materials or producing liquid finished goods and having a WWW-presence in the form of a public website.

Many manufacturing companies in the St. Petersburg area have established their own logistics operation because of lacking for-hire warehousing facilities and high-quality transportation services. However, a majority of companies presented in the listing of potential customers do outsource some or all of their logistics activities.

Most of the identified companies operate independently. However, there are a few exceptions to this rule:

- OAO Svetogorsk is a subsidiary of International Paper Corporation
- OOO Gamma Industrial Coatings OOO, Tikkurila Coatings, OOO Tikkurila Powder Paints and Teks belong to the Tikkurila Group owned by Kemira Corporation
- St. Petersburg Cartonboard and Printing Mill, Kommunar Paper Mill and Ilim Gofropack are subsidiaries of Ilim Pulp Corporation

2.4.2. Listing of potential customers

A more detailed listing of potential customers is included in Appendix 1 at the end of the report.

Pharmaceutical industry

Alkor Bio, Ltd.
OOO Biopin-Farma
Biotech, Ltd.
Cytomed
ZAO Farmproekt
Galenopharm – Pharmaceutical Factory of St. Petersburg
Gerofarm
Kompania “Golfstrim” LLC
OAO Medpolimer
Narodnaya Medicina, Ltd.
ZAO Pharmacor
Pharmsyntez JSC
Polysan, Ltd.
ZAO Vertex

Chemical industry

ZAO Amdor
JSC Anles
OOO Astrachem
Baltic Enterprise, Ltd
OOO Baltika-Reaktiv
Chimex, Ltd.
CJSC Emlak
JSC Ftoroplastoviye Tekhnologii
OOO Gamma Industrial Coatings
OAO Henkel-Era

OOO Kemmiks

OAO Khimik (Luga Chemical Plant)

OOO Khimitek

OOO Khimtrans

OOO Kirishinefteorgsintez (Kinef)

CJSC Lesochem

Morozovksi Chemical Plant

OOO NPF Baltsintez

Phosphorit Industrial Group LLC

Priborlab, Ltd.

Research Center “Chemical Technologies”, Ltd.

OOO Semsot

OAO Zadov Slantsy

OOO Streebog

Teks

OOO Tikkurila Coatings

OOO Tikkurila Powder Paints

ZAO Unikhim

Chemical Forest Industry

Ilim Gofropack

Zavod Kartontol

Kommunar Paper Mill

OAO Segezha Pulp and Paper Mill

St. Petersburg Cartonboard and Printing Mill – SPB KPK

St. Petersburg Paper Mill of Goznak

OAO Svetogorsk

Syassky Pulp and Paper Mill

OOO Tekhnokraft

2.5 Conclusion

Most of the potential customers identified in this report are members of the chemical and pharmaceutical industries. A majority of regional paper and pulp manufacturers commonly operate outside the perimeters St. Petersburg. In order to also gain an overview of the chemical forest industry in the region, a number of forest companies outside the city were included in the listing. It is the author's opinion, that the listed companies of each target industry relay a realistic image of the current situation of each industry in the St. Petersburg area.

A considerable amount of potential customers were identified even though none of the target industries were among the biggest industrial clusters of St. Petersburg, The author is confident that a large number of additional potential customers can be identified by using the listed companies as a reference material in the search for similar and related companies. Another way to find potential customers in the St. Petersburg area would be looking into the customer-base of competing logistics operators.

The most promising factor in terms of future business opportunities in St. Petersburg is the large variety of industries and companies operating in the area. There are undoubtedly numerous potential customers for the Haanpaa Group also in other sectors than those targeted in this research. Although the Haanpaa Group does not generally handle transportation of food-related goods, especially the food processing industry in St. Petersburg could potentially offer considerable business opportunities.

3 Competitive situation of the St. Petersburg logistics sector

3.1 Competitiveness of Russian transport logistics

Although loaded with potential, the Russian logistics sector suffers from deteriorating infrastructure as a result of insufficient level of investment. According to Pekkarinen (2005, 58) this lack of investment in logistics infrastructure and equipment is the greatest single problem facing Russian transportation logistics today. Although ambitious plans concerning the development of the federal and local transportation infrastructure have been made through the decades, in reality, progress is taking place extremely slowly. A recent example of far-reaching efforts of logistics infrastructure planning is The Strategy for the Development of St. Petersburg Transport-and-Logistics Complex (St. Petersburg Government 2007) which is also used as reference material for this report.

Lack of investment in logistics infrastructure by the federal and local governments is caused by the assumption that the private sector will take responsibility for the development of the logistics industry. Pekkarinen (2005, 58) questions whether the private sector is actually ready to assume the role in the development of infrastructure in the extent that the federal and local officials are expecting. The private sector has numerous other targets for investment in logistics such as transportation equipment, which is for most part outdated and in urgent need of renewal.

Protectionist measures are still commonly used to secure the dominant position of Russian logistics operators in the domestic transport market. This has however had a negative impact on the competitiveness of Russian logistics operators. Being shielded from the toughest foreign competition has not forced companies to modernize and become increasingly efficient. With the opening of the logistics sector to foreign competition, foreign logistics operators have considerable advantages in the Russian market due to their comparatively higher level of efficiency, reliability, lower price and wider range of offered services.

3.1.1 Competitiveness of Transport Modes

3.1.1.1 Motor transport

Road transport as a whole can be expected to increase significantly in the coming years because of its flexibility. In Northwest Russia the condition of the road network and the role of motor transport are currently much higher than in many other regions in Russia.

The current condition of motor vehicles used by the transport sector is even more of a challenge than the condition of the infrastructure itself. Especially smaller operators use outdated transport equipment which results in delays due to breakages and accidents. (Pekkarinen 2005, 65).

3.1.1.2 Railroads

Railway transport is by far the most competitive form of transport in Russia both in terms of the current state of infrastructure as well as the extent of the network. Railroads have received large amounts of investments compared to other forms of transport. The major issue affecting the competitiveness of railways is the lack of modern cargo terminals and storage facilities along the existing rail network. (Pekkarinen 2005, 55).

As long as most of the transported goods are bulk and raw materials, the current level of competitiveness will prevail. The imminent transformation of Russian industries toward more specialized production will however create substantial new requirements for the terminal-warehouse infrastructure.

3.1.1.3 Water transport

Water transport which includes both, sea and inland waterway transportation has considerable benefits, mainly related to economies of scale and the extent of the inland waterway network in Russia. The future development of the terminal-warehouse infrastructure in waterside areas will determine whether water transportation will be

able to reach its entire potential.

3.1.1.4 Aviation

Russia aviation lacks sufficient investment and infrastructure in order for it to be competitive in the global market of air transport. The sector operates sufficiently but is characterized by high prices and small capacity. According to Pekkarinen (2005, 71-73), the number of airlines in Russia increased from 1 to 393 in 1994 when Aeroflot was split. This number has since diminished together with the number of operational airfields.

3.1.1.5 Summary

All modes of transport in Russia can be said to perform sufficiently and therefore have the potential to develop world-class competitiveness. It is especially worth noticing, that that Russian transport operators have several natural competitive advantages, mainly related to the country's geographical size and their local know-how. Especially railroad and inland waterway transportation can potentially offer significantly more value than anywhere else in the world. Table 4 presents an analysis by Pekkarinen (2005) concerning individual transportation modes in Russia.

Table 4 Competitiveness of transport modes according to Pekkarinen (2005, 91)

Sub-sector	Evaluation	Brief analysis
Railroads	Competitive	Largest volumes and highest investment prospects make the railroads the most competitive mode. The TSR route will increase the potential, if it is correctly utilized.
Road	Potentially competitive	Needs a lot of enhancements in infrastructure, but as in Europe, the role of road transports will grow in the future.
Water	Potentially competitive	New investments in the ports will increase competitiveness of the transport. The inland waterways are domestically important corridors, whereupon also their infrastructure should be updated.
Air	Potentially competitive	The use of Russian airspace for international flights between e.g. Asia and Europe will increase air traffic. If the airports are modernized as planned and the aviation industry manages to increase its competitiveness, the Russian air traffic will grow once again because of the long domestic distances.
Other logistical operations	Low competitiveness	Though not examined thoroughly in this study, the overall picture based on literature suggests that the competitiveness in different fields in logistical services and operations is low in Russia. The situation will change when the Russian economy develops enough and/or foreign actors invest and participate in the development process. This offers great opportunities for Finnish actors as well.

Development of each mode depends largely on the investment climate and the level competition in the markets. The Russian government has generally opted to protect its transport industry from some foreign competition. Only through opening up to foreign operators and facing direct competition can the full potential of different transport modes be realized.

3.2 Common Features of Russian Logistics Operators

3.2.1 Weaknesses

The most important differences between Russian and Western logistics operators are related to the specific nature of the industrial customer base in Russia as well as inefficiency and old-fashioned business processes.

3.2.1.1 Lack of corporate partnerships

Cooperation and partnerships between companies have only started to develop during the last few years as a result of the emerging of a new generation of managers and the development of information technologies capable of lowering barriers of cooperation. The insufficient developed of infrastructure is for a certain part the result of this lack of dialogue between operators of the logistics sector. Had lines of communication existed between companies, large-scale infrastructure projects could potentially have been realized much earlier.

3.2.1.2 Low level of international activity

The level of international know-how and business activities in Russian logistics companies is very limited. This is especially true in small and medium size companies. Most of the existing international activities are limited to the area f the former Soviet Union and the CIS countries. Confinement to the safety of the Slavic world gives foreign operators considerable competitive advantages.

3.2.1.3 Poorly conducted privatizations

Many companies operating in the Russian logistics sector have been privatized or split from former state-owned enterprises. Examples of such companies are hundreds of small air cargo operators which all used to be part of Aeroflot Soviet Airlines until 1991. In many cases privatization processes have been done in too much of a hurry,

resulting in the business processes remaining inefficient and uncompetitive.

3.2.1.4 Soviet-era business models

The previously described shortcomings of Russian transport operators can be attributed to outdated business models that still play a considerable role in many Russian businesses. Inefficient processes and inflexibility slow the development and internationalization of many companies throughout the country.

During the Soviet period, business activities were centrally planned and the development of the industry and infrastructure did not belong to the businesses in the same fashion as today. Corporate partnerships were not formed by companies themselves but instead were given by the central administration. The inherited "business model" with low level of knowledge about market economy is a great burden for Russian business in general. Luckily the trend seems to be that more and more students are trained according to higher western standards. (Pekkarinen 2005, 112).

3.2.1.5 Over-concentration on transport

Due to the nature of Russian industrial manufacturing, the logistics sector is still largely concentrated on transport of raw materials and bulk products. However, due to the emergence of more specialized foreign and domestic industries the need has risen for more value-added services. Although Russian 3PL operators have become more common, Russian logistics companies offer very limited warehousing, distribution and consolidation services. This could therefore be one of the most important advantages of foreign operators in the Russian market.

3.2.1.6 Outdated transport equipment

Small Russian logistics operators commonly use old and outdated cars and trucks which raise the risk of accidents, delays and loss of cargo. Larger companies (such as the ones listed in this report) however use mostly new, western-made transport equipment.

Figure 17 demonstrates the trend in which especially the share of older trucks was increasing from 2000-2003.

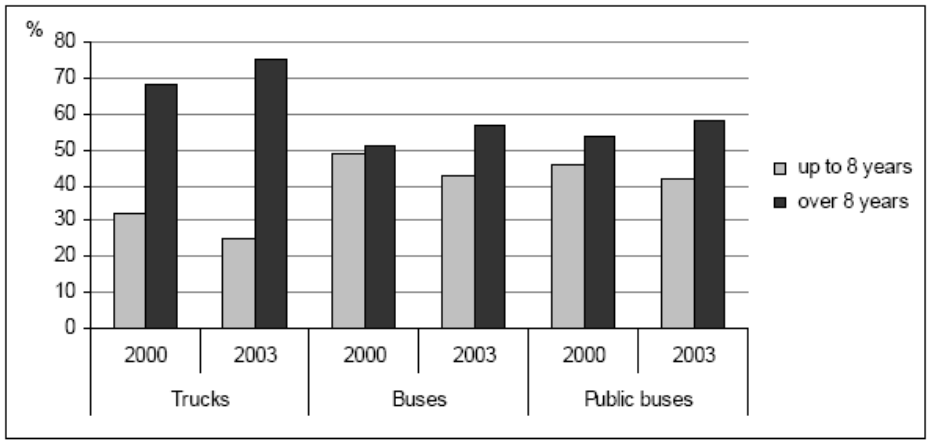

Figure 17 Russian road vehicles by age (Pekkarinen 2005, 65)[1]

Whether the trend shown above has continued beyond 2003 is not certain, but the current weakening economic situation can in the author's opinion be expected to encourage the use of older equipment versus purchasing new ones.

3.2.2 Strengths

In spite of low level of development in other areas, Russian logistics operators also have considerable advantages compared to foreign operators, if successfully utilized.

Some of the strengths of Russian logistics companies against foreign competitors include their specific know-how of local business culture and language, cost advantages related to protectionist measures and taxation, flexibility and earned reputation in the local markets. (Pekkarinen 2005, 98).

[1] Original source: Goskomstat 2004. Main Indicators of Transport Performance in Russia, 2004: Statistical handbook. Federal Service of State Statistics (Goskomstat), Moscow, 109 pp.

3.3 Logistics companies operating in St. Petersburg

As a major hub of Russian transport logistics, St. Petersburg is home to a large number of operators of the logistics sector.

Table 5 displays the number of companies registered in the Transport Portal of St. Petersburg under various business activities. It should be noted that a majority of the companies are listed in more than one activity category.

Table 5 Amounts of companies under different logistics activities (Transport Portal of Saint Petersburg)

Activity	Number of companies
Cargo transportation	876
Forwarding services	654
Customs services	399
Logistics services	396
Other port services	285
Warehousing services	266
Liner agency	94
Stevedoring services	66
Information services	46
International passenger transportation	36
Education services	17
Administrative services in transport sphere	7

The large number of cargo transportation and forwarding service providers in the above listing can be explained by the fact, that most transport companies in St. Petersburg are small and medium size road transportation companies operating with a fleet of only one or a few trucks. Most of these companies only operate within the Leningrad Region or Northwest Russia. There is both a lack and increasing demand of operators covering the entire territory of Russia. (Bunina 2004)

3.3.1 3PL Operators in St. Petersburg

Approximately 50 companies in St. Petersburg market themselves as Third Party Logistics (3PL) operators. The market of companies offering full logistics outsourcing services to producers is dominated by large logistics and transportation companies like Nienshans Logistics, Interterminal, Mega-Logistics, Relogix, FM-Logistics, STS-Logistics and Velts. (Dranitsyna 2008).

3.3.2 Emerging of new operators

Due to the massive increase in the demand of logistics services during the last decade, many new transport and logistics companies have emerged in the St. Petersburg region. These companies founded after the fall of the USSR generally apply more modern business processes than companies which have been operating since the Soviet-era. Some companies have found new areas of expertise in logistics and have transformed their core business to providing logistics services.

Companies which have in the recent years changed their core business to logistics include former retail-giant Yevropak Trading House which now operates a warehousing terminal at Vasilievsky Island and former beer seller-distributor Porter, now acting as distribution logistics service provider for breweries and trading companies. (Kornyushin & Ebohon 2005).

3.3.3 Listing of competitors

Following is a listing of logistics companies operating in St. Petersburg. The purpose of the listing is to give the reader a general idea of the range of services offered in the St. Petersburg logistics market and the overall competitive climate in the sector.

3.3.3.1 Selection process and criteria

The logistics operators presented here represent a reasonably random take of the

logistics sector of St. Petersburg. The process of choosing companies for the listing consisted of running queries on Russian and European business directories, listing a large number of companies and then checking for further information on each company to determine the size, scope and range of services.

Similar to the search of potential customers in the previous section, the existence of corporate website for each company was determined to be the first limiting criteria. This was also the best way to initially eliminate the smallest companies from the listing.

It should be noted that the author did not receive any prior information concerning the Haanpaa Group's possible partners or collaborators in St. Petersburg. It is therefore possible that such companies can also be found in the listing of possible competitors. The listing includes companies of which some offer liquid logistics services while others do not. This is because the purpose of the listing is to provide a balanced overview of the entire transport sector and the related competitive situation.

3.3.3.2 Transport modes used by listed competitors

Over the course of the listing, some preference was given to companies operating in motor transport. However, the transport mode was not a determining factor in whether or not a company was listed. The natural effect of concentration on large and medium sized companies was that most of the listed companies operate with multiple modes of transport. The below graphic displays the share of each transport mode in the listing of competitor companies at the end of this section of the report.

3.3.3.3 Common elements of listed competitors

The logistics operators in the below listing have several common features which are not separately mentioned for each company. Most of the included companies are Russian operators which have their base of business in St. Petersburg. Included in the listing are also several foreign-owned companies which have established their presence in the local logistics sector.

The listed companies also commonly

- Offer and arrange multimodal transport services
- Are large or medium sized and operate with fleets of more than two or three pieces of transport equipment
- Operate internationally unless a geographical scope is separately mentioned
- Offer some value-added services in addition to transport of goods

The listed key services alongside each company are services by which the company wants to profile itself. These commonly represent the particular company's areas of core competence or concentration of capacity. The separate mention of liquid and dangerous cargo handling is included if the company in question has listed such service in its list of offered services in its corporate websites or another source.

3.3.3.4 Company listing

A detailed listing of competitor companies with information of key services offered by each company is included in Appendix 2 at the end of the report.

ABX Logistics
ALEX Auto-Logistical ExPress
Avalon Logistics
Baikal-Servis
OOO Baltfor
Baltic Customs Agency
OOO Baltic Land
Baltic Transportation Co.
Baltica, Ltd.
Baltica-Trans
Baltimpex
Belomortrans-Logistik
BW-Group
DB Schenker
Eurologistics
Flame Line, Ltd.
FM Logistic
Gardarica
Interterminal
Intl. Cargo Forwarding Group
Intrans Spb
Intrans, Ltd.
Ispytatel Holding Group
ItellaNLC
Izopet
Kango Logistics
Kuehne+Nagel
Logwin
Megalogistic
Miltrans
Mortrans
Neva-Delta Shipping Agency
Neva-Group
Nienshans Logistics
Petroline Logistics
Pointer
Rail Continent
R-Line
Rusmarin
Russian Logistic Service
Scandinavia Sovavto – St. Petersburg
Soyuzhimtrans International
STS Logistics
OOO Tekhnosnab
Transcargo
Transit, Ltd.
OOO Transphere Air
Unitrans – P.R.A.
Valdetron
WTN-Group

3.4 Conclusion

A common element among many logistics service providers in St. Petersburg is their evolution from customs brokerages to logistics operators. A number of companies included in the listing have started as customs brokerages and later started warehousing and transportation services, still holding customs agency services as their area of core competence. Such companies have a competitive advantage due to their expertise of the Russian customs and their established network of connections which can have a large effect on the smooth flow of goods through customs.

Few companies highlight their services related to liquid logistics in any considerable way. While no companies operating only in the field of liquid transport could be found, a number of companies do market these services as part of a larger menu of services.

In the course of the search for logistics companies currently operating in St. Petersburg it became apparent that the overall level of competition in the regional logistics market is very high. There appear to be both Russian and international operators that have established a strong regional presence and therefore have a big advantage over new competitors entering the market. As previously stated, the largest demand for capacity and new solutions in the St. Petersburg logistics market is related to value-added services such as warehousing, consolidation and distribution.

The Haanpaa Group's concentration on the transport of liquid goods is a considerable competitive advantage in the St. Petersburg logistics market. According to the general understanding that emerged to the author during the search for existing transport operators, the number of companies operating in this particular segment in St. Petersburg is much lower than the amount of logistic operators there in general. None of the logistics operators encountered during the research were directly comparable to Haanpaa Group in terms of business segment. Although a number of companies listed the transport of liquid and hazardous goods as a service, none highlighted it as the company's main service. This is why it is the author's opinion that the Haanpaa Group is in a very good position to gain market share in the St. Petersburg Region.

It is the author's opinion that the Haanpaa Group, in entering the St. Petersburg logistics market, should try to take maximum advantage of its specialization in liquid logistics. This will be an easy way to stand out from competitors which do not highlight their liquid transportation services in any particular way. Haanpaa's long history and concentration on liquids also gives it credibility which is lacking for companies which generally consider liquid transports a marginal activity.

4 Future Infrastructural Development of St. Petersburg

4.1 Problems related to the logistics infrastructure

Having all forms of transport present in St. Petersburg is a huge opportunity for the city to develop into an intersection of modern multimodal transport. Currently there are a number of issues making this development more difficult, most of them resulting form poorly coordinated planning and an unexpectedly rapid change in the demand for both quantity and quality of logistics services.

Urban and logistics infrastructure planning in St. Petersburg has earlier been conducted based on unreliable forecast of future growth. While the transport infrastructure has been continuously developed and expanded during the last decade, it appears that too short a time span has been used in planning, resulting in the need to continuously expand and reconstruct.

St. Petersburg faces the challenge of dealing with multiple layers of logistics infrastructure from different time periods. As is the case with multiple forms of transport, the logistics infrastructure in St. Petersburg is remains concentrated in the central areas inside the Ring Highway. This is the underlying reason for the problems related to transport delays and exhaustion of the existing forms of transport.

In the next section are described the main problems related to different categories of infrastructure in the St. Petersburg area.

4.1.1 Motor transportation

The condition of the road network is one of the most significant problems facing the transport sector of St. Petersburg. According to the Strategy for the Development of St. Petersburg Transport-and-Logistics Complex (St. Petersburg Government 2007), the efficiency of motor transport is two to three times less efficient than in some European

countries.

A total exhaustion of the existing roads and a continuously increasing number of cars has made St. Petersburg a bottleneck for motor transport. As a result, the average moving speed on major St. Petersburg highways does not often exceed 20 km/h during week-days and slows down even further during rush hour (St. Petersburg Government 2007). Traffic jams and slow moving speed cause delays and raise the costs related to motor transport.

There are an insufficient number of detours that would avert freight traffic away from central St. Petersburg. Also, the Large Port of St. Petersburg is not well enough connected to the highway network which causes lower efficiency and delays in the throughput of the port.

Other problems related to the motor transport infrastructure in St. Petersburg include a lack of multi-level intersections and bridges, lack of cargo motor transport parking places at the city entrances and lagging development of automated traffic control systems. The existing highways are mostly too narrow for the growing traffic volume in the region and are undergoing continuous reconstruction and expansion, often causing more traffic jams and congestion. (St. Petersburg Government 2007).

The reason for many of the problems related to motor transport infrastructure seems to be the lack of coordinated and far-reaching planning as well lack of sufficient accompanying investment. The city has actively supported the development of massive retail complexes attracting large flows of cars at central areas where the road network is already completely exhausted.

4.1.2 Railway infrastructure

According to St. Petersburg Government (2007), St. Petersburg suffers from low efficiency of railway freight traffic. Railway infrastructure occupies approximately 6% of the city's land area and is mainly concentrated in the central parts of the city. Warehouses and trans-shipment facilities located in the middle of the city cause

considerable motor transport flows in the center and are for most part outdated and do not comply with modern requirements.

Approximately half of the cargo using the rail junction in central St. Petersburg only passes through without processing. This is because of the lack of a railway detour which would allow transit cargo traffic to pass the central areas when entering or exiting the port. Having the St. Petersburg railway junction act as a marshalling yard for transit freight limits its throughput of cargo traffic and weakens its functioning as a major intermodal transport link. (St. Petersburg Government 2007).

Multimodal connections between railroad and other forms of transport are limited due to the wide spread of various facilities in St. Petersburg. The relocation of warehouse and terminal infrastructure further away from the central parts of the city will require new railway connections to be constructed.

4.1.3 Port infrastructure

According to The Strategy for the Development of St. Petersburg Transport-and-Logistics Complex (St. Petersburg Government 2007), the Large Port of St. Petersburg, currently operating at its ultimate capacity, is unable to increase the volume of reception and processing of freight cargo. The annually rising demand for capacity has resulted in the increased use of Finnish and Baltic ports for transshipment of Russian cargo. The lack of capacity at the Large Port of St. Petersburg therefore directly results in longer transport times and increased transport expenses in the region

The fundamental problem with the Large Port of St. Petersburg is the port's confined location at the center of St. Petersburg and the dense industrial construction of the coastal line which makes it difficult to develop the port by physical expansion. The port suffers especially from deficiency of land area for expansion of its storage, processing and consolidation facilities. The port is also in need of additional container handling areas. Dry ports at rear-terminal areas and development of outer harbor areas are being planned to address this problem. (St. Petersburg Government 2007).

The Large Port of St. Petersburg does not yet have sufficient road connections to the

Ring Highway and the federal road network. This results in a slow throughput of motor transportation in the port and greatly reduces the value of the port as a connecting point of multimodal transport. The Western High-Speed Diameter currently under construction aims to relieve this problem by providing shorter connections from the port to the highways

The railway infrastructure at the Large Port of St. Petersburg has developed inconsistently and lacks coordination of operation which results in periodical failures of the rail service to the port. This decreases the efficiency of the port's function as a link of multimodal transport. (St. Petersburg Government 2007).

Lack of sufficient infrastructure can be largely blamed for the capacity related problems at the Large Port of St. Petersburg. However, insufficiencies in port processes and other non-infrastructural issues should also be taken into account. For example, unpredictable customs clearance procedures and other human related delays in cargo handling as major issues having a negative impact on the functioning of the port .

4.1.4 River transport

St. Petersburg being the terminal point of the Volga-Baltic waterway, inland waterway transportation is one of the key elements creating unique value for the city from a logistics perspective. According to the St. Petersburg Government (2007), the waterway flowing through central St. Petersburg in form of the Neva River is currently suffering from a shortage of river-going vessels as well as insufficient capacity due to limited time available for raising the drawbridges crossing the river.

Bridges are raised only at night and also then only for a few hours at a time and at peak periods, vessels are forced to wait for passage up to 5-6 days at a time (GlobalSecurity.org). River transport is also poorly coordinated and currently lacks an up-to-date communication and control system. This results in delays and damages caused by accidents and carelessness. (St. Petersburg Government 2007).

4.1.5 Air Transport

Air transportation is the least developed sector of transport logistics in St. Petersburg. This is because of poor cargo handling facilities at the Pulkovo airport and an insufficient number of flight connections between St. Petersburg and major international destinations. Warehousing at the Pulkovo cargo terminal is limited to short-term storage for departing goods. There are virtually no facilities in the airport for cargo consolidation and other value added logistics operations. (Pekkarinen 2005, 71).

Most air freight is transported in the luggage holds of passenger airplanes. Due to the lack of cargo-only flights the capacity for air freight is limited. Due to an insufficient number of direct flights to St. Petersburg, cargo is often delivered via air to Moscow or Helsinki and then transported to St. Petersburg by truck. (St. Petersburg Government 2007).

Because of an insufficient number of routes and a small number of air cargo operators servicing St. Petersburg, air transportation remains an expensive and limited option for many companies. Demand for air transport services is slowly increasing and improvements can however be expected in the form of new cargo handling capacity at the Pulkovo airport. St. Petersburg has the potential of again becoming a hub of air transport in Russia. Comparing to the current situation, the volume of cargo transported by air was 50% higher in 1991 than it is today. (St. Petersburg Government 2007).

4.1.6 Terminal-Warehouse Infrastructure

An inadequate supply of multimodal contract warehousing is currently one of the biggest problems facing new businesses in the St. Petersburg Region (St. Petersburg Government 2007). This forces many companies operating in the St. Petersburg Region to invest heavily in non-core business functions such as construction of self-owned warehouses and building of motor transport divisions.

Most of the existing warehousing facilities in St. Petersburg are designed for the use of

small and medium size businesses and do not comply with the requirements of large companies in size nor quality. In 2006, only about 8% of the existing warehousing capacity in St. Petersburg could be classified in classes “A” and “B+” and to therefore meet modern standards. (St. Petersburg Government 2007).

Although all forms of transport are present in St. Petersburg, only few warehouses and terminals today can provide effective interaction between various forms. The apparent absence of coordination between development of warehousing and the rest of the logistics infrastructure in St. Petersburg is one of the main reasons for the inadequacy of the warehousing sector. Small warehouses are scattered in badly congested areas without good transport connections. The relocation and centralization of warehousing facilities to designated areas outside the Ring Highway is one of the key objectives of the St. Petersburg logistics strategy (St. Petersburg Government 2007).

According to the St. Petersburg Government (2007) , only few companies in the St. Petersburg Region offer complex logistics services that offer value added services other than physical transportation of goods. The lack of so-called 3PL-operators is a sign of the overall early stage of development of the entire logistics sector in the St. Petersburg Region.

Recently, the share of non-transport logistics activities in the total share of the logistics market in St. Petersburg has been showing an upwards trend. As shown in Table 6, this is especially true in the case of terminal services.

Table 6 Share of various logistics service (St. Petersburg Government 2007)

	Volume of the market in 2005, billion roubles	Share in total volume of the market, %	Volume of the market in 2006, billion roubles	Share in total volume of the market, %
Transportation services	98,6	72	103,13	63
Terminal services	17,0	12	29,98	18
Forwarding services	13,8	10	15,6	10
Warehousing services	4,1	3	5,41	4
Customs registration	4,8	3	8,3	5
Total	138,3	100	163,61	100

Services such as warehousing, distribution and other supply chain management activities combined with the already-existing multimodal transport services are currently in high demand and present a number of business opportunities for capable operators.

4.2 General Direction of Future Development

The Strategy for the Development of St. Petersburg Transport-and-Logistics Complex (St. Petersburg Government 2007), is the first attempt in creating a comprehensive plan for the coordinated development of the entire logistics infrastructure in the St. Petersburg Region. Many of the problems facing the region are directly linked to the lack of coordination between transport and urban planning as well as between various forms of transport.

According to the Strategy, St. Petersburg aims to create a unified system of priorities for the balanced development of its transport, terminal-warehouse and distribution infrastructure. These development efforts are required to ensure the continuing competitiveness of the city and the flow of revenue from logistic services.
Following are some of the guiding principles of future development of the St. Petersburg logistics infrastructure as outlined by St. Petersburg Government (2007). These goals should give a general idea of the direction of future development of logistics infrastructure in the St. Petersburg region

- Reduction in the cost of transport in economy
- Improvements of transportation availability
- Creation of added value
- Increase of reliability and efficiency of operation of the transportation-and-logistics complex of St. Petersburg
- Maximum realization of the advantages of the geographical position of St. Petersburg for formation of a competitive transport-logistics and distribution center in the Northwest of the Russian Federation
- Provision of efficient interaction of the various types of transport
- Transport and terminal-logistics infrastructure while realization of multimodal conveyance

The emphasis of the Strategy is on coordination of development efforts and increasing the efficiency of use of the city territories. Through the creation of a coordinated strategy the city also aims to stimulate investment activities and minimize the negative

socio-economic and ecological effects resulting from insufficient logistics infrastructure. The future development of the St. Petersburg logistics infrastructure will bring considerable improvements to the transport-logistics sector.

4.2.1 Motor transport

Road transport can be expected to become increasingly important in the future strategic planning of St. Petersburg transport infrastructure because of the growing volumes of cargo handled at the Port of St. Petersburg. Whether road transport will also become more widely used in other than transit traffic depends on the local small and medium size companies (Pekkarinen 2005, 63). The primary users of road transportation services are small and medium size companies. In the recent years the Russian government has stimulated the growth of small businesses because of their ability to foster economic growth. If this trend continues, the demand for high quality road transportation services can be expected to increase.

In April, 2009 the Government of St. Petersburg also approved the construction of an additional 500 kilometers of roads in the city which will include 138 kilometers of highways, 75 new interchanges and six new crossing of the Neva River. These projects will be realized within the next six years and they will be for most part funded from the federal budget. (Transport Portal of St. Petersburg 2009a).

Currently the most important development projects related to the road transport infrastructure of St. Petersburg are the construction of the Western High-Speed Diameter Highway, the Ring Highway and the Orlovski Tunnel.

4.2.2 Railroad transport

Railroads being the most important mode of transport in Russia and one of the key factors affecting the multimodal functionality of the Large Port of St. Petersburg, the railroad infrastructure of St. Petersburg can be expected to see considerable improvements in the future. Such projects could include expansion of the railroad network to new port and warehousing areas as well as modernizing of the existing railroad storage and warehousing facilities. The long-term goal for the development of

railroad transport in St. Petersburg is the diversion of transit cargo handling facilities further away from downtown areas.

4.2.3 River transport

Development of inland water transportation infrastructure has recently become a priority for the Russian Government. The current economic crisis can also be expected to increase interest in inland water transport, which is considerably cheaper than any other mode of transport.

Once the construction of the Orlovski Tunnel connecting the two banks of the Neva River is completed in 2015, the capacity of the Volga-Baltic Waterway is expected to increase by 1.2 times or by 3 million tons of cargo per year. (GlobalSecurity.org).

4.2.4 Terminal-Warehouse Infrastructure

The development of dry ports to the outskirts of the Large Port of St. Petersburg is one of the currently ongoing development efforts of terminal-warehouse infrastructure. Also one of the aims of the city's development strategy is the concentration of warehousing capacity to logistics villages located in the proximity of the Pulkovo Airport and the Ring Highway (St. Petersburg Government 2007).

As Figure 18 from Asaul (2008) depicts, the terminal-warehouse capacity of St. Petersburg can be expected to increase radically in the coming years.

Indicators	Measurement Unit	Actual Indicators	Target Indicators		
		2005	2010	2015	2025
Number of Logistics Villages	No.	1	2-3	3-4	5-6
Area of Roofed in Warehouses	thou. of m²	5 250,0	6 410,0	7 260,0	8 240,0
Within the Freeway Zone	thou. of m²	5 076,0	5 176,0	4 750,0	2 550,0
In the Vicinity of Freeway an Beyond	thou. of m²	174,0	1 234,0	2 410,0	5 690,0
Area of Port Terminal	Hectares	240,2	318,4	418,0	564,8
Area of Inland Terminal Facilities	Hectares	66,0	98,8	138,5	199,5
Area of Regional Distribution Centers	thou. of m²	564,6	704,6	937,9	2 580,9

Figure 18 Evolution of terminal-warehouse infrastructure in St. Petersburg (Asaul 2008)

Figure 19 indicates the trend in which the terminal-warehouse infrastructure in St. Petersburg will be increasingly concentrated outside the central areas of the city.

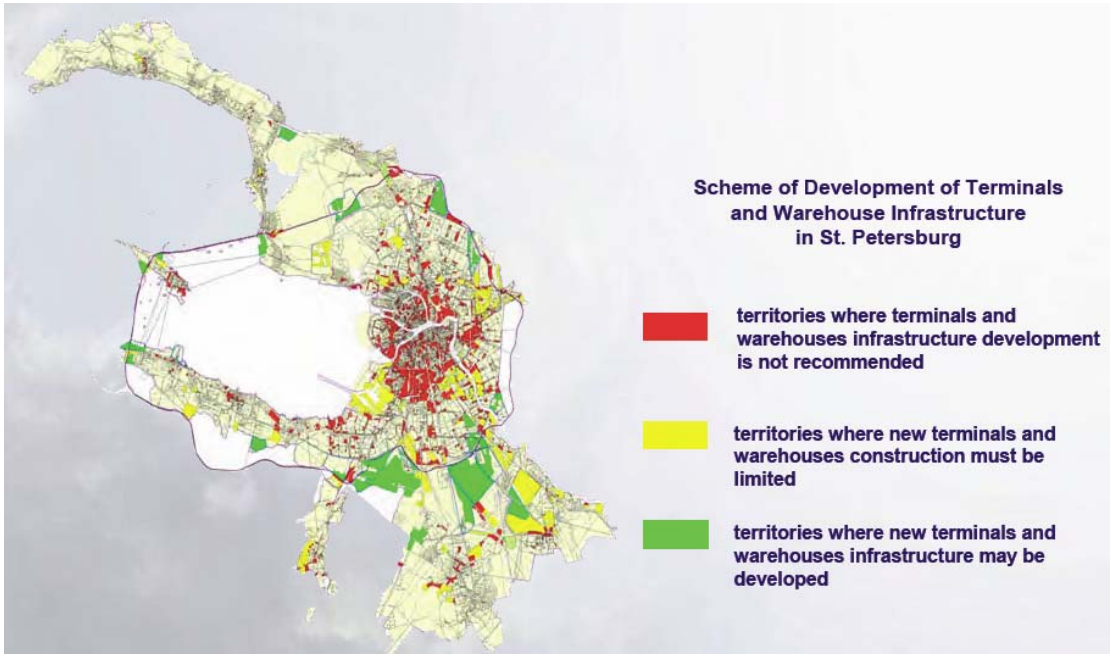

Figure 19 Concentration of new warehousing capacity in St. Petersburg (Asaul 2008)

4.3 Future development projects

The large number of construction and development projects currently underway in St. Petersburg relays an idea of the level of pressure which has mounted on the city's transport infrastructure with the growth of cargo volumes and the re-vitalization of the Russian economy. The main target for many of the projects is to help avoid the total collapse of the transport system and to allow further growth of the transport sector. Many projects being realized today have been planned for decades but have been put off until later due to shortsighted planning and lacking coordination. Projects are being realized now more as damage control than as preparation for the future.

The following section will introduce several projects of infrastructural development which are either currently underway or are being planned for the future. At the time of writing, the downturn of the world economy has temporarily postponed many these projects. None of the projects are expected to be cancelled because future functionality of the St. Petersburg transport infrastructure greatly depends on their realization.

The projects included in this report:

- Western High-Speed Diameter Motorway
- Orlovski Tunnel
- St. Petersburg Ring Highway
- Moscow – St. Petersburg Highway
- Expansion of the outer ports of the Large Port of St. Petersburg
- Pulkovo Airport Development
- Expansion of Ust-Luga Port

4.3.1 Western High Speed Diameter

Construction of a new road linking the central and Northwestern parts of St. Petersburg was already being planned in the 1970s. However, the realization of these plans took over thirty years. The project was finally accepted and included in the 2005 Master Plan for St. Petersburg because the traffic volumes on the access roads, bridges and embankments in the central and Southern part of the city had become critical. Traffic congestion in was also hindering the development to the Large Port of St. Petersburg. (JSC Western High Speed Diameter 2007).

According to JSC Western High Speed Diameter (2007), another driving force behind the realization of the WHSD project is the forecasted increase of overall traffic volume in the region in the coming years. The number of motor vehicles in St. Petersburg is forecasted to double by year 2025. Meanwhile, the cargo traffic to and from the Grand Port of St. Petersburg will grow by a factor of 3 to 4.

The main goals of the WHSD project are (JSC Western High Speed Diameter):

- Reducing congestion and transportation delays
- Increasing traffic safety
- Improving the environmental situation
- Encouraging the construction of new housing areas, industrial facilities and logistics terminals in the Northwestern part of the city
- End the isolation of the Vasilievsky Island caused by drawbridges

To fulfill these goals, the WHSD is expected to

- Avert traffic away from the city center
- Provide a new outlet for Scandinavian freight traffic
- Develop better road access to the Grand Port of St. Petersburg
- Concentrate major traffic on motorways
- Link major port, rail, air and road terminals to the regional road network
- Provide a permanent mainland connection for Vasilievsky Island

4.3.1.1 Features

According to JSC Western High Speed Diameter, the construction project which began in 2006 is to be finished the end of 2011 and includes the following stages:

Phase 1 and 2: Southern Section
Phase 3: Northern Section
Phase 4 and 5: Central Section (Neva Bay and Vasilievsky Island)

The project will feature the construction of 14 interchanges at the intersections of the Motorway with city roads, a total of 24 km of overpass sections, a tunnel under the Smolenka River and an open trench road along Vasilievsky Island.

According to JSC Western High Speed Diameter (2007), once finished, the WHSD will be the most modern road in Russia. It will include an Automatic Traffic Control System, traffic cameras, an emergency alert system, an environmental monitoring system and meteorological observation posts. The WHSD will be toll road with planned nine toll collection stations. The motorway will have a main road status in respect to all crossing or adjoining roads. It will also feature changing speed limits and will not be used by any form of public transport.

Once completed, the WHSD will greatly improve the situation of cargo transportation in the central areas of St. Petersburg by linking the existing road network to the E18, the Ring Highway and federal roads M10, M11 and M20 (Kolleeny 2007).

4.3.1.2 Current status

The first stage of construction was completed during the last quarter of 2008 and allows truck traffic to move from the third and fourth areas of the Large Port to the St. Petersburg Ring Road and federal road network (Transport Portal of Saint-Petersburg 2009b). So far, the project has progressed in schedule, but due to uncertain economic conditions in 2009 the project could be delayed in the future.

The WHSD is one of the first large-scale projects in Russia combining both public and private financing. On February 10, 2009, St. Petersburg Vice-Governor Molchanov announced that during the next two years the construction of the WHSD would be financed solely from the city and federal budget because of the lack of private funding during the current economic crisis. At the same time Molchanov also stated that stopping the project was impossible due to its importance to the overall infrastructural development of St. Petersburg. (Transport Portal of Saint-Peterburg 2009c). in the current economic situation the delay of the completion of the WHSD can be expected.

Figures 20 and 21 illustrate the location, construction stages and planned traffic intersections of the Western High Speed Diameter Highway.

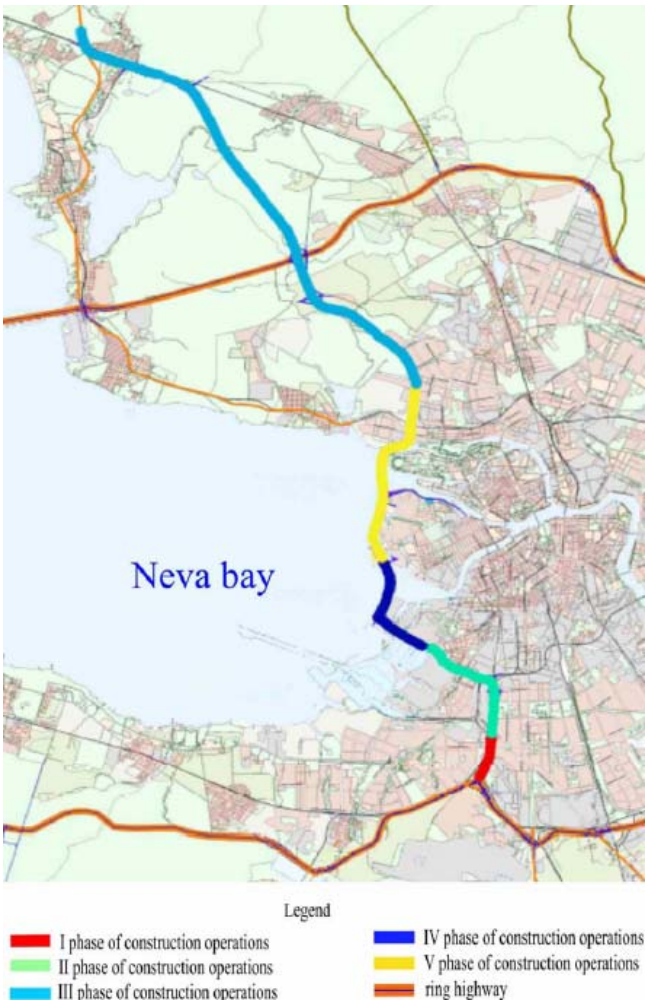

Figure 20 Location and construction stages of the WHSD (JSC Western high Speed Diameter 2007)

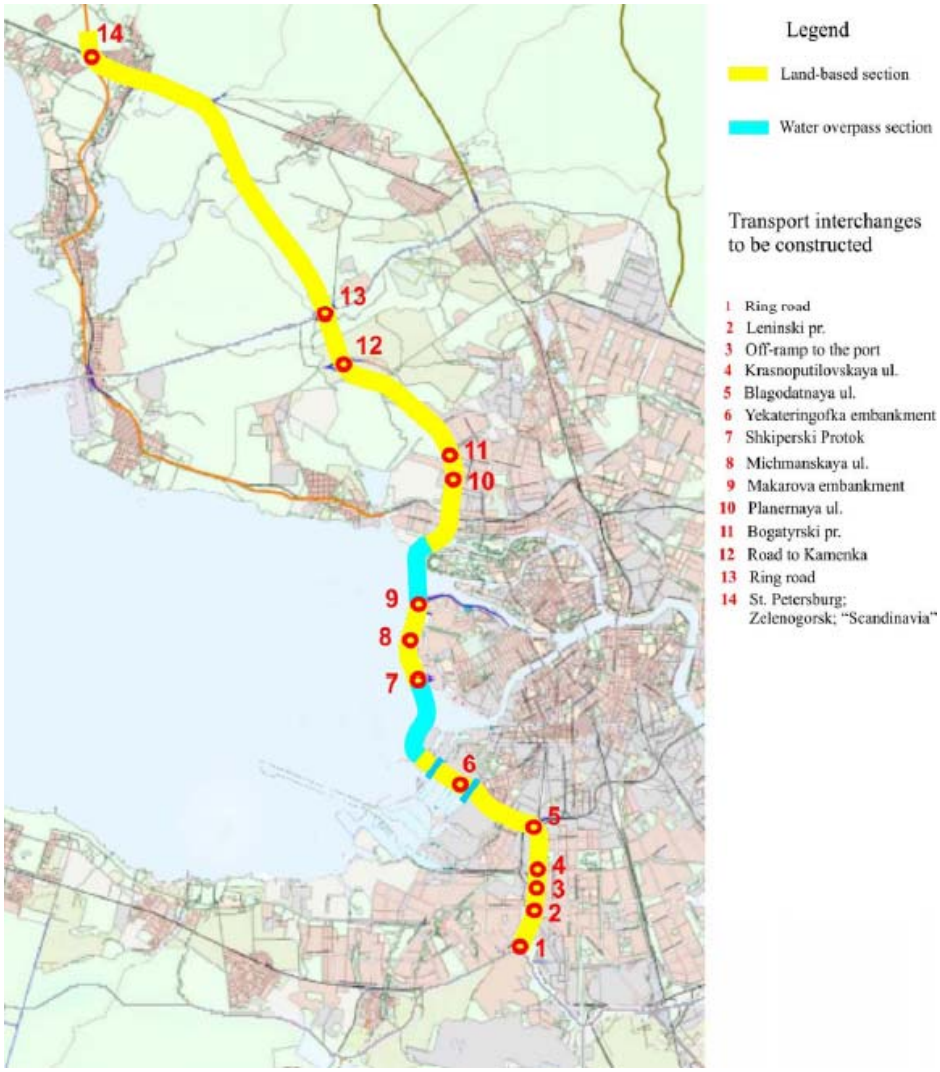

Figure 21 Planned traffic interchanged of the WSH (JSC Western High Speed Diameter 2007)

4.3.2 Development of Pulkovo Airport

St. Petersburg's Pulkovo International Airport is currently undergoing a development project of the lasting until 2025. This project can potentially include improvements for the air transport of cargo in St. Petersburg. However, the emphasis of the development project is in the improvement of passenger transport through modernization of the existing passenger terminals and construction of new passenger transport related facilities.

Although air freight volumes are slowly increasing, the current traffic forecast does not identify much potential for increased scheduled freight aircraft. Most cargo handled at

Pulkovo Airport continues to be transported in the baggage holds of passenger planes. Therefore, the cargo terminals and other cargo handling facilities are not a priority in the current development efforts.

A light railway connection from St. Petersburg to Pulkovo Airport is expected to be completed by 2013 (St. Petersburg Government 2008). It is yet unclear whether this connection will be available for the transport of cargo as well. In any case, this railway connection will help to reduce traffic congestion in the airport region.

Other projects outlined in the plan for the development of the Pulkovo Airport (St. Petersburg Government 2008) which could affect the logistics industry in St. Petersburg include

- Construction of a new cargo terminal by 2025 and
- Development of a logistics village for the use of private sector logistics operators in the vicinity of the airport

4.3.3 Expansion of Outer Harbor Areas

As previously stated, the Large Port of St. Petersburg suffers from chronic lack of capacity, storage space and infrastructure especially in its central complex. The St. Petersburg Committee of Transit Transport Policy expects the port to have a deficit of 16 million tons by 2015 and 64 million tones by 2025 in cargo handling capacity. In response to an imminent collapse of the sea transport infrastructure, the Government of St. Petersburg approved a plan in early 2009 for the development of the outer harbor areas in the ports of Bronka, Lomonosov and Kronstadt. (Titova 2009).

The capacities of the already existing port facilities in these areas will be increased and new land will be reclaimed and developed to be used in port operations. The project is part of a larger scheme aiming to concentrate transshipment terminals further away from central port areas which suffer from congestion and poorly developed road and rail infrastructure.

Figure 22 shows the location of the port complexes of Kronstadt, Bronka and Lomonosov in relation to the main complex of the Large Port of St. Petersburg.

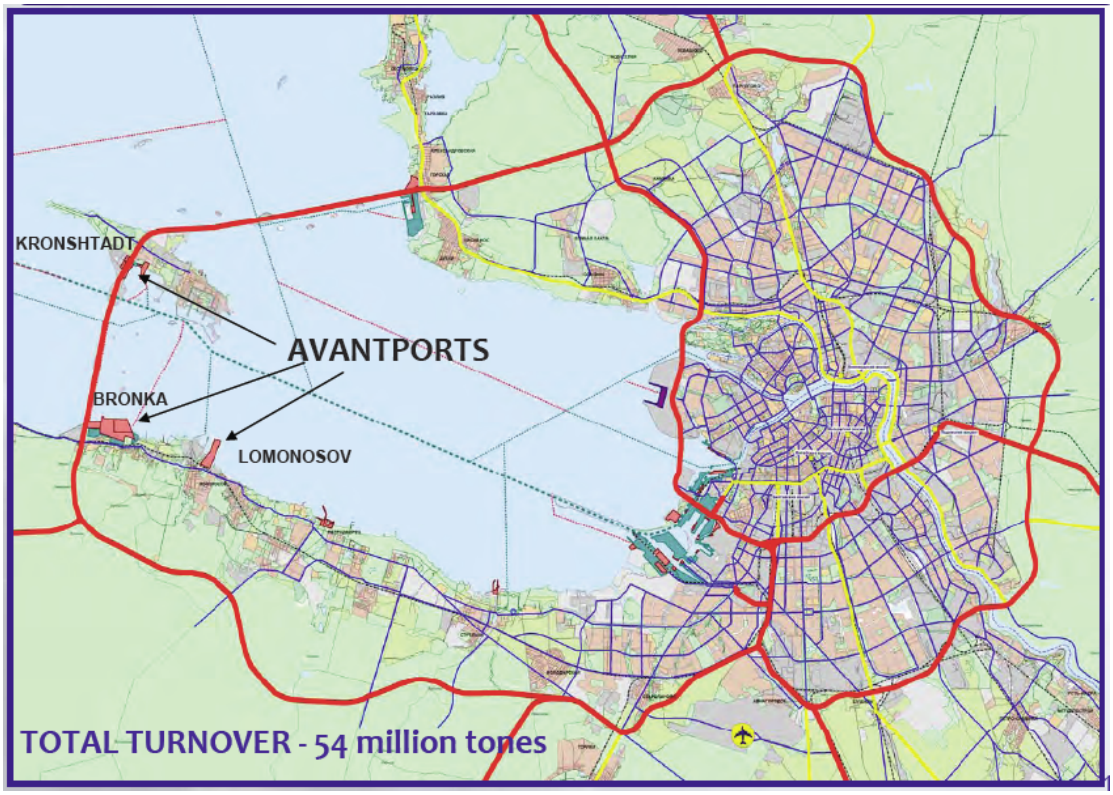

Figure 22 Outer port areas of the Large Port of St. Petersburg (Asaul 2008)

The outer harbors will be considerably enlarged through reclaiming and development of neighboring land areas. The port near the Bronka railway station will occupy a total of 350 hectares of which 284 will be newly developed territory, Kronstadt will grow by 41 hectares and the port in Lomonosov will grow by nearly 80 hectares. Also new sea, road and rail routes to the outer ports will be constructed. With the successful development of these areas, the Large Port of St. Petersburg expects to increase its cargo handling capacity by 70 million tons by 2025. (PortNews 2009).

According to Titova (2009), the financing for the development project is expected to come mainly from the federal budget, the City of St. Petersburg budget and corporate investors. The city has stated that it will co-finance road construction and engineering infrastructure while the terminals will be funded for most part by companies already

operating in the Large Port of St. Petersburg.

4.3.4 Orlovski Toll Tunnel

The one-kilometer Orlovski Tunnel will be constructed underneath the Neva River between 2009-2015 in order to better connect central St. Petersburg to the city's Northeastern planning zones, the Ring Road and the national road network . The construction of the tunnel is aimed at limiting the congestion on the Neva bridges and the city center as well as increasing the capacity of the Volga-Baltic Waterway by extending the opening periods of the moveable bridges crossing the river. (JSC Orlovski Tunnel 2007).

The tunnel will be dug underneath the Neva River and it will connect Piskarevski Prospekt and Orlovskaya Uliza .The central location of the tunnel is displayed in Figure 23.

Figure 23 Location of the Orlovski Tunnel (Potiforova 2007)
)

According to JSC Orlovski Tunnel (2007), the construction project expected to introduce the following improvements:

- Increase the capacity of the urban road and decrease traffic congestion
- Increase the capacity of the Volga-Baltic Waterway by allowing longer opening periods for the bridges crossing the Neva River
- Provide round-the-clock connection between the left and right Neva banks
- Increase road safety by averting traffic away from the city center
- Limit pollution through shortening of transit distances

Eight out of the nine bridges crossing the Neva in St. Petersburg are drawbridges and allow tankers and cargo ships to pass only during a period of a few hours each night between April-November. With the help of the Orlovski Tunnel this period is expected to lengthen by one hour. The continuous increase in the volume of cargo traffic on the Volga-Baltic Waterway is therefore one of the key reasons for the construction of the Orlovski Tunnel and is considered a priority step on the development of the Northwest Russian transport infrastructure. (St. Petersburg Government 2007).
The finished tunnel will serve approximately 60 000 vehicles daily and it will feature two-way ramps to Piskarevski Prospekt and the Sverdlovskaya Embankment. Additionally, linking ramps to Shosse Revolutsii, Polustrovski Prospekt and Sredneokhtinski Prospekt will also be constructed. The tunnel will allow two-way traffic between the left and right Neva bank on a total of six lanes. Tunnel tolls will be collected from users. (JSC Orlovski Tunnel 2007).

4.3.4.1 Current status

The tender for a concession agreement for the construction of the Orlovski Tunnel was held in 2008 and the winner will be announced during the first half of 2009. The project will be realized and a private public partnership and the tunnel is expected to be finished by 2015. The completion of the tunnel was originally slated for 2012 but due to the current economic crisis a delay of three years was announced in April 2009. (Transport Portal of Saint-Petersburg 2009d).

4.3.5 Completion of St. Petersburg Ring Highway

The construction of a beltway around St. Petersburg was envisioned already in the 1960s. Construction was initially started in late 1980s but the project was halted for over a decade due to lack of funding. Construction of the St. Petersburg Ring Highway (KAD) started again in 2001 under the urging of President Putin, a native of St. Petersburg. The Ring Highway is tied together with the construction of the St. Petersburg Flood Prevention Barrier which will be used to connect the road to Kronstadt on Kotlin Island on the mouth of the Neva River. The barrier has been under scrutiny of environmentalists who are concerned about its environmental effects. (Academic.ru)

The total length of the Ring Highway will be approximately 115 km and, once fully completed, it will feature 4-8 traffic lanes. The road also crosses the Obukhovsky Bridge which is the only non-raising bridge crossing the Neva River. (Academic.ru).

Together with the Western High-Speed Diameter Highway the Ring Road will solve many of St. Petersburg's traffic related problems. It will divert practically all freight traffic away from the city center and will also decrease levels of pollution.

Figure 24 displays the location of the St. Petersburg Ring Highway and the Flood Prevention Barrier System.

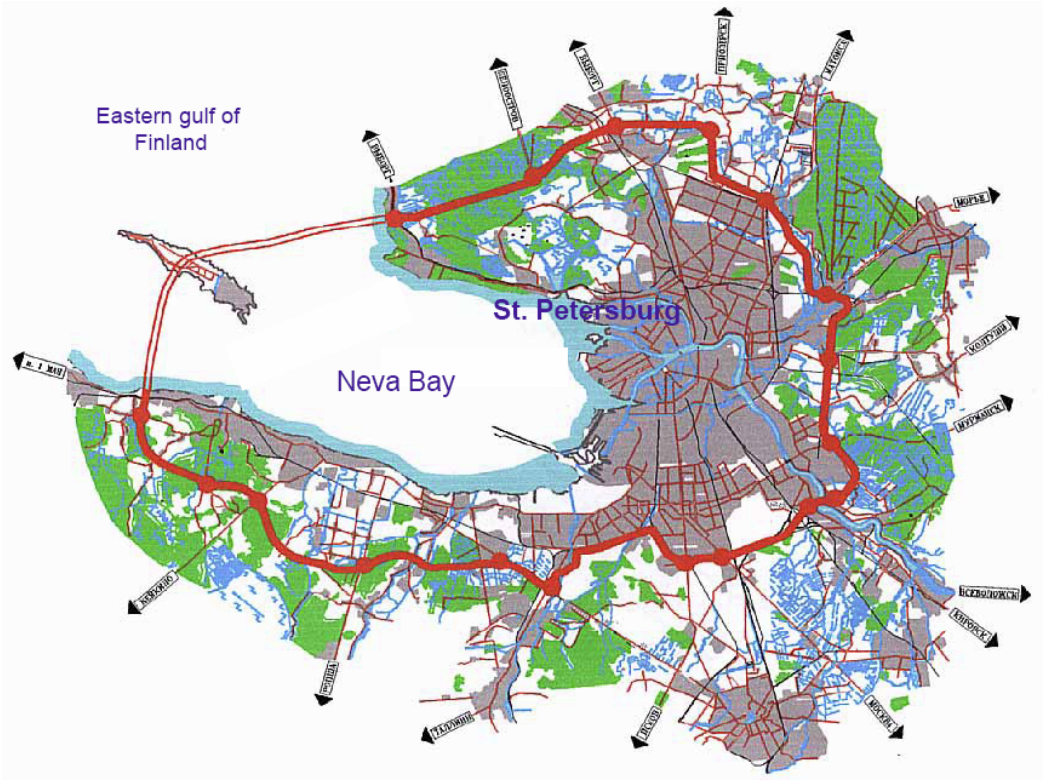

Figure 24 Map of St. Petersburg Ring Road (Asaul 2008)

Concerns regarding the capacity of the highway have been raised as of recent even prior to its completion and plans for the adding new lanes are under currently under works. Experts have also questioned the elimination of a number of ramps and exits which undermine the development of logistics and industrial facilities alongside certain areas of the Ring Highway.

4.3.5.1 Current status

The first section of Ring Highway was opened to the public in 2002. Later in December 2007 the Northern sections of the road were opened to traffic, connecting the highway to the flood prevention barrier from Kronstadt. Southern sections of the highway are currently under construction.

In March 2009, the Russian government announced that it will finance the completion of the Ring Highway by the end 2010. At the same time it was announced that at least certain sections of the road will be left without speed limits. (Transport Portal of Saint Petersburg 2009e).

4.3.6 Moscow-St. Petersburg Highway

One of the largest road construction projects in modern Russia, a 670-kilometer highway connecting St. Petersburg and the capital city of Moscow has been planned for many years. Initial construction of the road has already begun in Moscow and the first 43-kilometer section from the Moscow Ring Highway to Sheremetevo Airport is due to be completed in 2010 (Tiehallinto 2006).

The existing M10 Highway (or Leningrad Highway) between Moscow and St. Petersburg is not sufficient for the current volume of traffic and is heavily congested on several bottlenecks. The goals for the construction of a new highway between the two cities are (Mineev 2006):

- Promoting growth of traffic by reducing congestion
- Reducing travel time
- Decreasing transport costs
- Increasing traffic safety

Once completed, the Moscow-St. Petersburg highway will shorten the driving time between the two cities from the current 10,5 hours to 5-7 hours. The road is expected to have a speed limit of 150 km/h and road tolls will be carried from users. It will be integrated to the ring roads of Moscow and St. Petersburg and it will also serve as transport connection between the airports in the two cities.

Figure 25 shows the existing M10 highway and the route of the planned Moscow-St. Petersburg Highway.

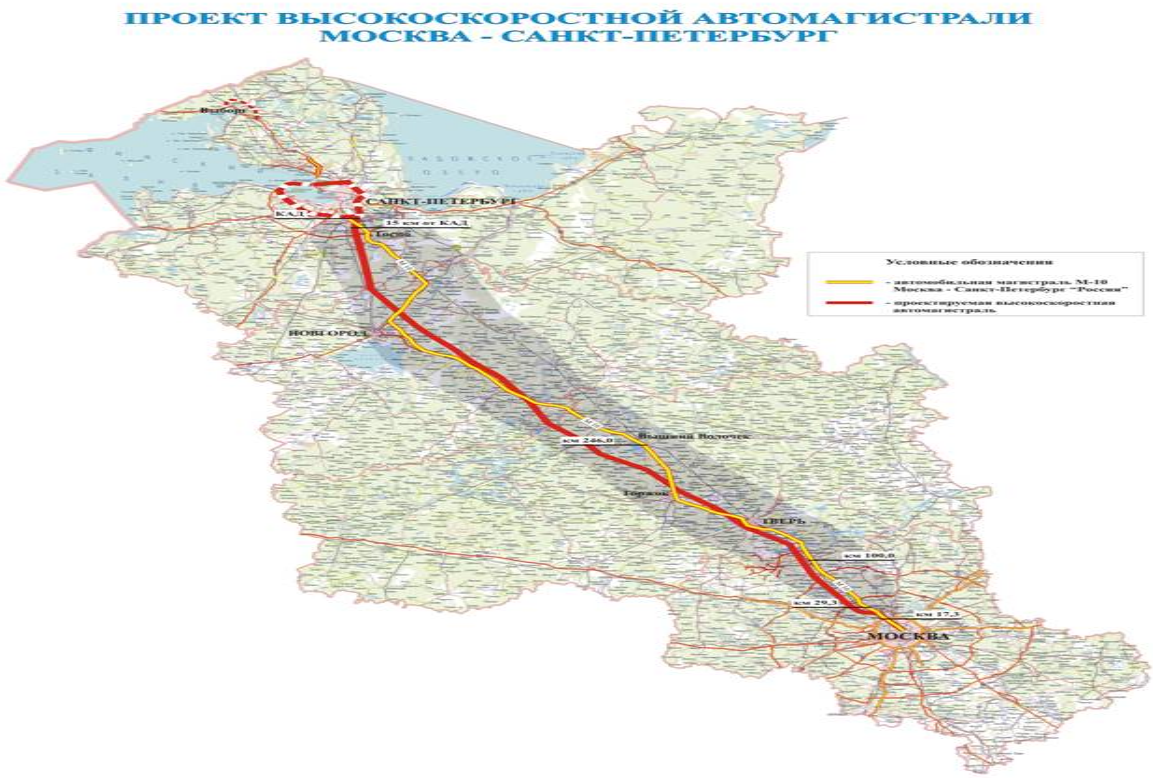

Figure 25 M10 Highway and the planned Moscow – St. Petersburg Highway (Asaul 2008)

In early 2008, then Vice-Prime Minister Medvedev expressed that the construction of the road could begin already during 2008. According to him, the project had already been approved and it would be realized in several parts. Road construction would be initiated with the construction of a 60-70 kilometer section. The total cost of the road is expected to be close to 14,4 billion USD. (Lättilä 2008).

The actual time of construction commencement and completion of the highway remains unknown. The project is categorized as national project of significant magnitude and it can be expected to be realized within the next several years (Mineev 2006).

The highway will have a significant effect on the logistics infrastructure of entire northwest Russia and it will bring Moscow considerably closer to the European markets. The demand on the development and functionality of the transport infrastructure of St. Petersburg will therefore also increase.

4.3.7 Expansion of Ust-Luga Seaport

Ust-Luga is Russia's deepest port in the Baltic Sea, capable of admitting dry-cargo vessels with the deadweight of up to 75 thousand tons and liquid cargo carriers of up to 120 thousand tons. The biggest advantages of the Ust-Luga Port are short ice channeling period of only 40 days and its remote location which allows transit cargo flows to bypass central St. Petersburg.

The construction of a new cargo port in the Southern part of the Luga Bay in the Gulf of Finland, 110 km West of St. Petersburg, began in 1997 as an effort to decrease the amount of dry cargo transported to Russia through the Baltic States. The first sections of the port were commissioned in 2001 and since then the port and related infrastructure has been under continuous development. The port is currently Russia's biggest project of port infrastructure development (Spiridovitsh 2009).

The four currently operational terminals at Ust-Luga are coal transshipment terminal, a sulphur transshipment terminal, a motor-railroad ferry complex and a universal trans-loading complex (JSC Ust-Luga Company). According to the JSC Ust Luga Company, in 2007 the National Container Company (NCC) started the construction of Russia's largest container terminal in Ust-Luga. Once finished, this terminal will be capable of handling approximately 3 million TEU per year. The completion of the first stage of construction has been set for August 2009. Due to the current economic crisis, the completion of the container port will most likely be delayed.

After the completion of the first stage, the new container terminal will be able to admit vessels with capacity up to 2500 TEU. The second stage, currently set to be finished by 2014, will allow the port to also admit ships carrying up tp 6000 TEU. The third and final stage of construction is set for 2019.

Another development project currently under way at Ust-Luga is the construction of a complex of bulk cargoes, a facility mainly for export shipments of oil and marine fuel. The planned capacity for the complex is 10,5 million tons per year. (JSC Ust-Luga Company).

4.4 Non-infrastructural development

4.4.1 WTO Membership

Membership in the 1995-founded World Trade Organization has been a long-term goal of Russian administrations. Numerous barriers of entry have been eliminated by agreements between Russia , the United States and the European Union. Some of the main differences remaining include high import duties and strict restrictions on foreign ownership in Russia. Also various international crises which have placed Russia and WTO member states on different sides have slowed down Russia's accession into the organization. Membership in the WTO is one of the few remaining issues which has been available to be used as leverage by Western countries against the newly strengthened Russia.

Lowering barriers of entry into the domestic market is not easy for Russia to accept. The overall low level of competitiveness of Russian companies has given reason to fear that such development could result in the loss of business for many Russian operators. Discussion concerning the benefits and disadvantages of WTO membership is currently ongoing. The Putin / Medvedev administration has however signaled that membership in the WTO is a natural step for Russia in the future.

Although Russia has agreed to open some of its markets to foreign businesses either partially or completely, the country has reserved itself several concessions regarding the unequal treatment of foreign and domestic service providers in all sectors, including transport and logistics.

According to Simola (2007, 8-9) these concessions include:

- Discrimination in favor of domestic producers for supply for the State
- Subsidies and other state support for domestic operators will be allowed
- Restriction of foreign participation in the privatization of state-owned companies

The opening of the Russian service sector along the WTO membership can be expected to attract new foreign providers of logistics services to the Russian market. Although the competitiveness of Russian service providers is currently somewhat lower than that of many foreign companies, WTO membership and the resulting higher level of competition can be expected to raise the efficiency of the Russian service sector and thus also make Russian logistics operators more competitive against foreign ones. Therefore, Russian WTO membership will remove obstacles but also create additional competitive pressure into the logistics service sector.

4.5 Conclusion

The logistics infrastructure of Petersburg is currently seeing significant development in terms of capacity expansion and improvement of efficiency. After years of separate and uncoordinated planning of the different parts of the transport network, a more all-embracing approach seems to have been adopted. The previously introduced development projects all carry considerably importance and their timely completion affects the functionality of the St. Petersburg logistics infrastructure as a whole.

Numerous problems remain in spite of the current development projects. The increasing amount of privately owned cars together with growing volumes of cargo flowing through the city will ensure that the development and expansion of the city's transport infrastructure needs to be a continuous process.

The location of St. Petersburg is ideal in many ways. However, for the development of the city's transport infrastructure beyond its current state this location presents many challenges. In the future, we can expect to see a shift of concentration of logistics activities further away from the traditional, central areas of the city. This is especially likely in the case of seaports and warehouse infrastructure.

The author remains hopeful that in the future, St. Petersburg will be able to realize its entire potential and become one of the most logistically developed cities in the world. It already has significant natural advantages. The rest depends on the availability of finance and the political will of local and federal officials.

5 Summary

The goal of the reported research project was to construct basic marketing information concerning the potential customers, competitive situation and future infrastructural development of the city of St. Petersburg in Northwest Russia for the use of liquid logistics operator Haanpaa Group. Research was conducted using public sources of information, with the exception of e-mail correspondence with companies in Russia.

The research topic was divided into three parts, each of which was a small-scale project in itself. During the research process, these parts became increasingly interlinked. As a result, this final report provides a rather broad outlook into the current business environment and logistics development of St. Petersburg and the surrounding region. Due to the extent of the topic as well as limited time and resources, the outlook provided by this report does not go into too much depth but instead aims to aid in the formation of an overall understanding of the studied group of subjects.

In the first part of the research were identified 51 potential customer companies which could have future requirements for specialized liquid logistics services provided by the Haanpaa Group. These companies were carefully selected from an initial listing of several hundred companies, most of which did not finally meet the criteria chosen for companies to be listed. Information regarding Russian companies was mainly found from corporate websites. Additional information was also requested by e-mail from certain companies. However, the few responses received provided little useful information in terms of the research.

The listing of potential customers provided in this report can be used as such to target marketing efforts. It can also be used as reference material in further research regarding new potential customers. According to the author’s view, the companies presented here represent only a fraction of the true amount of potential customers for the Haanpaa Group in the St. Petersburg area.

The second part of the research concentrated on the current competitive situation in the St. Petersburg logistics market. Competitiveness of Russian logistics was analyzed on the general level as well as in more detail. A number of competitor companies were also identified and listed. The competitor listing provided in this report is useful for forming

an overall understanding of the current level of competition. Most of the listed companies represent the absolute top-end of Russian logistics operators.

The author feels that the Haanpaa Group's specialization in liquid logistics will give it significant benefits in terms of credibility and differentiation from competitors. This is because of a seemingly small number of companies with a similar specialization currently operating in the region.

The third part of the research aimed to relay a broad image of the current infrastructural situation in St. Petersburg in terms of logistics. First, several problems of the current state of infrastructure were identified. This was followed by an analysis of the direction of future infrastructural development, based largely on the related strategy formed by the Government of St. Petersburg. This analysis was followed by a listing of infrastructural development projects currently underway or starting in the near future.

The challenge for the final part was the seemingly endless amount of problems the St. Petersburg logistics infrastructure is battling with. Deciding which aspects to emphasize was therefore not easy. The final report aims to provide a balanced view between problem areas, practical solutions and long-term strategic development goals.

St. Petersburg offers both opportunities and challenges. It has the foremost concentration of industries in Northwest Russia. Its geographical location in the intersection of all possible forms of transport provides ideal premises for the development of logistics infrastructure. The direction of development depends on the multiple factors. The only certainty is that any future benefits will be received by only those who are there now.

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Appendices

Appendix 1: Listing of Potential Customers

Medicine industry

ALKOR BIO, LTD. http://www.alkorbio.ru			
Address	197758, St. Petersburg, Settlement Pesochny, ul. Leningradskaya, 70/4, Building 6		
Telephone	+7 (812) 596 67 76 +7 (812) 596 67 78 +7 (812) 596 67 79 +7 (812) 596 67 81	**Fax** **E-mail**	+7 (812) 596 67 80 alkorbio@peterlink.ru
Main products	Diagnostics kits		

Alkor Bio is a developer and manufacturer of reagents for laboratory diagnosis. The company manufactures diagnostics kits for:

- Hormonal diagnostics
- Prenatal screening
- Cancer diagnostics
- Allergy testing
- Diatebes diagnostics
- Infection diagnostics

The company was founded in 1992 and it is one of the leading Russian manufacturers of medical diagnostics kits.

OOO BIOPIN-FARMA http://www.biopin.ru			
Address	191025, Saint Petersburg, Nevsky Prospekt, 82		
Telephone	+7 (812) 540 31 10 +7 (812) 541 09 32 +7 (812) 324 00 30	**Fax** **E-mail**	+7 (812) 540 09 47 manager@biopin.ru
Main products	Therapeutic creams and ointments		

Biopin-Farma manufactures therapeutic creams and ointments for the treatment of arthritis, dermatitis, psoriasis and other skin diseases. Biopin only uses ecologically clean raw materials. The primary ingredient in the company's production is the *tar of relict pine trees* which is only available from Greece, France and Georgia. The company also has a scientific and technological center which is used for the development of new products. Expansion to the cosmetics industry is being planned.

BIOTECH, LTD.
http://www.biotech.spb.ru

Address 197198, St. Petersburg, ul. Bolshaya Pushkarskaya, 20
Telephone +7(812) 346 60 16 **Fax** +7 (812) 346 60 16
E-mail biotech@biotech.spb.ru

Main products Medical and veterinary products

Biotech is a biotechnological company that does scientific research, produces and sells medical and veterinary products. The company holds patents for drugs developed for the treatment of e.g. MS disease, tuberculosis and different types of cancer.

CYTOMED
http://www.cytomed.ru

Address 191023, St. Petersburg, Muznoi Pereulok, 2
Telephone +7 (812) 315 88 34
E-mail info@cytomed.ru

Main products Peptide preparations

The Cytomed biomedical company concentrates on the production of peptide preparations for the treatment of immunodeficiency, viral influenza and chronic prostatitis. The company also manufactures veterinary products and therapeutic cosmetics. Some of the main raw materials used in the manufacturing of the company's main products are *glutamine acid and tryptophan*.

ZAO FARMPROEKT
http://www.farmproekt.ru

Address 192236, St. Petersburg, ul. Sofiiskaya, 14-135
Telephone +7 (812) 331 93 10
E-mail sales@farmproekt.ru

Main products General medicines

Farmproekt is one of the production subdivisions of the Akonit Pharmaceutical Holding. The company has an annual production capacity of 200 million tablets, 70 million capsules and 20 million packed powder. In 2008 Farmproekt was given the award of the best pharmaceutical producer by the Pharmaceutical Association of St. Petersburg and Northwest Russia.

The company manufactures various types of general drugs including medication for prostatitis, cardio-vascular disease and various vitamin additives and antioxidants.

GALENOPHARM – PHARMACEUTICAL FACTORY OF ST. PETERSBURG
http://www.galenopharm.ru

Address 193144, St. Petersburg, ul Moiseenko, 24-A
Telephone +7 (812) 271 29 88 **Fax** +7 (812) 271 29 88
E-mail prim@galenopharm.ru

Main products Medicines and cosmetics

Galenopharm develops, produces and sells medicines and cosmetics.

- Liniments, ointments and pastes
- Herb extracts
- Dry mixtures and powders
- Solutions and oils
- Syrups
- Cosmetics
- Foot care products

The company's main products are galenus treatment infusions made of hawthorn, valerian, ginseng, schizandra, milky ripe oats, peony, motherwort and other herbs.

GEROFARM
http://www.geropharm.ru

Address 197022, St. Petersburg, Akademika Pavlova, 5
Telephone +7 (812) 703 79 75 **Fax** +7 (812) 703 79 75
E-mail inform@geropharm.ru

Main products Peptide solutions and other medicines

Gerofarm conducts medical research and manufactures peptide solutions mainly for uses of gerontology (medication related to aging). The company's two main self-manufactured products (*Kortexin* and *Retilamin*) are used to combat the effects of ageing in the brain and the eyes. These solutions are manufactured using polypeptides obtained from the cerebral cortex and retina of living livestock. Gerofarm is also involved in medical research for the military.

In 2009 Gerofarm is preparing an investment of approximately 15 million Euros in the Moscow Region to increase its production capacity for injection substances. The company also plans to triple its production capacity of medicinal substances in St. Petersburg in the future.

Gerofarm has representative offices in over 20 Russian cities and is actively expanding its distribution network to other parts of Russia and some CIS countries.

KOMPANIA "GOLFSTRIM" LLC
http://www.gepar.ru/

Address	197227, St. Petersburg, PO Box 263, Bogatyrskyi Prospekt, 57/1		
Telephone	+7 (812) 341 63 83	**Fax**	+7 (812) 341 63 83
	+7 (812) 341 29 48		+7 (812) 341 29 48
		E-mail	info@gepar.ru

Main products Herbal medicines and additives

Golfstrim is a St. Petersburg-based medicine company that has produced herb-based medicines and additives for over 25 years. The company's main product line is the **GEPAR** family of herbal drugs that includes products for weight-loss, cardio-vascular health, impotence, immunity strengthening and joint and back ache. The company has received numerous awards for its efforts of increasing the health of the Russian nation. Golfstrim's products come in the form of capsules and filter bags and they are sold solely in Russia.

OAO MEDPOLIMER
http://www.medp.spb.ru/

Address	195279, St. Petersburg, Shosse Revolutsij, 69		
Telephone	+7 (812) 520 64 00	**Fax**	+7 (812) 520 64 01
			+7(812) 529 09 00
		E-mail	medpolimer@medp.spb.ru

Main products Infusion solutions, stomatological articles and polymeric medical supplies

Medpolimer produces a large array of goods for the medical purposes. Main products include infusions solutions of e.g. sodium chloride and glucose packaged in polymeric containers used in infusion pumps in hospitals, stomatological articles such as tooth cement used in dentistry and other medical polymeric goods such as catheters and laboratory equipment.

"NARODNAYA MEDICINA" – MEDICAL COMPANY, PHARMACEUTICAL PRODUCTION AND TRADE ENTERPRISE, LTD.
http://narmedia.spb.ru

Address	196084, St. Petersburg, Vozdukhoplavatelnaya, 13		
Telephone	+7(812) 324 61 05		
	+7 (812) 324 61 06	**E-mail**	sales@narmedia.spb.ru
	+7 (812) 441 33 07		office@narmedia.spb.ru

Main products Organic medicines and additives

Narodnaya Medicina is a producer of organic medicines and bioactive additives from natural plants. Medicine products manufactured by Narodnaya Medicina include:

- Herbal teas
- Bioactive food additives
- Medicinal grasses
- Thistle potty capsules
- Oral care and bath products

ZAO PHARMACOR
http://www.pharmacor.ru

Address	197022, St. Petersburg, Kamennoostrovkskij Prospekt., 76		
Telephone	+7 (812) 326 23 43	**Fax**	+7 (812) 325 23 15
		E-mail	office@pharmacor.ru

Main products General and auxiliary medicines

Pharmacor is one of the largest producers of medicines and biologically active additives in St. Petersburg. It produces a wide array of medicine, such as mucolytic agents, anti-allergy medicines and medicines for cardio-vascular disease and peristalsis. Medicines and additives are manufactured in two separate facilities within the city. Biologically active additives are primarily released in the form of gelatin capsules manufactured in Belgium

In 2007 the company began to develop its logistics routines by establishing a central logistics warehouse in St. Petersburg. Pharmacor also has its own nationwide retail network which is in the process of ongoing expansion.

PHARMSYNTEZ JSC
http://www.capitolovo.com/

Address	197022, St. Petersburg, Bolshoy Prospekt, 77, Petrogradskaya Storona		
Telephone	+7 (812) 329 80 83 +7 (812) 329 80 82	**Fax**	+7 (812) 329 80 89

Main products Medicines

Pharmsyntez, the research and production facility of **Capitolovo Chemicals**, operates in the Vsevolozhsky Distric in the Leningrad Region. It is a medium-sized pharmaceutical company specializing in the research, development and production of *science intensive substances, chemicals and officinal medicines*.

Pharmsyntez conducts chemical research and development projects for its own medicine production as well as for external customers. The scale of the projects range from laboratory to full-scale production. Pharmsyntez officinal drugs used in oncology, gynecology, treatment of immunodeficiency and tuberculosis are currently sold in Russia and are imported to a number of CIS countries.

POLYSAN, LTD.
http://www.polysan-ru.com

Address	191119, St. Petersburg, Ligovsky Prospekt, 112		
Telephone	+7 (812) 710 82 25	**Fax**	+7 (812) 764 62 84
		E-mail	polysan@polysan.ru intermarket@polysan.ru

Main products Pharmaceutical preparations

Polysan is a large-scale manufacturer of medicine preparation employing over 1200 persons in its scientific laboratory and pharmaceutical production complex in St. Petersburg. The firm also has a substances production complex in Belgorod. The company specializes in development of preparations for viral infections (hepatitis B, C and HIV), bacterial infections and acute diseases such as brain infarction and ischemia. Other products manufactured are metabolic preparations based on *succinic acid*. At current, Polysan has three highly successful preparations in the market and over ten new preparations under different stages of development.

Polysan's products are sold in Russia and are exported to South East Asia and some CIS countries. The company has a large distribution network and is in the process of expanding it further in the future.

ZAO VERTEX
http://vertex.spb.ru

Address	199026, St. Petersburg, Vasilievsky Island, Liniya 24, 27-A		
Telephone	+7 (812) 329 30 41	**Fax**	+7 (812) 329 30 41
		E-mail	vertex@vertex.spb.ru

Main products General medicines

The Vertex medicine company currently manufactures over 50 different types of medicine. Since its foundation in 1999, the company has grown rapidly and in 2007 it was the fastest growing pharmaceutical company in Russia. In terms of sales, Vertex is in the 21st place among Russian medicine manufacturers.

Vertex produces medicines mainly used in:

- Cardiology
- Dermatology
- Gynecology
- Dentistry and
- General therapy

Chemical Industry

ZAO AMDOR
http://www.amdor.spb.ru/

Address	192029, St. Petersburg, Seleznodorosnij Prospekt, 3		
Telephone	+7 (812) 567 15 58 +7 (812) 567 66 74	**Fax**	+7(812) 567 15 46

Main products Chemical reagents and additives

Amdor develops formulas and technologies for the production of chemical products based on amino compounds and their derivatives. Amdor also produces chemical reagents used in road building and by the oil and gas industry. The company works together with other large Russian chemical companies in obtaining chemical raw materials.

The main categories of production include:

- Adhesive bitumen additives
- Bitumen emulsions
- Corrosion inhibitors
- Mineral fertilizer conditioners

The production of chemicals is realized in joint venture with *OAO Uraklhimplast*. The manufactured reagents are used by large oil and gas and road construction companies all over Russia, Kazakhstan and Latvia.

JSC ANLES
http://www.anles.ru/

Address	194044, St. Petersburg, ul. Mendelevskaya, 2		
Telephone	+7 (812) 542 93 88	**Fax**	+7 (812) 542 62 73
		E-mail	sales@anles.ru

Main products Adhesives and chemical compounds

Anles is a manufacturer of adhesives and chemical compounds for building and construction, automotive and individual consumer use. The company has a wide range of products in the following categories:

- Special, universal and water-based glues
- Epoxy-rubber adhesives
- Sealants
- Decorative, painting and protective coatings
- Automotive chemicals
- Lubricants and oils
- Epoxy compounds and coatings

OOO ASTRACHEM
http://www.astrachem.com/

Address	199106, St. Peterburg, Liniya 26, 7-1-B		
Telephone	+7 (812) 971 83 55	**Fax**	+7 (812) 740 77 61
	+7 (812) 740 77 61		+7 (812) 323 42 11
	+7 (812) 323 42 11		
		E-mail	info@astrachem.com

Main products Organic chemicals

AstraChem produces reagents, solvents and other organic compounds in amounts ranging from grams to kilograms. The company sells its products mainly to Russian companies operating in, for example, the pharmaceutical, sanitation and electrochemical industries.

According to the company's own description, AstraChem has established a *fixed system of interaction* with a number of transport companies that enables fast delivery times to practically all destinations within Russia.

BALTIC ENTERPRISE, LTD.
http://soli.ru

Address	199178, St. Petersburg, Vasilievsky Island, Liniya 17, 40		
Telephone	+7 (812) 325 86 88	**Fax**	+7 (812) 325 86 87
		E-mail	bm@soli.ru

Main products Cobalt, nickel, molybdenum, manganese and zinc –based chemicals and organometallic compounds

The company has an annual production capacity of 1000 tons of inorganic chemicals and 2000 tons of various siccatives. The main raw materials in production are

- Naphthenic acid
- Stearinic acid and
- 2-ethylhexanoic acid

Baltic Enterprise also processes industrial waste from various industries, for example, by separating cobalt salts from nickel, manganese and zinc. The company is based in the St. Petersburg region and it also has a branch in the Ukraine.

OOO BALTIKA-REAKTIV
http://www.balt-r.ru

Address	192238, St. Petersburg, Slavij Prospekt, 40-1		
Telephone	+7 (812) 708 65 93	**Fax**	+7 (812) 708 65 93
	+7 (812) 708 69 60		+7 (812) 708 69 60
		E-mail	office@balt-r.ru

Main products Chemical reagents and laboratory ware

Baltika-Reaktiv supplies chemical reagents for companies operating in electrical engineering industry and instrument manufacture, building and production of metal structures, different branches of light industry, agro-industry, printing houses, laboratories and educational institutions. Other products include laboratory ware and equipment.

The company uses containers for the delivery of larger quantities of chemicals and relies on mainly motor and air transportation.

Manufactured chemicals include:

Aluminium hydroxide, ammonium chloride, potassium sodium, aluminopotassium, sodium citric acid, sodium phosphoric acid, paraffin, hydrogen peroxide, triethanolamine, ethylene glycol, ethylene acetate, zinc chloride, nitric acid, boric acid, salycilic acid, sulphuric acid, salt acid, phosphoric acid

CHIMEX, LTD.
http://www.chimexltd.com

Address	195030, St. Petersburg, ul Kommuny, 7-B		
Telephone	+7 (812) 347 78 47	**Fax**	+7 (812) 325 77 75
		E-mail	chimex@mail.wplus.net

Main products Industrial chemicals

Chimex Limited is a scientific industrial company which specializes in offering its customers a full menu of industrial chemicals. Following chemical products are manufactured in the company's St. Petersburg plant:

- Epoxy resins
- Blends
- Hardeners
- Active diluents
- Other chemical products

Chimex also delivers chemical products, reagents and analytical equipment produced by other Russian and foreign manufacturers. The company advertises that it also provides road, air and sea transportation as well as storage services for its customers.

CJSC EMLAK
http://www.emlak.ru

Address 192177, St. Petersburg, ul. Karavaevskaja, 57
Telephone +7 (812) 740 62 35
E-mail marketing@emlak.ru

Main products Organic dilutable and water-dispersion paintwork materials

Emlak is a large-scale procucer of paintwork materials. Organic dilutable materials are used for corrosion protection by various industries including shipbuilding, metal, construction and chemical industry. Water-dispersion materials such as prime coats, putties and paints are environmentally friendly and are used for the protection of wooden and other surfaces in building and construction. Emlak sells its products mainly in Russia and CIS countries

FTOROPLASTOVIYE TEKHNOLOGII JSC
http://www.ftoroplast.com.ru/

Address 194100, St. Petersburg, nab. Vyborgskaya, 59-3
Telephone +7 (812) 324 75 35
E-mail ftoroplast@chemcom.ru

Main products Fluoroplastic products

Ftoroplastoviye Tekhnologii was founded in 2001 as part of the **Chemcom Group**. The company manufactures customer-specific and stock fluoropastic products made of polytetrafluorethylene and various PTFE compounds.

Products manufactured include:

- Rings, tubes and bushings
- Tapes and films
- Packaging materials
- Fluoroplastic cubes

OOO GAMMA INDUSTRIAL COATINGS (SUBDIVISION OF TIKKURILA)
http://www.gammalkm.spb.ru

Address 195248, St. Petersburg, ul. Boksitogorskaya, 9-K
Telephone +7 (812) 222 30 45 **Fax** +7 (812) 327 06 57
+7 (812) 327 06 56
E-mail gamma.coatings@tikkurila.com

Main products Science-intensive and technological paints

Gamma is a developer and producer of science-intensive paints and coatings for various industries, including oil, chemical, transport, shipbuilding and construction industries. The company employes over 100 persons and services over 300 enterprises throughout Russia. Gamma has been part of the Tikkurila Group since 2007.

The company's products are largely based on epoxy, organosilicon, vinyl, polyvinyl butyric, acrylic and urethane bonding agents.

OAO HENKEL-ERA
http://www.henkel.com

Address	187000, Tosno, Leningradskaya oblast, Moskovskoye Shosse, 1		
Telephone	+7 (812) 326 16 10	**Fax**	+7 (812) 326 16 05
		E-mail	hschneider@henkrus.com

Main products Detergents, cleansers and adhesives

Located in the town of Tosno, 53 km southwest of St. Petersburg, Henkel-Era has been part of the German Henkel concern since 1993. The plant is one of the largest chemical manufacturers in the Leningrad Region and its main operations are the development, production, storage and distribution of

- Powder and liquid detergents
- Scouring powders
- Liquid cleaners
- Cosmetics
- Consumer and industrial adhesives
- Sealants

OOO KEMMIKS
http://www.chemmix.ru

Address	198099, Saint Petersburg, ul Kalinin, 5		
Telephone	+7 (812) 786 10 88	**Fax**	+7 (812) 786 10 88
	+7 (812) 786 76 03		+7 (812) 786 76 03
	+7 (812) 786 74 42		+7 (812) 786 74 42
		E-mail	chemmix@yandex.ru
			chemmix@mail.ru

Main products Industrials chemicals and chemical raw materials

Kemmiks produces a wide assortment of chemical products and raw materials for industrial and private use. The company concentrates on the following products:

- Parkerizing concentrates
- Cleaning and degreasing agents
- Emulsion was for cosmetic industry
- Corrosion inhibitors and rust converters
- Auto-chemistry

Chemicals manufactured by Kemmiks include:

Ammonium chloride, boric acid, technical borax, calcium hypochlorite, monoammonium phosphate, carbamide, calcium carbide, carboxymethyl cellulose, sodium perborate, mono-zincphosphate, sodium saltpeter, calcinated soda, caustic soda, sulfamic acid, trisodium phosphate, oxalic acid, alkylbenzenesulfonic acid, acetone, mineral spirits, glycerin, diethylene glycol, triethylene glycol, neonol, orthophosphoric acid, zinc nitric acid, sodium nitric acid, tributylphosphate

Chemical raw materials are packaged in bags, canisters and barrels and the quantities provided range from a few to thousands of liters. Products are mainly sold in the domestic market.

OAO KHIMIK (LUGA CHEMICAL PLANT)
http://www.himik.ru

Address	188230, Leningradskaya oblast, Luga, Komsomol Prospekt, 40		
Telephone	+7 (813) 722 55 52	**Fax**	+7 (813) 722 38 05
		E-mail	infohimik@gmail.com

Main products Various chemical products

The Luga Chemical Plant located in the town of Luga, about 140 km south of St. Petersburg, has operated for over 75 years and is currently owned by the Khimik Group. A large selection of industrial and domestic chemicals is manufactured there. The plant is one of the largest chemical plants in the Leningrad region and it is also Russia's leading manufacturer of insect repellents.

Other products manufactured at the Luga Chemical Plant include:

- Auto-chemicals (brake and cooling liquids, corrosion inhibitors, car-cosmetics)
- Paints and varnishes
- Glues and astringent materials
- Aluminum and polyethylene packaging materials

OOO KHIMITEK
http://www.chemitech.ru

Address	197375, St. Petersburg, ul.Novo-Nikitinskaia, 14-B		
Telephone	+7 (812) 448 00 33	**Fax**	+7 (812) 448 00 34
	+7 (812) 300 61 51	**E-mail**	info@chemitech.ru

Main products Cleaning and household chemicals

Chemitech is a St. Petersburg-based manufacturer of a large variety of cleaning chemicals and disinfectants as well as other household chemicals and a distributor of industrial lubricants and adhvesives of other manufacturers. Chemitech also provides contract manufacturing of cleaners and household chemicals in its production facilities.

Ccategories of manufactured products:

- Surface disinfectants
- Laundry detergents
- Shower soaps
- Dishwashing detergents
- Scale removers
- Degreasers
- Activators

At current most of the company's products are distributed to Russia and CIS countries but the company is also interested of finding distributors in the European market.

OOO KHIMTRANS
http://www.chemtrans.spb.ru/

Address	196105, St. Petersburg, ul Roschinskaya, 36-201		
Telephone	+7 (812) 292 00 13 +7 (812) 292 00 14 7+ (812) 292 00 15 +7 (812) 292 00 16	**Fax** **E-mail**	+7 (812) 292 00 13 info@chemtrans.spb.ru

Main products Chemicals, laboratory equipment and furniture

Khimtrans is a dealer of a number of well-known manufacturers of laboratory furniture and equipment. The company also manufactures a large variety of chemical products belonging to the following categories:

- Standard chemicals
- Substances for chromatography and spectrophotometers
- Petroleum chemistry
- Indicators and chemical reagents

The chemicals are mainly sold in small units ranging from 2 to 100 milliliters.

OOO KIRISHINEFTEORGSINTEZ (KINEF)
http://www.kinef.ru

Address	187110, Kirishi, Leningradskaya oblast, ul. Enthuziastov, 1		
Telephone	+7 (812) 315 18 23	**Fax** **E-mail**	+7 (812) 312 66 59 kinef@kinef.ru

Main products Oil products

Located in the town of Kirishi, 115 km South-East of St. Petersburg, Kinef is the largest oil refinery in the Leningrad Region. The refinery was founded in the 1960s and in 1993 it became a subsidiary of Surgutneftegaz JSC.

Kinef refines and produces the following products:

- Gasolene
- Diesel fuel
- Aromatic hydrocarbons
- Liquid paraffin
- Bitumen
- Linear alkylbenzene
- Sulphuric acid
- Roofing and moisture-proof materials

CJSC LESOCHEM
http://lesochem.chat.ru

Address	194154, St. Petersburg, Svetlanovsky Prospekt , 2		
Telephone	+7 (812) 303 80 70 +7 (812) 303 80 74	**Fax**	+7 (812) 303 80 70 +7 (812) 303 80 74
		E-mail	lesochem@euro.ru

Main products Rosin, turpentine, concrete admixture and extracts (organic ferliziers, chlorophylline and provitamine concentrates)

Lesochem is a chemical company founded in 1998. This growing company manufactures chemicals for various industries in Russia, including chemical, rubber, cosmetics and pulp and paper industry. The company's has representation in St. Petersburg and has manufacturing facilities in the surrounding Leningrad Region.

Many of the extracts produced by the company use pine needles and other organic raw materials. Lesochem uses all available forms of transport to deliver products to customers.

MOROZOVSKI CHEMICAL PLANT
http://tdzm.ru/

Address	188679, Leningradskaya oblast, Vsevolozhskiy kray, ul. Morozova, Tshekalova, 3		
Telephone	+7 (813) 703 51 36 + 7 (812) 320 94 53 *(Headquarters at Spb)*	**E-mail**	info@tdzm.spb.ru

Main products Chemical coatings and paints

The Morozovksi chemical plant is one of the largest chemical companies in the Leningrad Region. The company specializes in the manufacture of organosilicate and polysiloxane compounds used as coatings of various designations:

- Weatherproof coatings
- Chemically resistant coatings
- Oil and gasoline resistant coatings
- Radiation-resistant coating
- The heat-resistance coverings
- Electrical insulating coatings
- Wear-resistant coatings

Other products include silicon, chlorovinyl and polyvinylchloride paints, enamels and varnishes.

OOO NPF BALTSINTEZ
http://biocides.ru/

Address	197101, St. Petersburg, ul. Monetnaja B., 11-4.		
Telephone	+ 7 (812) 320 83 84	**Fax**	+ 7 (812) 320 83 84
		E-mail	biocides@mail.ru

Main products Biocides

Baltintez manufactures biocide preparations for different industries. The company's products are marketed under the **BIONEUTRAL** brand name and are used for the protection and preservation purposes in different industries including pulp and paper, wood processing, textile and chemical industries.

- Antiseptics and fireproofing compounds for wood
- Cooling water additives for industrial enterprises
- Biocides for leather and fur production
- Fungus inhibitors for dry films
- Intra-container preservatives for water-based products
- Every day and industrial antiseptics and disinfectants

PHOSPHORIT INDUSTRIAL GROUP LLC
http://www.eurochem.ru

Address	188452, Leningradskaya oblast, Kingisepp, Phosphorit Industrial Site		
Telephone	+7 (813) 759 53 12	**Fax**	+7 (813) 752 87 27
		E-mail	post@phosphorit.spb.ru

Main products Phosphate fertilizers and feed phosphates

Located in the town of Kingisepp, about 140 km west of St. Petersburg, Phosphorit is Russia's largest manufacture of phosphate fertilizers and other chemicals. The company employs 3700 persons and is responsible for over 10% of the total phosphate fertilizer production in Russia.

Fertilizers make up 95% of the company's product mix. Other products manufactured by Phosphorit include:

- Feed additives for livestock
- Universal ammophos
- Sulphocarboammophos
- Battery and reactive sulphuric acid
- Sulphuric acid for electronics industry

Since 2001 Phosphorit has been part of the **EuroChem Mineral and Chemical Company**. Its main customers are agricultural producers and feed-mills in Northwest Russia. Products are also widely exported to Europe and Latin America.

PRIBORLAB, LTD.
http://www.priborlab.ru

Address	197198, St. Petersburg, Dobroljubova Prospekt., 14		
Telephone	+7 (812) 233 47 84	**Fax**	+7 (812) 230 75 26
	+7 (812) 238 98 80		+7 (812) 325 29 81
		E-mail	shmaluk@priborlab.ru

Main products Fluorocompounds, organofluorine materials and chemicals

Priborlab was founded in 1991 in collaboration between the Russian Scientific Center for Applied Chemistry and one of the leading Russian chemical plants. Today the company is one the Russia's largest exporters of fluorocompounds.

The basic categories of fluorocompounds produced by Priborlab:

- Fluoroplasts
- Fluororubbers
- Refrigerants
- Monomers
- Fluorinated Fluids

Manufactured chemicals include:

Ammonium nitrate, nitroammophosphate, chlorine-free nitroammophoska, commercial-grade liquid ammonia, sulphur hexafluoride, trichloracetic acid, oxide hexafluoropropylene

Priborlab's products are exported to many countries, including Italy, France, Austria, Germany, Canada and USA.

RESEARCH CENTER "CHEMICAL TECHNOLOGIES", LTD.
http://rcchemtech.ru

Address	193019, St. Petersburg, ul. Bekhtereva, 1		
Telephone	+7 (812) 703 06 85	**Fax**	+7 (812) 703 06 85
		E-mail	info@rcchemtech.ru

Main products Organic and inorganic chemical compounds

The St. Petersburg Chemical Technologies Research Center provides technical consultancy services, develops chemical engineering processes and synthesis methods, performs hazard evaluations and carries out fine organic and inorganic chemical synthesis and compound production according to customer specifications. Although the center's primary activity is research, the center also manufactures *semi-products for pharmaceutical synthesis* and other chemical compounds in various quantities.

OOO SEMSOT http://www.penoobrazovatel.ru			
Address	St .Petersburg, ul. Zikovsky, 24		
Telephone	+7 (812) 337 28 30	**Fax**	+7 (812) 337 28 30
Main products	Foaming agents and surfactants		

Semsot manufactures and sells synthetic hydrocarbon and fluorine based foaming agents for fire extinguishers as well as surfactants which are used to lower the surface and interfacial tension of liquids.

OAO ZAVOD SLANTSY http://www.slantsy.ru			
Address	188560, Slantsy, Lenigradskaya oblast, ul. Zavodskaya 1		
Telephone	+7 (813) 742 11 50	**Fax**	+7 (813)742 31 96
	+7 (813) 747 11 19	**E-mail**	info@slantsy.ru
Main products	Oil products		

Located in the town of Slantsy in the Leningrad Region, 190 km West from St. Petersburg, Zavod Slantsy is a manufacturer of various oil products. The company's main processes are manufacturing of polymeric petroleum resin, petroleum coke tempering and gas condensate refining. Other products include pastes for insulation, anticorrosion and sealing purposes. In addition to being sold in the domestic Russian market, some products are also exported to some EU and CIS countries.

The basic raw materials used in Slantsy's production are:

- Petroleum coke
- Pyrolytic resins
- Resorcin
- Urotropin
- Polyethylene
- Formaldehyde
- Gas condensates
- Oil

OOO STREEBOG
http://www.streebog.spb.ru

Address 199053, St. Petersburg, Vasilievsky Island, Liniya 2, 27
Telephone +7 (812) 327 14 41 **Fax** +7 (812) 327 14 41
E-mail office@streebog.spb.ru

Main products Cellulose and chemicals

Streebog manufactures cellulose and starch chemicals used by companies operating in mining, oil and gas, textile and construction industries. The company also delivers different types of cardboards and chemicals produced by other manufactures.

Self-produced articles:

- Cellulose
- Sodium carboxyl methyl (CMC) cellulose
- Powdered lignosulphate
- Arcelon C material (heat resistant textile fiber)

Offered chemicals produced by other Russian and Chinese manufacturers:

Oxalic acid, calcium hypochlorite, sodium dimethylditiocarbonate, thiourea, Benzene sulphonic acid, Sodium metabisulfite, Polyacrylamide, Sodium sulphide, Potassium xanthate butanol, Ammonium sulphate, Braking fluid, Caustic Soda, Hydrocloric acid, Sodium hypochlorite, Epichlorhydrin, Dichlorethane

TEKS (SELF-CONTAINED SUBDIVISION OF TIKKURILA)
http://www.teks.ru

Address 195112, St. Petersburg, Utkin Prospekt, 15-H
Telephone +7 (812) 326 95 50
E-mail company@teks.ru

Main products Paints, oils and lacquers

TEKS is a manufacturer of paints and related products employing approximately 1500 person in its St. Petersburg plant. The company has been a self-contained subdivision of Tikkurila since 2006.
TEKS is one of Tikkurila's three Russian brands which are market leaders in the Russian paints and varnishes market.

The company produces the following products:

- Water and oil paints
- Alkyd enamels
- Special-purpose enamel
- Alkyd and water-dilatable varnishes
- Putties and glues

TEKS uses both domestic and imported raw materials such as various oils, pentaerythritol, phthalic anhydride, mineral spirits, acetone and oxylol.

OOO TIKKURILA COATINGS
http://www.tikkurila-coatings.ru

Address	St. Petersburg, 9-vo Janvarya Prospekt, 15		
Telephone	+7 (812) 334 44 43	**Fax**	+7 (812) 701 15 60
		E-mail	contact.spb@tikkurila.com

Main products Paints and coatings

Tikkurila Coatings, a member of the Finnish Tikkurila Group, manufactures paints and coatings for metal, wood and concrete surfaces in various industries. The company also performs technical surveys and provides a full menu of services related to the paintwork of surfaces in transport and industry.

OOO TIKKURILA POWDER PAINTS
http://www.tikkurila-powder.ru

Address	195248, St. Petersburg, ul. Boksitorovskaya, 9		
Telephone	+7 (812) 320 76 28	**Fax**	+7 (812) 320 76 29
	+7 (812) 322 54 09		
		E-mail	powder.coatings@tikkurila.com

Main products Powder paints and coatings

Tikkurila Powder Paints develops and manufactures powder paints for surfaces of different materials and temperatures. The different coating types include anti-corrosive paints, epoxy paints and paints with metallic pigments.

ZAO UNIKHIM
http://www.unichim.sp.ru

Address	198095, St. Petersburg, ul. Marshala Govorova, 35-A		
Telephone	+7 (812) 252 30 45	**Fax**	+7 (812) 252 30 45
	+7 (812) 252 47 25		+7 (812) 252 47 25
	+7 (812) 252 54 00		+7 (812) 252 54 00
		E-mail	unichim@mail.wplus.net

Main products Industrial chemical reagents

Founded in 1992 and employing 50-100 persons, Unikhim manufactures a wide assortment of inorganic chemical reagents for industrial use. The company specializes in reagents used for optical glass manufacturing and its products are widely sold in Russia and CIS countries.

Forest Industry

ILIM GOFROPACK
http://www.ilimgroup.com

Address	188323, Leningradskaya oblast, Kommunar, ul. Pavlovskaya, 9		
Telephone	+7 (812) 460 16 91	**Fax**	+7 (812) 460 16 93
		E-mail	olga@igp.com.ru

Main products Corrugated packaging

Ilim Gofropack is a manufacturer of corrugated packaging established in 2003. The mill has has a daily production capacity of 60 million m^2 of corrugated products and it receives most of its raw materials from the Kotlas Pulp and Paper Mill in the Arkhangelsk region.

Ilim Gofropack manufactures the following products:

- White-lined corrugated boxes with print
- Brown corrugated boxes with print
- Corrugated sheets
- Regular-cut and complex-cut corrugated crates
- Corrugated box components

Ilim Gofropack is located on the premises of the St. Petersburg Cartonboard and Printing Mill in the town of Kommunar. The main users of the company's products are confectionery and dairy producers in Northwest Russia.

ZAVOD KARTONTOL
http://www.kartontol.ru

Address	192029, St. Petersburg, Obuhovskoi Pborony Prospekt, 72		
Telephone	+7 (812) 567 71 88	**Fax**	+7 (812) 567 70 35
	+7 (812) 567 70 35	**E-mail**	sekretar@kartontol.ru

Main products Packaging board and paper

Kartontol is one of the oldest companies operating in St. Petersburg. The company manufactures packaging board, carboard and corrugated paper. Finished products are sold to enterprises mainly in the domestic market. Kartontol uses only recycled raw materials in its manufacturing.

KOMMUNAR PAPER MILL
http://www.kommunar.ru

Address 188320, Lenignrad oblast, Gatchino kray, Kommunar, ul.Fabrichnaya, 1
Telephone +7 (812) 460 06 67 **Fax** +7 (812) 460 10 95
E-mail paper@mail.convey.ru

Main products Industrial paper grades and packaging

The Kommunar Paper Mill manufactures industrial paper grades and packaging in the town of Kommunar, 35km South of St. Petersburg. The mill has the daily production capacity of 20 thousand tons of paper. Ilim Pulp is the mill's majority share holder.

Product range:

- High-color confectionery wrappers
- Packaging and wrapping paper
- Kraft paper for bags
- Printing paper
- Glassine paper
- Waxing stock amd eax paper
- Tracing paper
- Medical packaging
- Cardboard

Most products from the Kommunar Paper Mill are sold to companies in Russia and CIS countries.

OAO SEGEZHA PULP AND PAPER MILL
http://www.scbk.ru

Address 186420, Karelia, Segezha, ul. Zavodskaya, 1
Telephone + 7 (814) 314 33 11 **Fax** + 7 (814) 314 26 63
E-mail office@scbk.ru

Main products Sack paper, kraft paper and wood chemical products

The Segezha mill is located in the central part of the Republic of Karelia. The company was founded in 1939 and it employs over 5000 persons. The mill has two pulp lines and three paper machines. The Segezha mill produces kraftliner, paper sacks, polyethelene coated paper and bitumen paper. The company also produces and sells the following chemical products which are realized on the side of paper and pulp manufacturing.

- Tall rosin
- Distilled tall oils
- Fatty acids
- Turpentine

ST. PETERSBURG CARTONBOARD AND PRINTING MILL - SPB KPK
http://www.ilimgroup.com

Address	196620, St. Petersburg, a/ya 51, Pavlovsk		
Telephone	+7 (812) 460 22 78	**Fax**	+7 (812) 460 22 87
	+7 (812) 460 16 96		+7 (812) 460 19 63
		E-mail	asy@kpk.com.ru

Main products Boards and liners

The St. Petersburg Cartonboard and Printing Mill is located in the town of Kommunar, 35 km South of St. Petersburg. It is Russia's largest manufacturer of coated and uncoated box board, chip board and multi-color print packages. The mill's output makes up approximately 50% of the domestic production and sales of such products in Russia. The mill is owned by Ilim Pulp, the largest forest company in Russia.

The main products manufactured at the mill are:

- Chromo board
- Matchbox board
- Liner board
- Test liner
- Laminated board
- Disposable dishes
- Folders, binders and colored cardboard sets

Packaging products from Spb KPK are sold to large Russian and Western companies.

ST. PETERSBURG PAPER MILL OF GOZNAK
http://www.goznak.spb.ru

Address	197046, St. Petersburg, Peter & Paul Fortress, 3-B		
Telephone	+7 (812) 331 78 88	**Fax**	+7 (812) 331 78 99
		E-mail	goznak@goznak.spb.ru

Main products Security and technical paper

The St. Petersburg Paper Mill of Goznak owned by the **Goznak Group** is one of the world's largest manufacturers of security paper used for the printing of bank notes and as well as other technical paper grades. The company has capabilities to manufacture practically all types of paper. Together with the Krasnokamsk Paper Mill located in the Perm Region, the Goznak Group has the annual paper manufacturing capacity of 100 000 tons. The Goznak mill has its own railroad connection.

The categories of paper manufactured at the St. Petersburg mill:

- Security paper
- Printing paper
- Drafting and drawing paper
- Technical paper
- Stationery goods

OAO SVETOGORSK
http://www.internationalpaper.com/europe/

Address	188991, Leningradskaya oblast, Svetogorsk, ul. Zavodskaya, 17		
Telephone	+7 (813) 78 43 504	**Fax**	+ 7 (813) 78 44 061
	+358 (5) 688 4100 *(Finland)*		+ 358 (5) 688 4900 *(Finland)*

Main products Paper and pulp

The Svetogorsk Paper Mill, located 200 km from St. Petersburg along the Finnish border, has been owned by International Paper Corporation since 1998.

The mill operates 2 paper machines and 2 pulp lines.

The mill's products include:

- Office paper
- Insulation paper
- Coated and uncoated liquid packaging board
- White-top liner
- Sulphite and sulphate pulp

SYASSKY PULP AND PAPER MILL
http://syas.ru

Address	187420, Leningradskaya oblast, Volkhovsky kray, Syasstroy, ul. Zavodskaya, 1		
Telephone	+7 (813) 635 64 44	**Fax**	+7 (813) 635 23 88
	+7 (813) 635 62 19		+7 (813) 635 30 80
		E-mail	sppm@syas.ru

Main products Paper and pulp

Located on the bank of the Syas River, 140 km from St. Petersburg, the Syassky pulp and paper mill is one of the large forest companies in the Leningrad Region. The Syassky mill includes wood processing facilities, pulp lines, a household and sanitary paper plant, paperboard plant and a plant for biochemical converting of sulphite lye into fodder yeast and technical lignosulphonates.

The mill's products include:

- Sulphite and sulphate cellulose
- Mechanochemical cellulose
- Toilet paper, napkins and roller towls
- Paperboard

The mill has the annual production capacity of 129 thousand tons of sulphite cellulose and 100 tons of mechanochemical cellulose.

OOO TEKHNOKRAFT http://www.texnocraft.ru			
Address	St. Petersburg, Pereulok Pirogova, 15-2		
Telephone	+7 (812) 438 55 68 +7 (812) 438 55 67	**Fax** **E-mail**	+7 (813) 438 55 67 texnocraft@mail.ru
Main products	Corrugated cardboard and kraft paper		

Tehnokraft is a manufacturer of corrugated paper, cardboard and containers. The company was founded in 2003 during the merger of corrugated cardboard manufacturers NPF Patrul and AMOS.

The main raw material used in the production of corrugated paper products is cellulose. Tehnokraft also uses recycled raw materials upon customer request.

Appendix 2: Listing of competitors

Following is a detailed listing of logistics companies currently operating in St. Petersburg with included information of the transport modes used and the key services offered by each company.

ABX LOGISTICS http://www.abxlogistics.ru		
	Modes	**Key services**
	Road Sea Rail Air	• Daily trucking between European cities • International and domestic transport of goods • FCL and LCL • Cargo consolidation and warehousing in St. Petersburg, Moscow and Ekaterinburg • Project logistics • Outsize and heavy loads • Customs services • Logistics consulting
Liquids and ADR	Handling of hazardous goods and materials	

ALEX – AUTO-LOGISTICAL EX-PRESS http://www.alexprise.ru		
	Modes	**Key services**
	Road	• Intra-urban transport in the Leningrad Region • Warehousing and leasing of storage • Outsize and heavy loads • Customs brokerage

AVALON LOGISTICS http://www.avalonlogistics.ru		
	Modes	**Key services**
	Road Rail	• 3PL Operator • Door-to-door transport services • Transport of all types of units • Collaboration with regional transport and forwarding companies • Warehousing and consolidation • Customs services

BAIKAL-SERVIS http://www.baikalsr.ru		
	Modes	**Key services**
	Road Rail Sea Air	• Container transport • Critical storage • Branch offices in over 60 Russian cities • Two distribution centers in St. Petersburg

OOO BALTFOR http://www.baltfor.ru		
	Modes	**Key services**
	Road Rail Sea	• Container transport • Customs services • Import-export transportation • Outsize and heavy loads (yachts)
Liquids and ADR	International and domestic transportation of non-dangerous foodstuff and other liquids using **flexitanks** in 20’ dry containers. Transported non-food liquids include: technical and lubricating oils, technical additives, synthetic resins, cleaning agents, emulsions, glycerin, some forms of paints and inks, fertilizers, latex, transformer oils, alkaloids, etc.	

BALTIC CUSTOMS AGENCY http://www.bta-spb.ru		
	Modes	**Key services**
	Road Rail Sea	• Specialization on transports to and from Europe and South East Asia • Customs brokerage • Intra-port expediting in Port of St. Petersburg and Kronstadt • Terminal services

OOO BALTIC LAND http://www.balticland.ru		
	Modes	**Key services**
	Road Sea	• Container transport • Door-to-door delivery • Outsize and heavy loads • LCL • Customs brokerage • Cargo insurance • Financial and juridical transactions
Liquids and ADR	Transport of liquid and gas cargo using tank containers	

BALTIC TRANSPORTATION COMPANY http://www.baltcomp.spb.ru		
	Modes	**Key services**
	Sea Road	• Door-to-door delivery • Container transport • Shipping services for companies and individual customers

BALTICA LTD. http://www.baltica-ltd.spb.ru/x		
	Modes	**Key services**
	Road Rail Sea	• Vessel chartering • Customs brokering • Critical storage • Owns a fleet of railroad cars and trucks
Liquids and ADR	Transport of dangerous and liquid goods in tank containers	

BALTICA-TRANS http://www.baltica-trans.ru		
	Modes	**Key services**
	Road Rail Sea	• Container transport • Warehousing • Outsize and heavy loads • Shipping agency services • Vessel and tanker chartering • Survey and insurance • Armed guarding of cargo • Customs services
Liquids and ADR	Transport of liquids in tank containers, truck tanks, railway tank cars and flexi-tanks. The company has equipment for the transport of all kinds of liquid cargo. Types of liquids transported include industrial, food, hazardous, viscous and gas based liquids. Specific goods transported on regular basis: technical liquids lignosulphonates, rape and vegetable oil, palm oil, palm stearin and distillate of palm fat acid.	

BALTIMPEX http://www.baltimpex.ru/		
	Modes	**Key services**
	Road Rail Sea Air	• Door to door delivery services in Russia, CIS and Europe • Container transport • Outsize and heavy cargo • Intra-port expediting • Warehousing services • Customs brokerage • Insurance
Liquids and ADR	Sea transport of liquid goods.	

BELOMORTRANS-LOGISTIK http://www.belomortrans.ru		
	Modes	**Key services**
	Sea Road Rail	• Container transport • Customs brokerage • Shipping agent • Cargo consolidation and warehousing • Project management services • Consultation service on Chinese markets

BW GROUP http://www.bw-shipping.ru		
	Modes	**Key services**
	Sea Road Rail Air	• Transports to Russia, CIS and Scandinavia • Shipping agent • Warehousing • Insurance • Customs brokerage • Port agent

DB SCHENKER http://www.schenker.com.ru		
	Modes	**Key services**
	Road Rail Sea Air	• Customs brokerage • Insurance • Warehousing and consolidation • Picking and packing • Distribution

EUROLOGISTICS http://www.evrologistika.ru		
	Modes	**Key services**
	Road Sea	• Freight forwarding • Door-to-door delivery • Cargo consolidation • Warehousing and distribution • Customs brokerage

FLAME LINE LTD. http://www.flameline.ru		
	Modes	**Key services**
	Road Rail Sea Air	• Transport between Europe and the former Soviet Union • Specialization in transports to Kazakhstan • Door-to-door deliveries • Container transport and LCL • Outsize and heavy loads • Warehousing and consolidation • Freight forwarding • Customs services • Freight insurance
Liquids and ADR	Licensed ADR operator. Handling of dangerous goods and hazardous materials.	

FM LOGISTIC http://ru.fmlogistic.com/		
	Modes	**Key services**
	Road Rail	• 3PL Operator • Road and rail transport in Russia and Europe • Outsize and heavy loads • Transport of food products • Warehousing in several Russian cities • Packaging and distribution • Customs services
Liquids and ADR	Transport of dangerous goods	

GARDARICA http://www.gardarica.ru		
	Modes	**Key services**
	Road Rail Sea Air	• Multimodal transports in Northwest Russia and Eastern Europe • Warehousing services • Cargo consolidation • Customs services • Insurance

INTERTERMINAL http://www.interterminal.ru		
	Modes	**Key services**
	Road	• 3PL Operator • Secure storage of dry and refrigerated goods • Motor transport within Russia and CIS • Large warehousing facilities in St. Petersburg • Container transport • Processing of railroad cars

INTERNATIONAL CARGO FORWARDING GROUP http://www.icfgrp.com		
	Modes	**Key services**
	Road Rail Sea River Air	• Transport and forwarding services for all types of cargo • Port forwarding • Stowage • Customs service • Survey and insurance • Agency services in Russia and Southeast Asia
Liquids and ADR	Transport of liquid bulk	

INTRANS SPB http://www.intrans-spb.ru/		
	Modes	**Key services**
	Road Rail Sea River	• Freight forwarding services • Chartering sea and river vessels • International rail transport • Outsize and heavy loads • Customs brokerage
Liquids and ADR	Transport of dangerous loads.	

INTRANS LTD. http://www.intrans.sp.ru/		
	Modes	**Key services**
	Road Rail Sea Air	• Container transport • Worldwide LCL service • Multimodal cargo forwarding • Outsize and heavy loads • Customs brokerage • Insurance • Shipping consultancy
Liquids and ADR	Shipping of dangerous cargo.	

ISPYTATEL HOLDING GROUP http://www.ispytatel.ru		
	Modes	**Key services**
	Road	• Fleet of 60 trucks and tractors • Trucking in Russia, CIS and Europe • Service and spare parts for heavy trucks • 24 hour washing service for transport vehicles in St. Petersburg
Liquids and ADR	Transport of dangerous goods classes 1-9 in containers and tanks	

ITELLANLC http://www.itellanlc.com		
	Modes	**Key services**
	Road Rail Sea Air	• 3PL • Container transport • Package cargo delivery • Warehousing and distribution • Warehousing facilities in major Russian cities • Customs services • Cargo insurance
Liquids and ADR	Transport of dangerous goods.	

IZOTEP http://www.izotep.ru		
	Modes	**Key services**
	Road Rail Sea	• Forwarding • Door-to-door delivery • Container transport • Container maintenance and sales • Customs brokerage • Warehousing
Liquids and ADR	Liquid transport using tank containers of types IMO-I, IMO-II, IMO-III, volumes from 19000 to 26000 liters	

KANGO LOGISTICS http://www.kango.ru		
	Modes	**Key services**
	Road Sea Air	• Trucking between Russia and Europe • Container transport • Domestic and international air transport • Customs brokerage • Insurance • Warehousing and consolidation of cargo
Liquids and ADR	Transport of dangerous goods	

KUEHNE+NAGEL http://www.kuehne-nagel.ru		
	Modes	**Key services**
	Road Rail Sea Air	• Container transport • Warehousing • Customs brokerage • Insurance • Large warehouse capacity

LOGWIN http://www.logwin-logistics.com/locations/russia.html		
	Modes	**Key services**
	Road Rail Sea Air	• Air + Ocean • Road + Rail • E-fulfillment • Hanging garments transportation network • Onsite logistics • Warehousing capacity of 12 500 m^2 • Other value-added services
Liquids and ADR	Logwin also serves customers in the chemical industry and therefore most likely handles liquid and dangerous cargo.	

MEGALOGISTIC http://www.megalogistic.ru		
	Modes	**Key services**
	Road	• 3PL Operator • Motor transport of small to average size loads in the St. Petersburg area • Collaboration with transport companies • Warehousing and consolidation • Lease of warehousing facilities • Freight insurance

MILTRANS http://www.miltrans.ru		
	Modes	**Key services**
	Road Rail Sea Air	• Air transport to all Russian airports • Rail transport in Russia and CIS • Trucking priorities Germany and Kazakhstan • Container transport • Insurance
Liquids and ADR	Handles liquid transport. Customers include oil companies.	

MORTRANS http://www.mortrans.spb.ru		
	Modes	**Key services**
	Road Rail Sea River Air	• Expertise in transport of vehicles, boats and other outsize and heavy cargo • Door-to-door delivery • Vessel and tanker chartering • Insurance • Customs brokerage • Transportation consulting

NEVA-DELTA SHIPPING AGENCY http://www.neva-delta.spb.ru/		
	Modes	**Key services**
	Road Rail Sea	• Arranging of multimodal transport • Warehousing in the Port of St. Petersburg • Customs services • Port agent

NEVA-GROUP http://www.neva-group.ru		
	Modes	**Key services**
	Road Sea River	• Door-to-door forwarding in the Baltic Sea, Finland and inland Russia • Agency in the ports of St. Petersburg, Ust-Luga and Vyborg • Main transported items timber, crushed stone, liquids and project cargoes • Shipments of tumber and bulk cargo to ports along the Saimaa canal
Liquids and ADR	Transport of various liquid chemical goods and food products using **flexitanks** inside 20’ containers. Transported materials include: vine and vine materials, oils, fats, juices, syrups, must, mineral water , fertilizes, paint, latex, oils, tars, glycerin, detergents and abstergents.	

NIENSHANS LOGISTICS http://www.bc-ohta.ru		
	Modes	**Key services**
	Road	• 3PL Operator • Integrated complex logistics solutions • Warehousing in St. Petersburg and Moscow • Customs services

PETROLINE LOGISTICS http://www.petrologic.ru		
	Modes	**Key services**
	Rail	• Rail transport within the rail network of the former Soviet Union • Fleet of 1300 boxcars • Freight forwarding • Insurance • Logistics consulting

POINTER http://www.pointers.ru/		
	Modes	**Key services**
	Road Sea	• Container transport • Transport of composite loads • Warehousing services • Customs services • Insurance

RAIL CONTINENT http://www.railcontinent.ru		
	Modes	**Key services**
	Rail Road	• Container transport • Warehousing • Consolidation • Insurance

R-LINE http://www.rline.spb.ru/start.html		
	Modes	**Key services**
	Road Rail Sea	• Specialization in transport of paper, cardboard and packaging materials • Door-to-door delivery • Expertise in the Asian Pacific region • Consolidation and warehousing • Customs brokerage • Insurance

RUSMARIN http://www.forwarding.ru		
	Modes	**Key services**
	Road Rail Sea Air	• Door to door delivery • Container transport • Shipping agency • Stevedoring operations • Outsize and heavy loads • Storage and warehousing • Customs services • Insurance
Liquids and ADR	Transport of dangerous goods.	

RUSSIAN LOGISTIC SERVICE http://www.rls.ru		
	Modes	**Key services**
	Road Rail Sea Air	• 3PL Operator • Door-to-door deliveries • Handling of freight weighing 50+ kg • Warehouse management services • Inventory management services • Customs services • Logistics consultancy • Announced a possible merger with STS Logistics in March 2009

SCANDINAVIA http://www.scand.ru		
	Modes	**Key services**
	Road Sea River	• Transportation between Russia, Scandinavia and Europe • Container transport • Fleet of 17 trucks • Freight forwarding • Warehousing and consolidation • Customs services
Liquids and ADR	Transportation of dangerous cargo of ADR classes.	

SOVAVTO – ST. PETERSBURG http://www.sovavto.ru		
	Modes	**Key services**
	Road Sea	• Shipping and freight forwarding in Russia, Scandinavia and Western Europe • Container transport • Fleet of 600 trucks • Warehousing and regional distribution • Customs brokerage • Insurance • One of the transport market leaders in the St. Petersburg region

SOYUZHIMTRANS INTERNATIONAL http://www.shtrans.narod.ru		
	Modes	**Key services**
	Road Rail Sea	• Transport services for all types of cargo going through the Port of St. Petersburg • Container transport • Outsize and heavy loads • Warehousing • Consolidation • Customs services • Insurance
Liquids and ADR	Handling of dangerous goods of all categories. Transport of liquids with expertise in the transshipment of chemical products and cellulose.	

STS LOGISTICS http://www.stslogistics.net		
	Modes	**Key services**
	Road Rail Sea Air River	• 3PL Operator • Specialization on transports to Russia and CIS countries • Warehousing and consolidation • Outsize and heavy loads • Package freight • Customs brokerage • Announced a possible merger with Russian Logistic Service (RLS) in March 2009

OOO TEKHNOSNAB http://www.1tsn.ru		
	Modes	**Key services**
	Road Rail	• Container transport • Outsize and heavy loads • Customs brokerage • Warehousing and storage • Survey and insurance

TRANSCARGO http://www.transcargo.ru		
	Modes	**Key services**
	Road Sea Rail Air	• Door-to-door deliveries • Container transport • Outsize and heavy loads • Warehousing services • Customs services
Liquids and ADR	Road, sea and rail transport of all dangerous goods except explosives and radioactive materials. Transported goods: perfumes and cosmetics, aerosols, paints, varnishes, building materials, typographical and copying equipment, fertilizers, chemicals, etc.	

TRANSIT LTD. http://www.transitspb.ru		
	Modes	**Key services**
	Road Rail Sea Air	• Transport services mainly in Russia and CIS • Freight brokerage and forwarding services • Warehousing and distribution • Heavy and outsize loads • Specialization in transport of mining and other special equipment • Customs brokerage • Insurance
Liquids and ADR	Transport of liquid cargo in tank containers	

OOO TRANSSPHERE AIR http://www.transsphere-aero.ru		
	Modes	**Key services**
	Air Road Rail	• Door-to-door service • Outsize and heavy loads • Part of Finnish-Russian Transsphere Group • One of the five largest air transport companies in Northwest Russia • Booking agent for airline, railroad and ferry tickets in St. Petersburg

UNIRANS – P.R.A. http://www.unitrans-pra.ru		
	Modes	**Key services**
	Road Sea Air	• Container transport • Outsize and heavy loads • Warehousing and storage • Warehousing facilities in Russia, Finland, Holland and USA • Customs services
Liquids and ADR	Arrangement of air transport for dangerous and hazardous goods.	

VALDETRON http://www.valdetron.ru		
	Modes	**Key services**
	Road Sea	• Container transport • Shipping agent • Forwarding services • Market leader in container transport of plywood and other wood materials • Operates in Russia, China and Baltic States

WTN-GROUP http://www.vneshtrans.com		
	Modes	**Key services**
	Road Rail Sea River Air	• Integrated transport and logistics service • Door-to-door delivery • Heavy and outsize loads • Terminal services • Warehousing • Customs brokerage • Insurance
Liquids and ADR	Handles transport of dangerous goods	

Appendix 3: Russian e-mail inquiry

The following message, requesting information regarding liquid raw material usage and logistics routes, was sent to some Russian companies in St. Petersburg in the course of the research.

Здравствуйте!

Я учусь в Политехническом институте города Тампере (Финляндия) на кафедре международной торговли и сейчас пишу дипломную работу, в которой я исследую процесс использования и траспортировки жидкого сырья и готовой жидкой продукции на ведущих предприятиях Ленинградской области.

Я хотел бы попросить Вас ответить на несколько вопросов, касающихся темы моего диплома, или переслать это письмо работнику вашего предприятия, который мог бы на них ответить. Или же не могли бы Вы сообщить мне, как связаться с тем, кому можно задать эти вопросы напрямую.

Если у Вас нет возможности ответить на все вопросы, то ответ на один или несколько, из ниже перечисленных вопросов, также поможет мне в работе над моим дипломом.

1. Какое жидкое сырье ваше предприятие использует в своем производстве и какой его годовой расход?

2. Как далеко от вас находятся ваши основные поставщики жидкого сырья?

3. Каким образом на вашем предприятии осуществляется транспортировка жидкого сырья и готовой жидкой продукции?

    a. Какие виды транспортировки ваше предприятие использует для перевозки жидкостей?

    б. Располагает ли ваше предприятие своим транспортом или же вы пользуетесь услугами транспортных компаний?

4. Как далеко от вас находятся основные потребители вашей продукции?

5. Предвидятся ли в будущем в вашей компании изменения в потребностях транспортировки жидкостей?

6. Есть ли у вашего предприятия потребность в новых решениях, касаемых транспортировки жидкостей?

Огромное спасибо за помощь!
С удовольствием отвечу на любые ваши вопросы.

С уважением,
Петри Маркус Туоминен
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