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REGIONAL LOGISTICS & ICT PROFILE

Saint Petersburg, Russian Federation

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EXECUTIVE SUMMARY

This report is a part of the LogOn Baltic project funded by the European Union. The aim of researches, which results are presented in this report, was to estimate the level of logistics potential in Saint-Petersburg and scales of ICT implementation in region logistics.

This report is a result of joint investigations of Saint-Petersburg region according LogOn Baltic project subjects and there were used main results of other parts of the project: Logistics Survey, ICT Survey, Expert Interview и DEMIA (Development Measures Input Analyses), which were mostly obtained by questioning of different companies and organizations. It is reasonable to notice, that results of questioning have been processed by Turku School of Economics (Finland) by its own developed technique. This technique has been used for an estimation of results of similar questioning of all countries - participants of the project.

Despite of unconditional interest which is represented with results of questioning, they are difficult considered as representative for whole territory of Saint Petersburg where more then 100 thousand companies operates. In this connection the analysis of other information sources of ICT development in region also has been lead and in the report generalization of results these researches is presented too.

The significant part of this report analysis is bases on other information sources thus to obtain full enough picture of the state and development of Saint-Petersburg transport and logistics complex. The conclusions and recommendations have proposals how to avoid the “bottle necks” in Saint-Petersburg transport and logistics development and what must be done for extension of ICT implementation in the region logistics.

Results of the given researches can be useful for various city authorities structures, organizations and commercial companies at estimations of logistics potential, an ICT use level in transport and logistics of Saint Petersburg, trends of its development and ways of its improvement.

EXECUTIVE SUMMARY IN RUSSIAN

Этот отчет является частью проекта LogOn Baltic, финансируемого Европейским Союзом. Целью исследований, результаты которых отражены в настоящем отчете, являлась оценка уровня развития потенциала логистики и применения информационно – коммуникационных технологий (ИКТ) в логистике Санкт-Петербурга.

Этот отчёт представляет собой обобщённое исследование региона Санкт-Петербурга по тематике проекта LogOn Baltic и в нём использованы основные результаты других разделов проекта: Logistics Survey, ICT Survey, Expert Interview и DEMIA (Development Measures Input Analyses), полученные в основном на основе анкетирования компаний и организаций Санкт-Петербурга. Следует отметить, что результаты анкетирования были обработаны Turku School of Economics (Финляндия) по разработанной специалистами этой организации методике, использованной для оценки результатов аналогичного анкетирования всех стран – участников проекта.

Значительная часть настоящего исследования основана на других источниках информации с целью получения достаточно полной картины состояния и развития транспортно-логистического комплекса Санкт-Петербурга. В выводах и рекомендациях содержатся предложения по устранению «узких мест» в развитии транспорта и логистики в Санкт-Петербурге, а также расширению применения ИКТ в логистике региона.

Результаты данных исследований могут быть полезны для различных управленческих структур города, организаций и коммерческих компаний при оценках потенциала логистики и уровня использования ИКТ в Санкт-Петербурге, определении тенденций его развития и путей совершенствования.

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1 INTRODUCTION

1.1 Project introduction - LogOn Baltic

The LogOn Baltic project was approved within the Baltic Sea Region (BSR) INTERREG III B Neighbourhood Programme, which is sponsored by the European Regional Development Fund (ERDF), as part of the Structural Funds, and co-financed by national project partners.
The purpose of LogOn Baltic is to present solutions to improve the interplay between logistics & ICT competence and spatial planning and strengthening Small and Medium-sized Enterprises (SMEs) competitiveness in the BSR. This is primarily done by the production and dissemination of information for regional development agencies on how to support enterprises in the participating regions in the field of Information and Communications Technologies (ICT) and logistics, thus improving regional development.
The following regions are participating in the project:

- South-West Finland
- Östergötland (Sweden)
- Denmark
- Hamburg
- West-Mecklenburg (Germany)
- North-East Poland
- Lithuania
- Latvia
- Estonia
- St. Petersburg (Russia)

LogOn Baltic provides an overview of logistics efficiency and logistics information systems and their exploitation, in order to improve the interaction between SMEs and other public/private actors.
On the one hand, the empirical activities of LogOn Baltic compare the existing logistics services and infrastructure with the logistics needs in the participating regions, making it possible to develop perspectives and action plans for strengthening the logistics competence in the regions. On the other hand it describes the existing ICT infrastructure

and services, revealing up to what extent they meet with the companies' needs for further development. In this way, LogOn Baltic focuses on:

a. identifying development agencies and evaluating their performance in each region
b. evaluating the level of logistics and ICT efficiency
c. suggesting concrete actions for regional and local public sector bodies

Data are gathered in each participating region using four tools, Logistics survey, ICT survey, DEMIA and expert interviews; each of these is presented in a separate report. These results together with secondary data is presented in a regional report, that will describe the state of affairs in the region, with recommendations on what and how the region needs to develop. The regional reports are used as a basis for making an interregional comparison which is reported in an inter-regional report. All reports are available on the project homepage, www.logonbaltic.info.

1.2 Regional partner introduction

The regional partners in Russia (Saint-Petersburg) are Saint-Petersburg Government Committee of Transport and Transit Policy; non-profit-making partnership "North-Western Russia Logistics Development and Information Centre "ILOT" and non-profit-making partnership "Research and Education Centre "PROTEY".

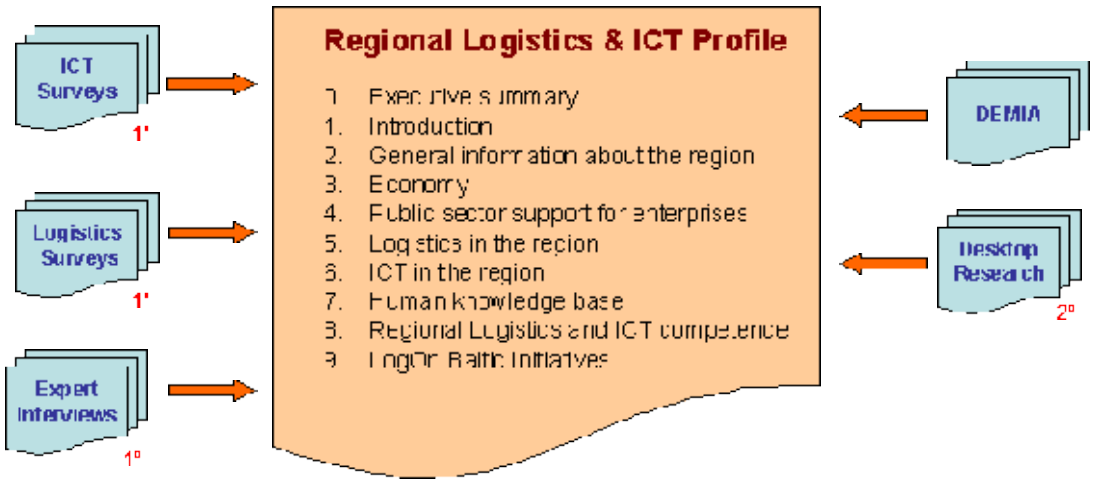
The Committee of Transport and Transit Policy being a structural division of Saint-Petersburg Government is responsible for development of cargo transport and logistics in the megapolis region. The committee is rather young, it was founded in 2004. due to importance of the city for Russia as a "window to Europe". In the government structure of other Russian regions the similar division is not exist. The main tasks of this division is: to promote Saint-Petersburg as real international transport and transit centre; to attract additional cargo and passenger flows; to increase the competitive ability; to improve custom operations; to supply state and private investment in transport infrastructure; to broaden IT application in transport and logistics.

The Non-profit-making partnership “North-Western Russia Logistics Development and Information Centre “ILOT” was established several years ago and operating as a PPP-base non profit organisation, so it is opened for participation of any transport and logistics actor as well as a company of other profile. ILOT is a multi-service think-tank for the transport and logistics business. Its task is:
monitoring and forecasting regional and transit cargo flows in northwestern Russia and international shipping corridor number 9; facilitates access to the international logistics network; provides logistics consulting services for small and medium-sized businesses and their access to informational resources; gathers, processes, and supplies information to all interested parties involved in the transportation process; research and development projects in the field of transport infrastructure, logistics centres, cross-border cooperation.
The centre ILOT is permanent participant of TEDIM and EuroRussia programmes and took part in few Interreg and Tacis projects: Baltic Pallet, NeLoC, Green Wave, Gateway Office, KRS Logistics.
The Non-profit-making partnership “Research and Education Centre “PROTEY” was founded in 2000 year. The mission of PROTEY is to promote innovative and integrated processes for education, science and industry, directed to development and implementation of “high-tech”. Its main tasks are following: research and education in logistics; creation, development and support of distant education systems; manufacturing and operating of industry and education “bases of knowledge”; co-operation with national and international organisations in the field of new information technologies.

1.3 Regional Profile introduction

The Regional Logistics & ICT Profile (short form, Regional Profile) is one of the several support tools necessary for the analysis and description of the logistics and ICT competences in the region.
Information from different areas of interest (i.e. economy, human resources, logistics infrastructure, ICT infrastructure, public sector, among others) together with the findings of the other empirical activities carried out during the project life, converges into the Regional Logistics & ICT Profile, turning it into a reference document for the whole project.

All of the regions involved in the LogOn Baltic project are following the same content structure to help keep uniformity among the different Regional Profiles.



This tool is to be considered the main tool for secondary data collection, providing a comprehensive overview of the actual situation and development in the logistics and ICT industry.

2 GENERAL INFORMATION ABOUT THE REGION

2.1 Saint-Petersburg in the Baltic Sea Region

St. Petersburg (with its position on the latitude of ca 60° N and on the longitude of ca 31° E – the Pulkovo Meridian) is a city located in the North-West of Russia in the delta of the Neva River at the east end of the Gulf of Finland in west Prinevskaya Valley. The city is a major transport hub and a web of sea lanes, river routes and main roads .

2.2 Main location factors

St. Petersburg is built on 44 islands created by the maze of the Neva delta and 90 other rivers and canals. At such Northern latitudes St. Petersburg is the world's largest city. The city has an advantageous location as a node of waterways and main roads (12 trunk railways and 11 highways). St. Petersburg is a Russian gateway to Europe with its territory being the closest to the European community. Neighbouring countries: Sweden, Finland, Norway, Estonia, Latvia, Lithuania, Poland, Germany, Denmark (the Baltic Sea Region). Neighbouring regions of Russia: Leningrad, Novgorod, Pskov, Vologda, Kaliningrad Oblasts and the Republic of Karelia. The area of St. Petersburg contains the city proper, and suburbs – 8 towns and 21 settlements. The total area of the city with subordinate administrative units is 1439 square kilometres. The area of St. Petersburg city proper is 606 square kilometres. Fresh surface and underground waters constitute the bulk of water supplies. Fresh surface waters are concentrated within the drainage area (catchments area) of the hydrologic system comprising Lake Ladoga – the Neva River – the Neva Bay – the Gulf of Finland. Within the territory of the city and its suburban areas there are occurrences of sand and gravel materials, pebble, sands, sandstone, loam as well as peat (the stock equals to 17.5 bln cubic metres of raw product or 2 bln tonnes of air-dry peat).

2.3 General climate conditions

The city enjoys maritime climate with mild winters and relatively cool summers. The average January temperature is – 8.0 C. The average July temperature is + 18.0 C. From the beginning of April to the end of the first ten days of December temperature is mostly above zero degrees Centigrade. The coldest month of the year is February. The average annual precipitation is approximately 600 mm. The usual wind direction is west, south-west and south. Due to city's northern location it enjoys the phenomenon of the "white nights", lasting from May 25 till July

2.4 Regional administrative divisions

St. Petersburg is a subject of the Russian Federation and a Federal city.

According to the Charter of St. Petersburg approved by the Law of St. Petersburg as of 28.02.98 No.13-4 the St. Petersburg public authorities consist of:

The sole and supreme legislative body - the Legislative Assembly of St. Petersburg.

Executive bodies – the St. Petersburg City Administration - the superior executive body of St. Petersburg headed by Governor of St. Petersburg; other executive bodies - branch and district public executive bodies of St. Petersburg comprising the structure of public authorities of St. Petersburg.

Judicial bodies – the Charter Court of St. Petersburg and Justices of the Peace.

2.4.1 Legislative Assembly

The Legislative Assembly of St. Petersburg consists of 50 deputies elected for a period of 4 years by single-member constituencies. The Legislative Assembly passes the Charter of St. Petersburg, Laws of St. Petersburg and enactments of the Legislative Assembly. The Assembly is empowered to approve budget of St. Petersburg, to impose taxes, duties and other payments payable to the city budget, to establish

procedures of managing St. Petersburg property, to approve city development plans and fundamental principles of local self-government, to ratify treaties of St. Petersburg. Legislative Assembly controls execution of the Charter, budget and laws of the city.
Deputies of the Legislative Assembly of St. Petersburg are elected by secret vote of the citizens of St. Petersburg. The suffrage is universal and equal.
The Legislative Assembly of St. Petersburg has powers:
- to elect from among its members the Chairperson and two Vice-Chairpersons;
- to form from among its members bodies of the Legislative Assembly of St. Petersburg – Legislation Committee, Budget and Finance Committee, other standing committees (not more than 7 standing commissions);
- to approve Chairpersons of the bodies of the Legislative Assembly of St. Petersburg;
- to assign standing commissions' representatives to form Committees of the Legislative Assembly of St. Petersburg;
- approves membership in the Committees and standing commissions of the Legislative Assembly of St. Petersburg;
- to establish Inspection and Accounts Chamber. The Chamber is one of the departments of the Legislative Assembly of St. Petersburg
- to elect Ombudsman of St. Petersburg and to create administrative department to provide for the activities thereof. Administrative Department of the Ombudsman is one of the departments of the Legislative Assembly of St. Petersburg.
The Administrative Department provides for organizational, legal, information security and material maintenance of the activities of the Legislative Assembly of St. Petersburg.

2.4.2 City Administration

The St. Petersburg City Administration is the supreme executive body of St. Petersburg headed by the Governor of St. Petersburg. The St. Petersburg City Administration is comprised by 15 members: the Governor, 7 Vice-Governors and 7 Chairpersons of the major Committees. The duties of the St. Petersburg City Administration among others are as following: to develop draft budgets and city

development projects, to establish and to supervise local executive bodies, to administer and manage property of St. Petersburg

On the whole the executive bodies of St. Petersburg consist of 40 Committees, Departments and Agencies which supervise activities in various sectors (economy, construction, transportation, health care, education, and environmental protection among others) and 18 District Administrations which supervise 18 administrative districts of St. Petersburg.

Chairperson of the Legislative Assembly of St. Petersburg and Governor of St. Petersburg are member of the Council of Federation of the Russian Federation.

Governor of St. Petersburg is the supreme public authority of St. Petersburg and is elected to serve the term of 4 years. A person elected Governor of St. Petersburg while holding the office cannot be a deputy of the legislative (representative) body of public authorities of the subject of the Russian Federation, a deputy of the representative local self government body. They also cannot take any other paid work except for scientific work, teaching or other creative work.

In accordance with the Constitution of the Russian Federation a person elected Governor of St. Petersburg cannot hold office for more than two successive terms.

The Governor of St. Petersburg heads the St. Petersburg City Administration on principle of the undivided authority and represents St. Petersburg at the federal public authorities, public authorities of the subjects of the Russian Federation, local self-government bodies and while carrying out external economic relations. The Governor has the power to sign treaties and agreements on behalf of St. Petersburg. The Governor of St. Petersburg is entitled to sign legislative acts, to initiate bills and to reject bills.

The St. Petersburg City Administration discusses:

- the draft budget of St. Petersburg, draft amendments and addenda to the budget, draft report on budget execution;
- draft plans and programmes of social and economic development of St. Petersburg.
- bills imposing or abolishing taxes, bills on tax exemptions, on changing financial liabilities of St. Petersburg, other bills which provide for expenses to be covered from the budget of St. Petersburg.

2.4.3 Charter Court

The Charter Court of St. Petersburg is established to decide whether the laws and other statutory acts of St. Petersburg, statutory acts passed by the public authorities of St. Petersburg and local self-government bodies in the territory of St. Petersburg agree with the Charter of St. Petersburg and to give official interpretation of the Charter of St. Petersburg.
The duties, composition, the procedure of establishing the Charter Court and its activities are defined by the Constitution of the Russian Federation, by the Federal Constitutional Law "On Judicial System of the Russian Federation", by the Charter of St. Petersburg and the Law of St. Petersburg "On the Charter Court of St. Petersburg".
The Charter Court consists of seven judges appointed by the Legislative Assembly of St. Petersburg.

2.4.4 Justice of the Peace

The Justice of the Peace is the judge of general jurisdiction of St. Petersburg whose terms of reference provide for examining civil, administrative and criminal cases as a trial court. The Justices of the Peace administer justice in the name of the Russian Federation. The procedure of administering justice is established by the Federal Legislation. The rules of examining and resolving administrative cases can be defined by the legislation of St. Petersburg.
The duties, election procedure and scope of activities of the Justices of the Peace, the criteria of establishing judicial districts and magistracies are defined by the Constitution of the Russian Federation, by the Federal Constitutional Law "On Judicial System of the Russian Federation", by the Federal Law "On the Justices of the Peace in the Russian Federation," other Federal Constitutional Laws and by the Law of St. Petersburg "On the Justices of the Peace of St. Petersburg"
The Justice of the Peace is appointed by the Legislative Assembly of St. Petersburg for the term of three years. When reappointed a Justice of the Peace serves the term of five years.

2.5 Historical background

St. Petersburg was founded in the year 1703. The purpose of building a new city was to secure Russia's outlet to the sea and to provide direct shipping connection with Europe. It was built to become Russia's new capital. In fact, from 1712 till 1918 it was the capital of Russia. During different periods in history the city changed its name: St. Petersburg – Petrograd – Leningrad – St. Petersburg.
The initial variant of the town plan has undergone but some amendments. At the heart of the city there is Zayachiy Island where the main stronghold of the city is situated – the Petropavlovskaya Fortress (Peter-and-Paul) - and Dvortsovaya Square (Palace Square). The Hermitage Palace (nowadays the biggest national museum - the Hermitage) and the General Staff Headquarters are situated on Palace Square. The Admiralty (General Navy Headquarters) adjoins the Square. According to the town plan, three straight avenues diverge from the Palace Square. They are Nevskiy Prospect (laid precisely eastward), Gorokhovaya Ulitsa (laid South East) and Voznesenskiy Prospect (laid southward). To the north-east of the Palace Square there is Vasilyevskiy Island surrounded by the two branches of the Neva river and the Gulf of Finland. There are the Marine Exchange building and State University buildings on Vasilyevskiy Island

2.6 The place of the region economy within the national one.

The city is a large industrial, scientific and cultural centre of Russia. It is also an important transport node. The population of the city is 4.6 million people according to statistics of 2006 .
As for the number of the employed at St. Petersburg manufacturing sector, the city ranks fifth among the regions of the Russian Federation. Local companies produce 2.5 per cent of the national commodity output. Hi-tech companies working in the spheres of electronic engineering, radio engineering, machinery construction, ship building and instrument making make up the basis of the local industry.
There are the Centre of Science of the Russian Academy of Sciences, research centres, institutions of higher education, theatres and museums in the city. There are 65 branch banks operating in the city.
The city is involved in dynamic external economic activities. More than 600 companies with foreign capital participation operate in St. Petersburg. Key partners: Finland, Sweden, the USA, Germany, Great

Britain. Co-operation with partner cities of St. Petersburg is of great importance for external relations of the city. St. Petersburg City Administration has signed 73 partnership agreements with foreign cities.

There are 49 diplomatic missions of foreign countries and representative offices of foreign organizations accredited in the city, among them – 29 Consulates General. St. Petersburg has many delegates in the regional organizations of the Baltic Sea countries and it is one of the most efficient tools of development international and external economic relations of the city as one of the subjects of the Russian Federation. St. Petersburg has its representation in: The Council of the Baltic States, the Nordic Council, the Baltic States Subregional Cooperation Organization, the Union of Baltic Cities, Forum of Sea Outskirts Regions of Europe - the Baltic Commission, The Northern Security Policy Forum. Since 1996 the Russian delegation to the Congress of European Local and Regional Authorities has had a representative from St. Petersburg. In 1998 St. Petersburg joined the “Eurocities” (Association of European cities) as an associated member, and the International Congress and Conference Association .

2.7 Links with Baltic Sea Region

The majority of freight in transit bound for the Baltic Sea region and backwards passes through St. Petersburg.

One of the most efficient tools fostering development of international and external economic links of St. Petersburg is participation of its delegates in the work of regional organizations of the Baltic Sea States. Among them - The Baltic States Council, the Nordic Council, the Baltic States Subregional Cooperation Organization, the Baltic Cities Union.

Joining the work of international regional organizations fosters favourable environment for commercial and economic cooperation, for solving general humanitarian issues, as well as issues of health care, environment safety and power saving techniques, development of culture, education, information exchange, tourism and infrastructure development.

Co-operation of St. Petersburg with the European Union (EU) and its executive body – the European Commission - has been carried out within the framework of Agreement on Partnership and Cooperation signed on July 24. 1994. According to the Agreement the priority

guidelines for the cooperation of Russia and EU are as follows: industrial cooperation, power engineering, transportation, science, education, human resource training, statistics, standardization and tourism.

The main aspect of cooperation between St. Petersburg and the European Union is the TACIS project.

Creation and development of transportation and information networks is of great importance for St. Petersburg. It will facilitate the integration of Russia into global economic and information space. In particular Russia takes part in international projects TEDIM and TACIS to create regional transportation and logistics networks, telecommunication systems, logistic centres networks both in trade and transportation sectors. A number of federal and regional programmes and projects have been developed with macro-logistic networks being constituent parts thereof.

There are two major transport corridors in the territory of St. Petersburg connecting Europe and Asia. They are "North-South" and “Transsib”. The Pan-European transport corridor No 9 also runs through the territory of St. Petersburg.

The North-West of Russia is the only Russian area bordering upon European Union member countries. The bordering location of St. Petersburg close to the EU member countries and industrially developed regions of Russia are the factors which mark the city's importance for export – import transportation. When we mention the North West of Russia, it is of the utmost importance to take into account the geopolitical situation of St. Petersburg. St. Petersburg is a seaport and a major connection between Russia and the European Union being a gateway for foreign trade of the North West region. One of the main challenges of the Strategic City Development Plan is the task of integration of St. Petersburg into the world economy. For this purpose it is necessary to increase city’s foreign trade and transportation capacities, to redirect major Russian cargo flow to St. Petersburg and to enhance local freight servicing.

3 ECONOMY

3.1 Economic importance of the region

3.1.1 General significant socio-economic development of St. Petersburg

About 4% of the gross national product is produced in St. Petersburg. Presently the Programme for socio-economic development for the years 2005-2008 adopted by St. Petersburg government Enactment No.474 as of 19.04.2005 is being realised in St. Petersburg. The social security Strategic Plan for the years 2006-2010 has been adopted by St. Petersburg government Enactment No.559 as of 16.05.2006. St. Petersburg government Enactment No.1051 as of 29.08.2006 has approved the Standards of living in St. Petersburg, which are taken into account in budgeting, with a view of accomplishing the goals of the Programme for socio-economic development, as well as the social sector objectives . An information analytical programme for the monitoring of standards of living in Saint-Petersburg has been developed.

In recent years the majority of St. Petersburg macroeconomic indicators remain positive. (Table 1) Value of Saint-Petersburg gross regional product is represented fig.1

Table 1 Economics of St. Petersburg

Economics of St. Petersburg

	2005	**2006**
Gross regional product billion Euro	20,7	25,2
Volume of industry billion Euro.	12.3	11,5
Service billion Euro.	3,8	4,0
Volume Services of transport billion **Euro.**	3.3	4,4
Volume Services of communication billion	1.6	2,2

	2005	2006
Euro.		
Volume of retail trade billion **Euro**. .	7,5	8,6
Construction billion **Euro**	3,5	4,7
Budget revenues in billion Euro	4,3	6,5
Budget expenditure in billion Euro	4.1	6,0

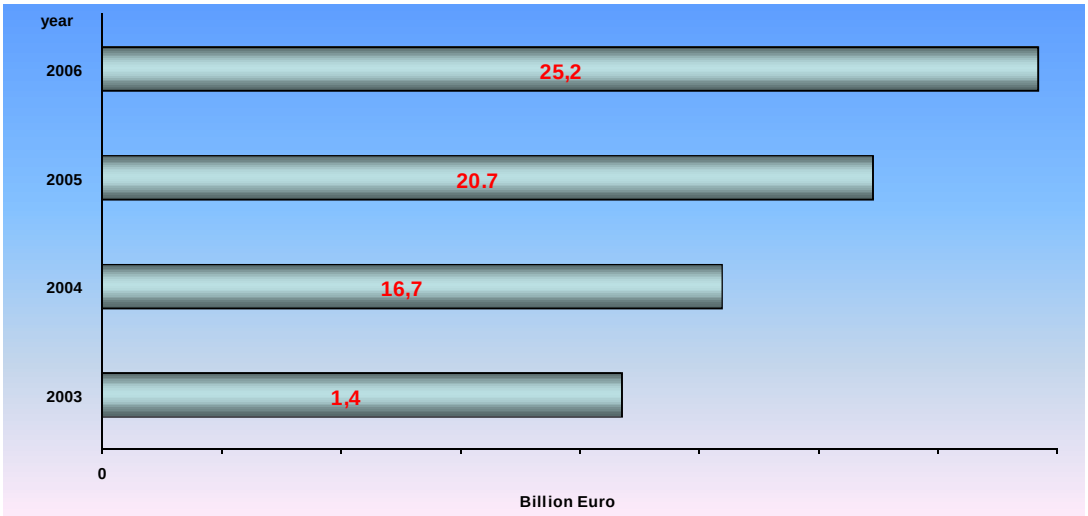


Figure 1 Value of Saint-Petersburg gross regional product, bln. Euro

3.1.2 Budget of Saint-Petersburg

2006 budget priority was a special-purpose oriented investment programme – 8,4 billion Euro (increase by 34% as against 2005), 8,5 billion Euro expenditure on health service – (increase by 22% as against 2005), 6 billion Euro expenditure on social security (increase 28% by as against 2005).
Table 2 illustrates the budget revenues breakdown.

Table 2 2006 budget revenue breakdown

2006 Budget revenues breakdown (planned)

Types of taxes and levies	In percentage terms
Corporate income tax	22.7
Individual income tax	30.6
Excise taxes	7.2
Property tax	7.5
Rent	8.3
Other taxes	8.6
Revenues from Federal Budget	4.9
Revenues from services	10.2
Total	100.0

Fig. 2 illustrates budget revenues breakdown, as it currently stands today.

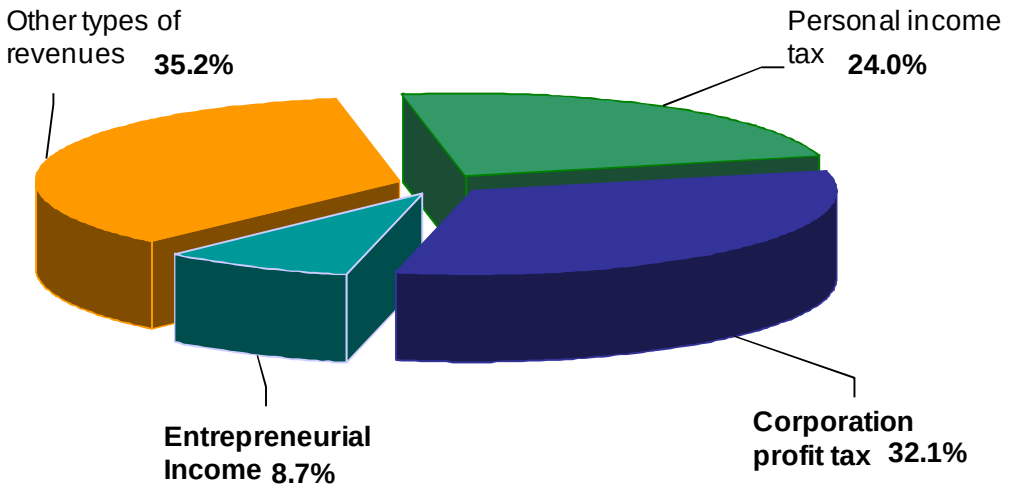


Figure 2 Budget revenues breakdown, as it currently stands today

Fig. 3 illustrates budget revenues dynamics through the past years

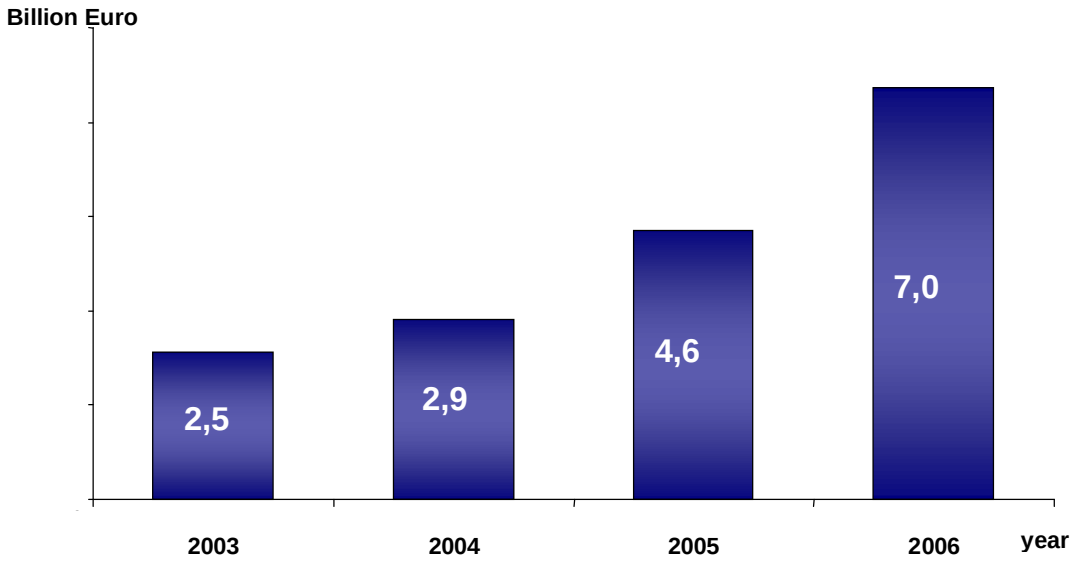


Figure 3 St. Petersburg consolidated budget revenue patterns

The major part of 2006 budget expenditure was allocated to social and cultural sectors, which included expenditures on education, culture, cinematography, mass media, health, sport and social protection. The above mentioned expenditures amount to about 2,6 billion Euro, or 53.7% of the budget. Compared with the year of 2005, spending in the above mentioned sectors has increased by 20%. Table 3 illustrates budget expenditure for the year of 2006.

Table 3 St. Petersburg budget expenditure breakdown for the year of 2006 (planned)

St. Petersburg budget expenditure breakdown for the year of 2006 (planned)

Title	Expenditure (in %)
National issues	**7.0**
National economy	**9.1**
Housing sector	**26.3**
Environment protection	**0.6**
Expenditure in social and cultural sector	**53.7**
Namely:	
-Education	18.2
Culture, cinematography and mass media	3.1
Health service and sport	19.6
Social sector policy	12.9
Intergovernmental transfers	**0.4**
Other expenditures	**2.9**
Total	**100.0**

Significant funds were planned to increase St. Petersburg public-sector wages. The average wages of public sector employees were adjusted to inflation rate. 28 % of the city budget is spent for these purposes.
Fig. 4 illustrates budget expenditure breakdown for the past years and projections for the year of 2007.

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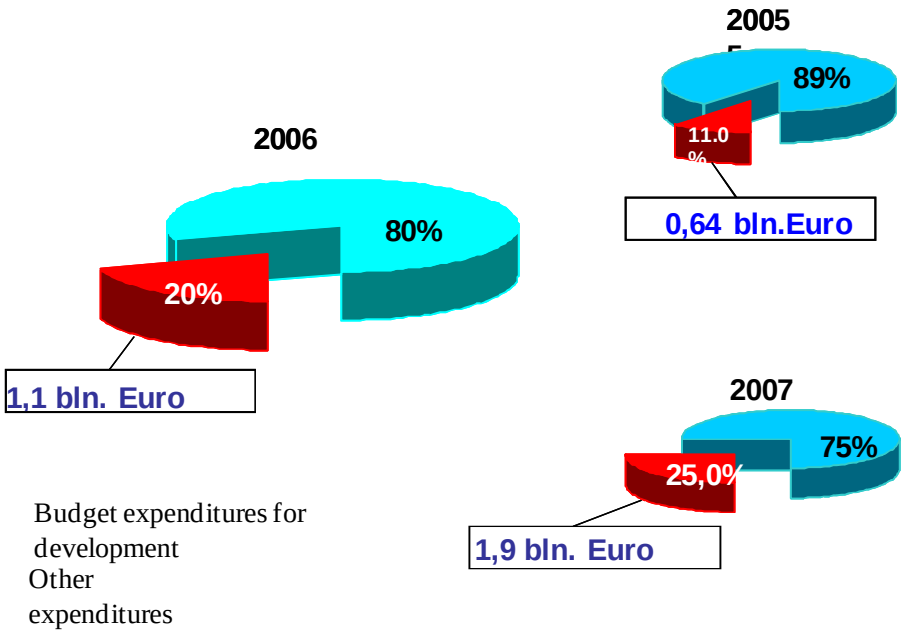


Figure 4 Budget expenditure breakdown

The red segments illustrate the share of the budget expenditure allocated to the city development, and the blue ones are the other spending. The table shows that the city development rate grows quite slowly, and funds are largely allocated to tackling the problems relating to social issues.

3.1.3 Social processes

Table 4 illustrates major indicators in the social sector.

Table 4 Major indicators in the social sector

Indicators	2004	2005	2006
Occupation level of the population (thousand people)	4600	4578	4577
Rate of unemployment (% as against economically active population)		0.8	0.6
Average wages in Euro		337.2 (Russia) 285	404
Inflation rate %	12.7	12.0	4.5

St. Petersburg population size is decreasing (In 2006 the population was 4,577,600 people, in 2000 it was 4,628,000 people, the main reason for the population decline being sub-replacement fertility. Birth exceeded death rates by 1.9 (in Russia by 1.6). In the first quarter of the year of 2006 - 2.1 (the up trend)

Sub-replacement fertility is offset by the growth of human migration. Fig.5 illustrates major demographic transition patterns in St. Petersburg.

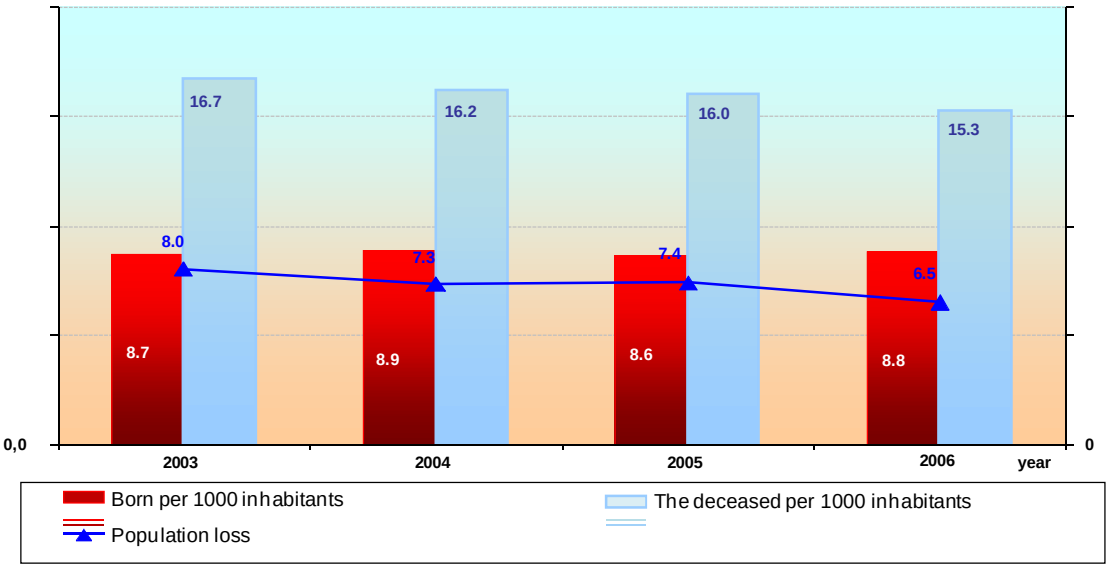


Figure 5 Major demography indicators

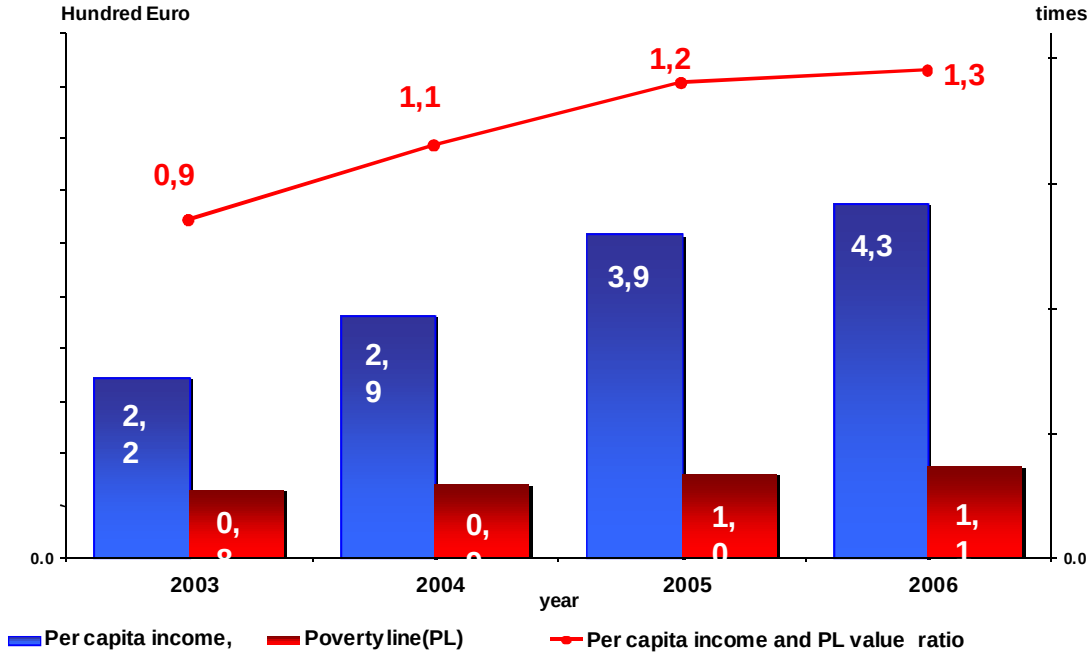


Figure 6 Dynamics of money income-subsistence wage ratio of the population of St. Petersburg.

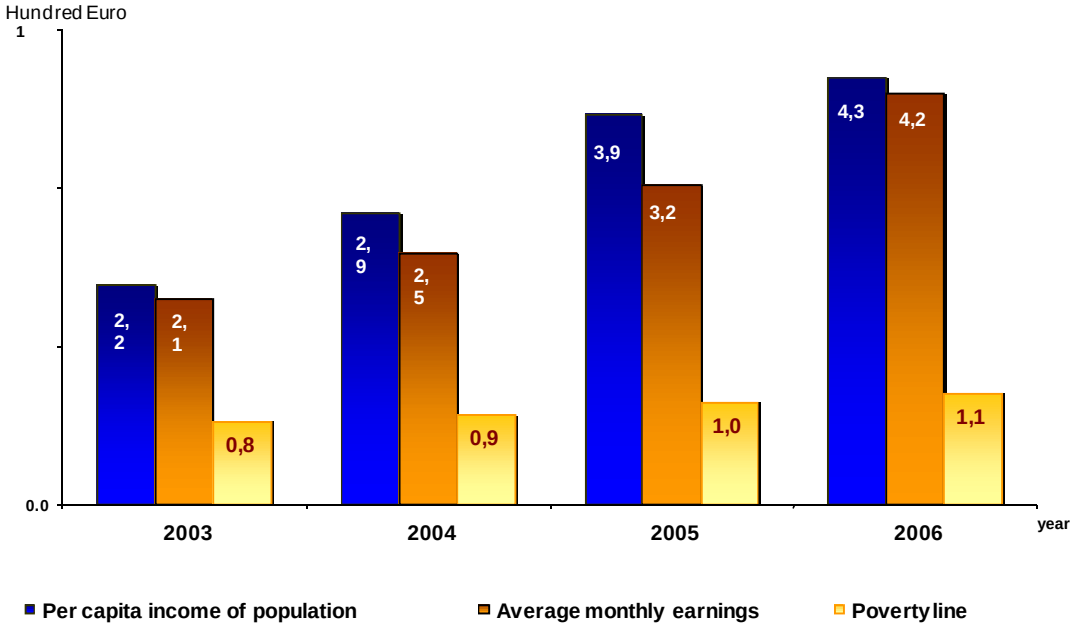


Figure 7 Standard of living in St. Petersburg

Fig. 6 and 7 illustrate money incomes dynamics and living standards of the population of St. Petersburg.
Inflation rate in the years of 2005 and 2006 resulted from:

- increases in budgetary social security expenditure compared with commodities supply
- sudden increase in tariffs for housing and communal services
- food commodities, heat and city transport cost-push due to increased prices for oil.

Out of all businesses involved in economy, the major part (about 50%) belongs to private sector, publicly owned enterprises account for 34%, and the remaining part is companies with foreign or joint ownership. There are about 0.6 million people involved in small business.

The number of unemployed, which was computed by the techniques of the International Labour Organization, averages 100,000 people, 19.5 out of this number being registered with the public

3.1.4 Financial markets

Financial performance of St. Petersburg enterprises in 2005 can be estimated as positive. Table 5 illustrates the major indicators of financial performance.

Table 5 Financial performance (profit and losses)

Indicators	2005
Basic sectors, in total, billion Euro	1,7
Transportation and communication sector, billion Euro	0,4
Retailing and wholesale sector, billion Euro	0,2
Real estate business, lease holding and rendering of services, billion Euro	0,2

Over the last years St. Petersburg has established itself as a financial centre of the North-West of Russia. Only Moscow has more lending agencies. As of the beginning of 2006, there are 42 lending agencies (39 banks and 3 non-bank financial intermediaries); 104 branch banks of out-of-town banks and 22 resident offices of foreign banks in the city. Total assets of all the North-West banks and branch banks operating in the territory of St. Petersburg have grown by more than 50 percent over the year 2006 (as compared to 20 per cent in the year 2005) and have soared up to 19,6 billion Euro. The three banks of the North-West with the largest assets are “The North-West bank of the Sberbank of Russia” with 6.2 billion Euro, (growth rate over the year 40 per cent), OAO PSB with 4,3 billion Euro (growth rate 61 percent), National Bank “TRUST” with 1.1 billion Euro (growth rate 30 percent). 10 banks of the North-West of Russia are among top 100 Russian banks with the largest net assets. These are "Bank of St. Petersburg", “Baltiyskiy Bank”, “Rossiya”, “KIT Finance”, “International Bank of St. Petersburg”, “MDM-Bank of St. Petersburg” and “KALION-RUS-BANK”. “UralSib”, “Promsvyazbank”, “Alfa-bank” and “Svyaz Bank” have the largest assets among branch banks.

By the year 2006 bank stock of St. Petersburg banks has totalled 1.4 billion Euro. The major part of the North-West and St. Petersburg banks reserves comes from the funds held for customers. Table 6 illustrates regional bank reserves structure.

Table 6 North-West Banks’ Reserves Structure[1]

	The year of 2006 in percent as against the year of 2002
Corporate bodies funds	374.3
Individuals’ funds	379.0

The North-West Bank of the Sberbank of Russia has dominance in the market of retail deposits with the market share of 59 percent, leaving next large market shares of OAO PSB, “Baltiyskiy Bank” and “Bank of St. Petersburg” far behind.

The Federal Law “On the deposit insurance system of the banks of the Russian Federation” was a key factor in restoring banking system credibility among population.

[1] Investor’s Handbook, St. Petersburg 2006

Bank lending of the banks of North-West amounted in 2006 11,4 billion Euro(with increase rate of 49 percent) which equals 62 percent of the regional total assets. The market leaders in loan facilities sector are “The North-West Bank of the Sberbank of Russia” with 2,9 billion Euro (increase rate 35 percent), OAO PSB (Industrial Building Bunk) with 2.4 billion Euro (increase rate 44 percent), “National Bank "TRUST” with 0.7 billion Euro(increase rate 96 percent).
Consumer crediting sector has grown over the last years. The average increase rate in this sector in the North-West amounted to 70 percent.
North-West banks are heavy speculators of the regional stock market. Financial investments of the banks total 2,6 billion Euro. OAO PSB, the “Rossiya” bank, National bank TRUST and the North-West bank of the Sberbank of Russia are financial market leaders.
The work of the lending agencies of St. Petersburg is efficient and sustainable which is illustrated by profitability of the majority of the regional banks. The market of interbank crediting is stable as well.

3.1.5 Stock Market.

Exchange. In 1992 the St. Petersburg Monetary Exchange was founded in St. Petersburg. Annually over 68 billion Euro worth of foreign exchange transactions are made. Table 7 illustrates the structure of foreign exchange and securities trading at St. Petersburg Monetary Exchange.

Table 7 Foreign exchange and securities trading structure at St. Petersburg Monetary Exchange[2]

	Share in total volume of trading, in percent			
	2002	2003	2004	2005
Foreign Exchange	44.9	24.7	3 0.5	23.2
Bonds of the subjects of the RF	16.8	12.4	1 0.1	3.7
Government Securities	2.6	7.0	3.3	14.9
Securities at the Stock Exchange of the Interbank Currency Exchange	35.4	55.7	55.7	57.9
Corporate Securities at the St. Petersburg Monetary Exchange	0.3	0.2	0.3	0.3

[2] Investor’s Handbook, St. Petersburg 2006

	Share in total volume of trading, in percent			
Total	100.0	100.0	100.0	100.0

The total volume of trading in subfederal securities and municipal issues (both in primary distribution and in the secondary market) amounted to 2,6 billion Euro. The total volume of trading in corporate bonds amounted to 0.2 billion Euro.
In 2005 a sector of interbank credit market was established. It is an instrument of consolidating credit, deposit and other types of monetary markets. It was in this sector that the budget funds of St. Petersburg were placed on the authorised bank deposits. The placement operations were performed in deposit electronic auctions.
According to an agreement signed with the Moscow Monetary Exchange, the St. Petersburg Monetary Exchange provides for participation on the government securities market. Banks and financial companies which signed dealer agreements with the Bank of Russia participate in trading transactions.

3.1.6 Investment

Over the past few years investment in St. Petersburg intensified greatly. The volume of investment into capital assets of St. Petersburg companies amounted to 5,7 billion Euro in 2006 with 40.5 percent accounted for by long-term financial investment. Table 8 illustrates composition investment.

Table 8 Small and Medium Enterprise Investment in 2006

	Share in percent against total
Investment of companies	**100**
Among them:	
- long term	**40.5**
Including:	
- equity participation and shares in other companies	28.1
- bonds and other debt securities	5.4
-loans	5.8
- other types	1.2
- short-term	**59.5**
Including:	
- equity participation and shares in other companies	0.3
- bonds and other debt securities	10.1
-loans	12.5
- other types	36.6

Table 9 Sources of Investment in 2006

Investment	**Share in percent against total**
All sources of investment	**100**
Among them:	
Internal Funds	**75.3**
Including:	
-profit	72.1
-depreciation	0.4
Borrowed Funds	**24.7**
Among them:	
-bank credits	7.3
-borrowed funds from other companies	6.5
- other types	10.9

Fig. 8 and 9 illustrate dynamics of investment volume .

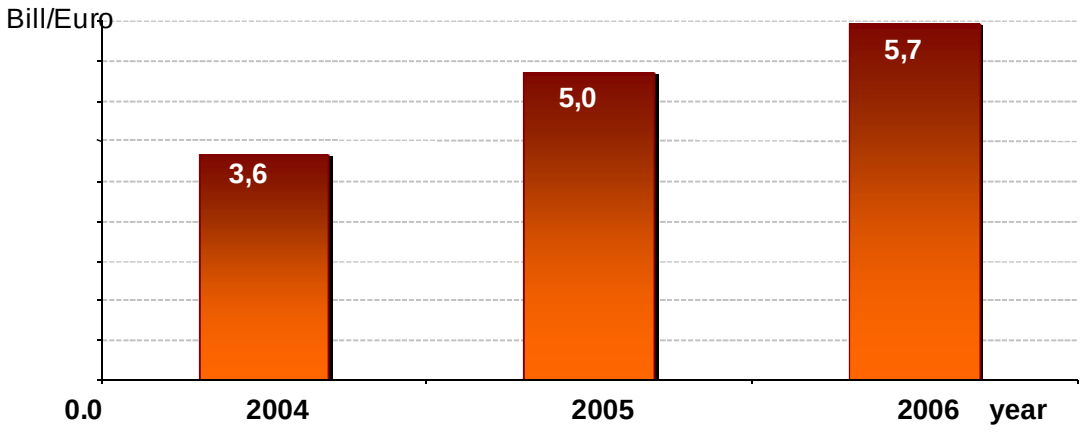


Figure 8 Dynamics of investment into capital assets of St. Petersburg companies.

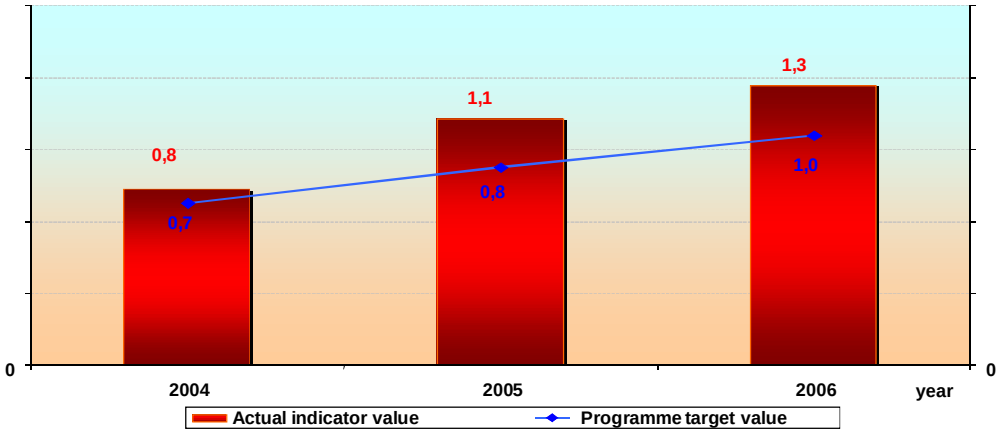


Figure 9Investment into capital assets per one inhabitant of St. Petersburg

Long-term credit rating of St. Petersburg according to Moody's estimates grew to Baa2 and Aaa.ru levels. Rating expectations are "positive". Standard & Poor's and Fitch increased St. Petersburg rating to BBB level. Both agencies expect the city's credit rating to be stable. In 2005 St. Petersburg rated first as the most investment attractive region of the Russian Federation with the lowest integrated investment risk.

The total volume of investment into strategic project amounts to approximately 8,5billion Euro. Foreign investment amounted to 4,5 billion Euro dollars having increased by 3.7 times. 67.3 percent of

foreign investment was made into manufacturing sector. Top investor is Great Britain, followed by Belarus ranking second and the USA ranking third. In 2005, top investors were correspondingly the USA, Sweden and Finland. Fig. 10 illustrates dynamics of foreign investment.

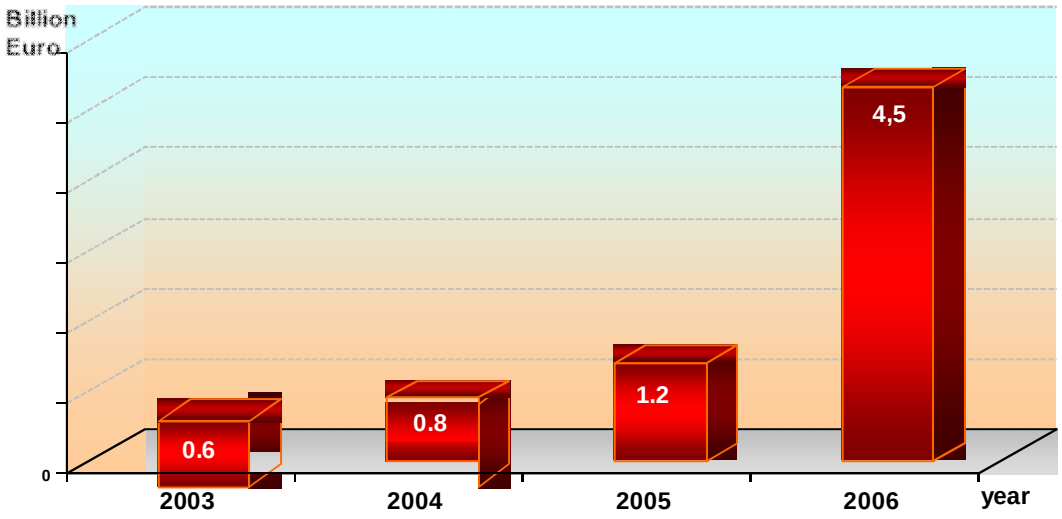


Figure 10 Growth of foreign investment in St. Petersburg.

One of the key developments over the past years which increased investment appeal of the region and attracted a number of large companies was the adoption of laws of St. Petersburg. The new legislation provides for creating investment-friendly environment in the territory of the city. For instance the law “On the procedure of allotting real estate property owned by the city of St. Petersburg” was adopted. The Law facilitates the procedure of obtaining real estate property by investors. The law “On establishing land price in St. Petersburg” allowed to decrease redemption land value by three times. Amendments to the municipal law "On tax incentives" decrease profit tax rates and property tax rates. The Strategic Investment Projects and Strategic Investors of St. Petersburg provision stipulates that implementation of projects having greatest importance for the development of the city shall be coordinated by a singular executive body following the “single window" principle.

3.2 Diversification of economic functions and industrial output.

Industry is the most important sector of St. Petersburg economy. 24.1 percent of gross regional product is accounted for by industry.

Over a number of years the worth of budget receipts from industrial sector exceeds that of other sector and totals 26.3 percent. 23 percent of working population of the city is employed at the industrial enterprises.

Table 10 Industrial mix of St. Petersburg (in percent)

Branch/Sector	Industrial output share	Tax receipts share	Number of the employed share
Industry, total	100.0	100.0	100.0
Including from this:			
Power engineering	10.8	6.5	8.9
Metal manufacturing	10.3	-	3.6
Chemical and petrochemical sector	1.4	2.1	2.1
Engineering and metal working	35.4	33.8	5 1.1
Timber, wood works, pulp and paper industry	2.5	1.6	4.0
Production of construction materials	2.9	3.1	3.5
Light industry	1.2	2.4	3.8
Food industry	30.1	45.7	15.4
Other sectors	5.4	4.8	7.6

In the existing industrial mix there are two leading sectors – that of engineering and metal working and food industry. The summarised share of these two sectors totalled 65 percent of the total production output of St. Petersburg.

The engineering sector of St. Petersburg accounts for over one third (35.4 percent) of production output annually employing more than 200 thousand people and providing for more than one third of total tax receipt from the industrial sector.

One of the key features of this sector is sophisticated science intensive production processes including that of power engineering and electric engineering, as well as instrument making. Shipbuilding industry makes a very special contribution into this sector. St. Petersburg is a major shipbuilding centre of Russia. There are also radio engineering enterprises, communication facilities companies, electronic, chemical and petrochemical, agricultural engineering, enterprises operating in the city, as well as plants manufacturing handling machinery, tractors and machine-tools.

All types of food processing and food producing companies represent food industry of St. Petersburg. Food sector accounts for

30.1 percent of all production output of St. Petersburg and 45.7 percent of industrial sector tax receipts.

Tobacco companies and breweries account for 47.8 percent of the total food industry output. The output of meat and dairy enterprises amounts to 12.8 percent in the total output, that of bakeries' totals 8.3 percent, of confectionary sector - 5.1 percent, of soft drinks producing companies - 4.8 percent.

A typical feature of industrial production development in St. Petersburg is its cyclical character. Periods of intensive growth are followed by slumps.

In the engineering sector, shipbuilding, power engineering and electrical enterprises are the key market participants. Specific production techniques in these sectors have a direct influence upon growth rates of the engineering and metal working sector and upon industrial sector as a whole. For instance, in 2005 growth index in machinery and equipment manufacturing sector totalled 115.0 percent. While in 2006 industrial production slowdown was due to considerable reduction of output in the following sectors: “machinery and equipment production”, “electrical, electronic and optical equipment manufacturing”, “vehicles and transport equipment manufacturing”. These sector account for 40 percent of the new value produced.

Brewing and tobacco sectors growth characterises food industry of St. Petersburg. These two segments account for major activities in food sector. Other branches have a considerably lesser worth in the output and do not influence upon industry performance on the whole. Table 11 illustrates output growth of various sectors of industry of St. Petersburg.

Table 11 Indices of Industrial Production for the year 2006 as against the year 2005 (percent)

Industries	%
Mining operations	59.9
Manufacturing activities	91.3
Food production, including tobacco and drinks	111.1
Textile and garment manufacture	82.9
Manufacture of leather, leather goods and footwear	by 1.7 times
Woodworking, pulp and paper production	88.2
Publishing activities and graphic arts	88.8
Coke industry, oil products production	129.3
Chemical production	100.7
Production of rubber goods and plastics	116.3
Manufacture of other non-metal mineral products	106.1
Metallurgical production and production of fabricated metalware	103.6
Machinery and equipment manufacture, production of electrical accessories, electronic and optical equipmen	89.5
Production of vehicles and transport equipment	81.1
Generation and distribution of electric power, gas and water.	108.5

Unfavourable production volume variation in St. Petersburg in 2006 was due to considerable reduction of output in such segments as “machinery and equipment manufacturing”, “production of electrical accessories, electronic and optical equipment”, “vehicles and transport equipment production”. The above mentioned sectors account for 40 percent of the new value produced. The output of 188 items out of 323 product list used during the industrial production index computation was cut as against January-December 2006. Among them: steam and water turbines, steam, gas and water turbine generators, large scale electrical machinery, diesel engines and diesel-generator sets, tractors, tramcars, subway cars, coaches, overhead and column cranes, metal cutting devices, rolling mill equipment.

The main causes of these output reduction are:

- in most cases production upgrade and replacement of fixed assets is needed;
- investment into industrial production does not cover the demand for renewal of fixed assets;
- the lack of current assets of the companies outrunning growth of prices on goods and services supplied by natural monopolies, which boosts production costs and consequently reduces competitiveness of goods.

In 2006 among food sector companies, soft drinks producers showed the highest growth rate (116.0 percent) followed by sausage manufacturers with 110.5 percent and grain processors with 115.6 percent. The output volume of construction materials and in power engineering sector remained at the last year level (102.1 percent and 101 percent respectively).

The downtrend in many industries of St. Petersburg has stayed the same. Among these industries are: forestry, wood works and pulp and paper industry (92.9 percent), light industry (88.9 percent).

The Resolution of St. Petersburg City Administration as of 28.01.2005 No.52 sanctioned an action plan to develop industrial potential of St. Petersburg and the Resolution of St. Petersburg City Administration as of 19.04.2005 No.474 approved Social and Economic Development Programme for the period of 2005-2008. These two documents specify enhancement of ship building sector as the short term priority of the industrial development of the city. Shipbuilders in the territory of the city will proceed with their work on new vessels for domestic and foreign customers.

Power engineering sector and electrical industry are rather promising in terms of short-run development. Power engineering and electrical companies are expected to significantly increase their output.

Tobacco products have flooded the Russian market. That is why tobacco companies invest into upgrading of production facilities and diversify the product range.

The shift of production facilities of OAO “Baltica Brewery” to other regions of Russia is expected to cause slowdown of the growth rate in the brewing sector.

Fisheries may increase their output especially if investment flow into this sector intensifies. The growing demand for fast food products creates favourable conditions for expanding meat sector.

Scare resource base hinders development in the dairy industry. Although continuing renewal of the product range and improving management standards at the companies allow to forecast sustainable growth rates within the sector.

3.3 International Trade

Foreign trade turnover for the year 2006 amounted to approximately 16,9 billion Euro having increased against the year 2005 by 41.7 percent. Fig. 11 illustrates foreign trade turnover trends.

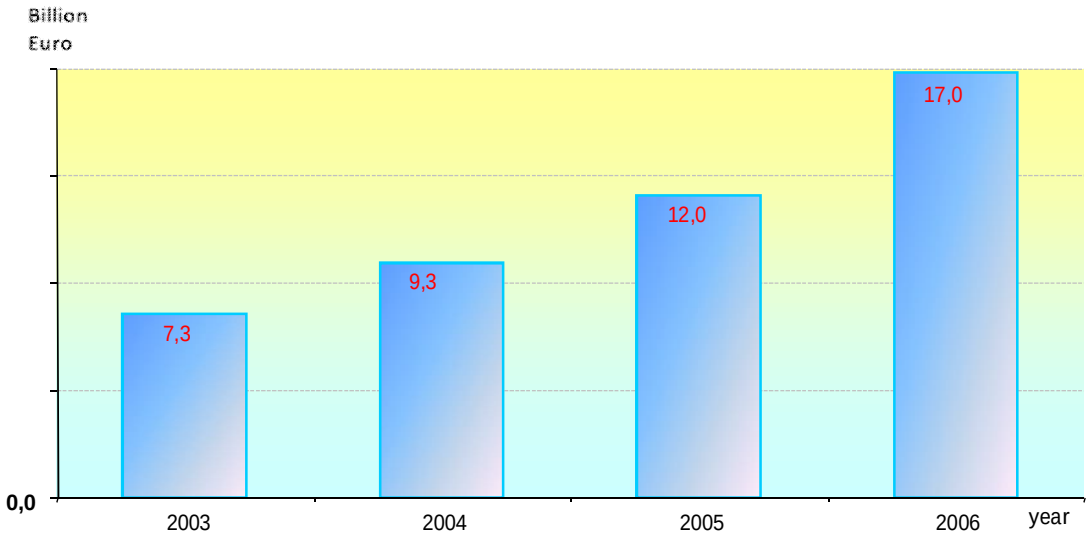


Figure 11 Foreign trade turnover in St. Petersburg

Import surplus is a major unfavourable trend.

Worth of import is almost twice that of export. 11 billion Euro worth of goods have been imported, while only 6 billion Euro worth of goods – exported from St. Petersburg. The city has commercial partners from 172 countries of the world. For a number of years the largest trade partners have been Germany, China, the Netherlands, Finland and the USA. The share of the CIS countries in the total commodity turnover is 6 percent, 94 percent is accounted for by other foreign countries. In trading with countries other than former Soviet republics import increases by advanced rates. In trading relations with the CIS countries export share has increased.

Over the last years commodity composition of export has changed greatly. The largest export ratio of 40 percent at present is accounted for by machinery, equipment and vehicles. The share of ferrous and non-ferrous metals and metalwork has substantially decreased.

Table 12 illustrates commodity composition of export.

Table 12 Commodity Composition of Export

Product groups	%
Vehicles and transport equipment	40
Ferrous and non-ferrous metals and metal work	31
Mineral products	10
Timber, paper and wood work	8
Food commodities and primary products for their production	5
Chemical production	2
Textile and textile goods, footwear	1
Other groups	2

The main cause of increasing import value was the growth of actual output (except for food commodities output and furs) Commodity composition of import did not undergo significant changes over the past two years (table 13).

Table 13 Commodity Composition of Export

Product groups	%
Food commodities and primary products for their production	33
Vehicles and transport equipment	32
Chemical production	15
Ferrous and non-ferrous metals and metal work	7
Timber, paper and wood work	5
Textile and textile goods, footwear	2
Mineral products	1
Other groups	5

In commodity turnover, import share exceeds export one, whereas in the service turnover export surplus amounts to approximately 1 billion US dollars. Out of total volume of exports: 73 percent was accounted for by freight services of the Russian companies, 6.2 percent - by accommodation and catering services, 5.9 percent - by communication and mail services, 5.0 percent - by equipment installation and repair service, 4.4 percent – by engineering services.

The structure of import of services consists of the following: 42.3 percent is accounted for by freight services, 11.5 percent - communication and mail sector, 10.3 percent - by construction services, 9.7 percent - by tourist agencies services.

It should be noted, that one third of total commodity turnover of St. Petersburg is accounted for by the Baltic Sea Region countries.

4 PUBLIC SECTOR SUPPORT FOR ENTERPRISES

4.1 Organisations

Business support in the territory of St. Petersburg is rendered both by state entities and by public service institutions, unions and councils. Centres for business development and partnership networks have been created to this end as well. Key organizations fostering business development in city are:
State organizations:
Branch committees of the St. Petersburg City Administration (Committee for Economic Development, Industrial Policy and Trade; Transport Committee; Committee for Transportation and Transit Policy; Committee for Construction and other)
Non-governmental non-profit organizations.
St. Petersburg Chamber of Commerce and Industry - is a non-governmental non-profit organisation with membership participation. The Chamber was an initiative project of Russian entrepreneurs, profit-making and non-profit companies. Its activities are based on the Law of the Russian Federation "On Chambers of Commerce and Industry in the territory of the Russian Federation". Founded in 1921, the Chamber has grown to be one of the largest in the network of Russian Chambers of Industry and Commerce. The mission of the Chamber is to foster the development of the regional economy, to create favourable environment for domestic entrepreneurs, to advocate their interests, to provide wide range of service for business. About 1200 companies and entrepreneurs of St. Petersburg and the Leningrad oblast, various small and medium-sized enterprises working in different sectors of economy have joined the Chamber. The Chamber renders actual assistance to Russian entrepreneurs in establishing business contacts with foreign and domestic partners. By doing so, the Chamber promotes commodity and service export, attracts investment into Russian economy. The St. Petersburg Chamber of Commerce and Industry joined the network of 156 Chambers of Commerce and Industry from all over Russia. The task of this network is to establish and develop service infrastructure for businesses, to implement direct

correspondent relations with foreign chambers of commerce and other entrepreneurial associations. It has partnership relations with 300 chambers from 70 countries. There are 7 information desks of the European chambers. Over 50 agreements on cooperation with foreign entities have been signed. There is constant networking and information exchange. Business meetings with Russian and foreign companies' representative are organised both in this country and abroad. To efficiently tackle problems of businesses St. Petersburg CCI cooperates in close association with all branches of power. This becomes possible because Administration employees and representatives of the Legislative Assembly of St. Petersburg are members of the Chamber. Agreements on cooperation with responsible committees, agencies and public service organizations are signed to meet specific challenges. Among them – Agreement with North-West Customs Agency. Being an association of entrepreneurs, the Chamber accumulates their problems and possesses variable resources to solve them. To advocate interests of businesses, there are following institutions acting at the Charter: The Workgroup on legal support for small businesses; Advisory Panel on Entrepreneurial Development in Insurance, the Court of Arbitration, External Economic Association, Exhibition Association, Environmental Partnership Association and other. These structures have been targeted at specific activity and problem load.

Public-service organizations and partnerships:

The Union “Coordinating Employers Council”

The Union of Manufacturers and Entrepreneurs;

The Union of Motor Carriers and Forwarders of North-West;

Interregional Union of Transport Workers and Entrepreneurs of different branches of industry;

St. Petersburg Governor’s Public Council on Small Businesses

The “North-West" organization, founded in 1992. is one of the most influential public organizations. It was established by public authorities of the subjects of the Russian Federation including:

- Republic of Karelia
- the Komi Republic
- Arkhangel'sk Region
- Vologda Region
- Kaliningrad Region
- Kirovsk Region
- Leningrad Region
- Murmansk Region

- Novgorod Region
- Pskov Region
- St. Petersburg
- Nenetskiy Autonomous District.

Activities of the Association are focused on economic networking of the subjects of the Russian Federation to establish favourable climate for interregional integration and social and economic development of the subjects of the Russian Federation. Transport Committee of the “North-West” Association is an executive body dealing with issues of sustainable work and future creation of the uniform transportation network in the North-West region. Committee members work on a voluntary basis.

Main functions and duties of the Committee are:

- development of the strategy of transportation network in cooperation with the subjects of the Russian Federation.
- interaction with federal ministries to provide environment for sustainable economic growth in the region;
- eliciting promising spheres and urgent steps to be taken in response to proposals voiced by transportation sectors representatives, deciding on how they integrate into the uniform transportation network of the North-West region and how balanced their logistics is.
- supporting and supervising joint activities of the regional companies with foreign enterprises.
- analyzing in conference with the Ministries, agencies, public authorities and regional branch authorities the state of affairs in transportation network and advising on its steady and sustainable work.
- support in developing the uniform regional system for collecting and distributing marketing data which will help the subject of the Russian Federation in efficient decision making.
- discussing the inter industry concept within the framework of which it will be possible to enlarge the range of transportation services and enhance vitality of transportation companies.
- encourage the comprehensive service patterns for the population and all types of companies which will be quick to respond to changes in demand for transportation services;
- promoting suggestions on improving legal standards with respect to budget, finance, tax, tariff and price policies for the subjects of the Russian Federation.

Partnership for information oriented society in the North-West of Russia. The Partnership is an interregional public organization, that

works in the same line with existing governmental and non-governmental programmes focused on the development of various aspects of the Russian information society.

4.2 Types of support

There are different activities to promote business development:
- tax exemptions and reduced land lease rates and mortgage rates;
- funding of businesses, including: Direct investment, share participation in the equity market, crediting, vehicle and equipment lease;
- placing state-guaranteed orders;
- advisory support, including Internet services provided by the “Portal on Development of Small Businesses”, “Official Portal for Small and Medium-sized Businesses Support”, “Internet Reception Desk” (go to http://smesupport.spb.ru).
- legal support;
- subcontracting development in order to join interregional and international projects;
- business support infrastructure development including business incubator zones, science parks, specialised research and technology centres and production sites and other.

Small Businesses development projects should be mentioned in particular. The St. Petersburg City Administration approved Frameworks of Small Businesses Development and Support as 19.10.2004 No.1676. These Frameworks outline a number of activities to support small businesses in the following:
- regulatory frameworks;
- overcoming administrative barriers;
- providing property;
- providing financial support;
- providing information support;
- support to start-up businesses and personnel training programmes for small businesses;
- fostering public contracts for small businesses;
- encouraging innovation;
- interregional cooperation and exhibitions;

Support activities are branch oriented, focused to tackle problems of small businesses, and take into account company life cycles (start-up, developing, flourishing, problem companies).

The example projects are:
- the “Start” programme – teaching the basic principles of business administration;
- “Business Incubator” project – providing flexible lease rates and a number of different services;
- “Trading Bank Loans to Small Businesses” programme that allows to refund certain charges including credit interest rate.
- the “Innovation” programme – providing financial backing of start-up companies which offer economically feasible projects in science and technology.

4.3 Other Sectors of Economy.

Small Business Sector is one of the high growth sectors of St. Petersburg economy. In 2006 over 110 thousand small sized enterprises worked in the territory of the city and about 50 thousand private entrepreneurs not registered as bodies corporate. The number of the employed at small-sized enterprises amounted to 632.6 thousand people in 2006. The small businesses turnover of 4518 million US dollars makes 30 percent of the total turnover of companies working in the territory of St. Petersburg having grown 1.5 times over the year 2006. The volume of output is 20 percent of the total regional output, tax receipts amount to 25 percent of the total regional budget receipts. Volume of investment into small businesses is 35.5 billion US dollars.
Small-sized Businesses Structure of Activities is characterised by the following figures: (Table 14).

Table 14 Small Business Sectors

Sector:	In percent as against total number of companies
Wholesale and retailing, motor vehicles and household appliances repair	51.4
Real Estate Business, lease	17.1
Manufacturing activities	9.9
Construction	9.0
Transportation and Communication	4.9
Public, social and individual services	2.3
Accommodation and catering services	2.5
Financial activities	1.1
Other types of activity	1.8

Small-sized companies of St. Petersburg which are engaged in the manufacturing or housing sector, working in the sphere of science and innovation, service sector and trade are privileged in terms of support. These companies are priority subjects for joining specific projects and government tools of support.

5 LOGISTICS IN THE REGION

5.1 Geographical overview.

St. Petersburg has grown into a centre offering a variety of services. Its strengths are advantageous geographical location, port, transportation network, elaborated industry and infrastructure, skilled personnel, scientific and educational potential.
St. Petersburg is annually visited by over 3 billion foreign tourists. There are two major transport corridors in the territory of Saint Petersburg connecting Europe and Asia. They are "North-South" and “Transsib”. The Pan-European transport corridor No. 9 also runs through the territory of Saint Petersburg.
The main outlining instrument of spatial development strategy of St. Petersburg is a General Town Plan approved by the Law of St. Petersburg as of 22.12.2005 No. 726-99. St. Petersburg Transport an Logistics Network Development Strategy was developed by St. Petersburg City Administration and adopted as of 03.07.2007.
St. Petersburg is a sea capital of Russia. St. Petersburg Big Port, dockyards and a complex system of port enterprises and companies. St. Petersburg Big Port is a major hub of sea, railway, motor, river and pipeline transport. It handles 15 percent of international cargo served by Russian seaports – 52 million tons in 2004 and about 60 million tons in 2005. The Port is a key provider of international traffic. It determines the potential of attracting transit cargo flows into transportations corridors “North-South” and “Transsib”. 66 percent of containerised cargo transport by sea of the Russian Federation in international traffic is transhipped in the St. Petersburg Big Port. St. Petersburg Big Port is a leader with regard to transhipment of high paying containerised freight not only in Russia, but among all the ports of the Baltic countries as well.
The major waterway in the territory of St. Petersburg is the Neva River. The section of the Neva 23 km long is entered into the Unified Deep-water System of the European part of Russia. The River Neva is one of the major links of the Volga-Baltic Waterway connecting the Volga and the Baltic Sea. Via the Belomoro-Baltiyskiy Canal the Neva connects

the Volga with the White Sea. St. Petersburg is a gateway to the Baltic Sea for all the inland waterways of the European part of Russia.

These days the importance of the transport and logistics networks of St. Petersburg is increasing due to the fact that logistics and transportation systems are crucial for social and economic development of the region, its competitiveness, for enhancing investment into region, for extending regional commercial, financial and cultural activities.

Significant influence of the transportation and logistics system upon social and economic development as well as upon town planning is confirmed by the fact that availability of transport infrastructure and terminal and warehouses facilities alone is a decisive factor for choosing a location for production facilities in the territory of St. Petersburg and neighbouring areas of the Leningrad oblast. For instance the decisions on locating in St. Petersburg and the Leningrad Oblast plants of international tobacco giants, the “Baltica” brewery, the Gillette and Coca Cola companies, assembly production of the Ford automotive concern in Vsevolozhsk were based on many factors. Among them the proximity to the port and the possibility to supply components from abroad as well as to export finished products to European countries through the developed transport infrastructure of the region was the most important in decision making.

The St. Petersburg Transport and Logistics Network (TLN) is the next largest to Moscow with regard to volume of cargo handled and to the number of passengers served. It has the most complicated industrial and territorial structure both in Russia and in Europe.

Interaction of six types of external transport and several types of domestic ones (urban transport network and commuter service) form the structure of the St. Petersburg TLN which embraces transport infrastructure and terminal and warehouses facilities in the territory of St. Petersburg and adjoining areas of the Leningrad oblast and a part of water area of the Gulf of Finland.

Federal and local highways, city avenues and roads alongside with railroads and waterways of general use, underground railroad comprise the basic transport network of the St. Petersburg TLN that is 6 thousand km long.

Many facilities of the railroad network in the territory of the city are closely connected with other transport facilities: external, suburban and urban so that diversified transport terminals have been created.

5.2 Transport, connections and infrastructure

The volume of traffic provided by large- and medium-sized motor transport companies in January-December 2006 totalled 6.4 million tons. Stevedoring companies operating in the water area of St. Petersburg Big Port have handled 54.5 million tons of cargo which is 5.6 percent less than in 2005.
As of the 1st of January, 2007 6.4 thousand tons of cargo due to be transferred via railroad transport were at the transport organizations and railroad stations of the city including 3.4 thousand tons at the loading sidings of the stations which is 8.6 percent more than on the 1st of October 2006. This cargo mostly includes ferrous metal residua. Since the beginning of the year, cargo carriers have listed 14.9 thousand freight cars which cover 98.8 percent of the demand.

5.2.1 Sea waterways

5.2.1.1 St. Petersburg Big Port- base significant

Great emphasis is put on the development of the sea waterways of the St. Petersburg transport hub. St. Petersburg Big Port is located on the islands of the Neva delta at the Eastern edge of the Gulf of Finland in the Baltic Sea. The water area of the Port consists of 5 basins: Vostochniy (the Eastern), Barochniy, Passazh, roadstead of the Lesnoi mole and Ugolnaya Harbour with the total area of 360 ha. The area of the port covers 269 ha. 27 miles of the Morskoi Channel connect the port to sea. The port is open for calling all year round. In the winter period piloting is done by ice-breaking fleet. Handling operations are carried out 24 hours a day, they don't stop at weekends or holidays.
St. Petersburg Big Port comprises complex network of sea trade, timber, fish and river ports, shipbuilding facilities and shipyards, marine passenger terminal, river port arrival and departure building as well as mooring lines of the Kronshtadt city, in Lomonosov, Gorskaya and Bronka docks. They are connected through an extensive network of canals and navigating channels. St. Petersburg sea channel is the deepest and the longest in this network. It starts in the water area of the port and extends beyond the Kotlin Island on which the Kronshtadt city is situated. It is 27 miles long. Vessels with the draught of 11 metres, up to 260 metres long and 40 metres wide can sail along it.

Larger vessels, first of all oil tankers, are handled at the outer roadstead (Fig. 12).

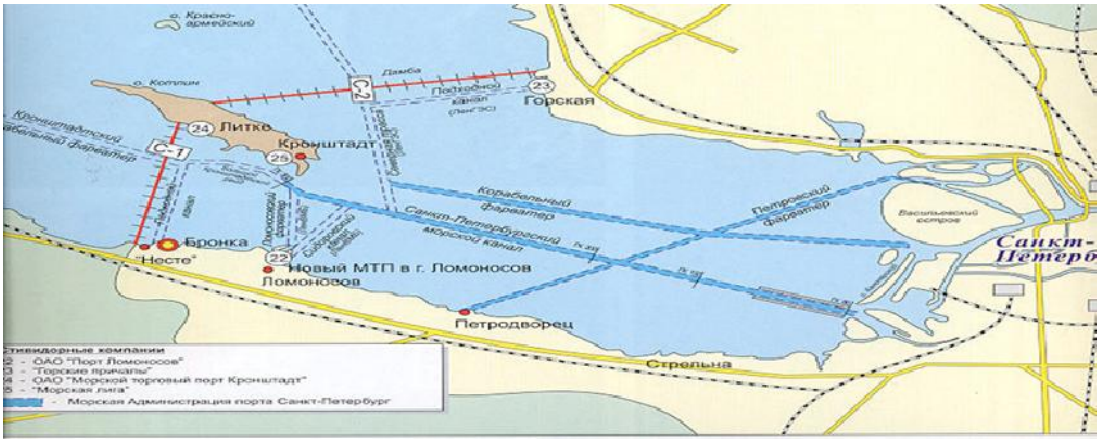


Figure 12 Water area and approach channels of St. Petersburg Big Port.

Different areas of the port have different calling capacities according to the length and draught of the vessel. The maximum draught is 11 metres and maximum length 260 metres at the Sea Trade port (with 60 docks). The minimum draught totals 4 metres in Gorskaya port and Karabelniy waterway. The table 15 illustrates port capacities.

Table 15 Port capacities of the port St. Petersburg

Name of the charasteristics	Value
Specialization	Bulked, timber and general cargo
Number of berths, item	92
Length of berth, m	15600
Passing draught,m	11.0
Maximum vessel deadweight, thousand tons	40
The area of covered warehouses, thousand square metres	307
The area of open storage platforms, thousand square metres	1400
Storage plant capacity, thousand cubic metres	274.0

The berths are specialised and receive different types of cargo. The berth layout of St. Petersburg Big Port is shown in Fig. 14.

Figure 13 Berth Layout of St. Petersburg Big Port

Over the period from 1995 till 2005 the turnover of vessels has increased 3 times. The turnover of goods at the Port amounted to 57.6 million tons equalling 14 percent of the goods turnover of the Russian ports and more than 50 percent of the ports of the Gulf of Finland and 30 percent of the goods turnover of St. Petersburg. Turnover is increasing very fast exceeding expectations by far. For example in 2000 it was estimated that 60 billion tons volume of turnover will have been reached only by the year 2010. It should be mentioned although that in 2006 there was a 5.6 percent reduction of the turnover of goods. In 2006 turnover of goods at St. Petersburg Big Port amounted to 54.2 thousand tons. Reloading of mineral oil reduced by 16.9 percent, of metal - by 33 percent, timber cargo - by 25.1 percent, coal and ore - by 27.4 percent, chemicals - by 29.7 percent, foodstuffs - by 65.3 percent. At the same time the amount of containerised cargo increased by 22.2 percent, refrigerated cargo - by 6.7 percent, general cargo - by 17.3 percent. This is the evidence of the changing turnover composition.

In the freight turnover resulting from foreign trade there is export dominance totalling 77 percent of the total volume.

Among the port cargo, mineral oil prevailed with 26 percent of the total goods turnover bulk, followed by metals with 19 percent, containers, chemical cargo, refrigerated goods, timber cargo, coal and ore.

On the whole in the port turnover structure dry cargo totalled 3/4 of the total volume of reloaded cargo with general cargo prevailing (about 1/2 of the total reloaded volume). Expensive containerised cargo share has increased over the last years exceeding 18 percent of the total volume of reloaded cargo; metal share of 19-20 percent is quite stable. Nowadays the Port provides for 60 percent of containerised cargo transportation in the Russian Federation. The overwhelming majority of 90 percent of containers is hauled from one port to another port by trucks. Container turnover has 11 times increased over the last 10 years. Annual turnover of containerised goods exceeded 1 million TEU. These days St. Petersburg Big Port is a turnover leader with regard to containerised goods among the Baltic Sea ports having increased its share almost twice over the last decade.
St. Petersburg Big Port hosts 28 stevedoring companies. The largest among them is OAO “Sea Port St. Petersburg” integrating a number of stevedoring companies handling 70 percent of the goods turnover at the port. Their primary field of activities is ferrous and non-ferrous metals, timber cargo, mineral fertilisers, coal and ore, food cargo. Major weaknesses and opportunities of the seaport development.

5.2.1.2 Insufficient area and future expansion of the port area.

The increase of cargo shipments and lack of new terminals lead to lack of space. Nowadays there is a necessity to develop new land sites for new port facilities. The key factor for sea transport development is the fact that coast area fit for marine construction is limited.
The Port is actually situated at the heart of the city and is surrounded by industrial or residential areas. Thus extensive increase of port capacities is not possible. Many stevedoring companies are using the sites of the enterprises adjoining the territory of the port. Such facilities nowadays are located at the Kirovskiy plant, Baltic plant, Severnaya (Northern) Shipyard and other companies. Port capacities in Kronshtadt and Lomonosov are widely used. The insufficiency of area implies not only that there is a lack of territory, but also lack of specific land sites with particular dimensions, location with regard to water zone, neighbouring buildings, and infrastructure lines.

5.2.1.3 Reconstruction of sea channels

One of the infrastructure challenges is further development of the network of marine channels. When sea traffic is hindered it is a significant shortcoming for customers. The increase in the turnover of goods and in the number of calls will tend to aggravate the situation, especially taking into account global trend towards gradual increase of the vessels deadweight capacity. Thus the issue of extending navigation at the port entrance area remains one of the most urgent.
There are following challenges of developing the port approach channels:
- congestion at the St. Petersburg Main waterway urges to divide vessel traffic.
- the dimensions of the main waterway (its depth and width) do not correspond to the depths of the existing reloading facilities which limits the call of large-capacity vessels.

To increase traffic capacity of waterways (marine channels) to facilities of St. Petersburg Big Port and to secure safe navigation of modern type of vessels it is necessary to expand a number of channels and waterway longwise and in width and to build new canals.

5.2.2 Railway junctions

The increase of turnover of goods at the port revealed lack of ground approaches to it, both railway and motor roads.
With respect to railway cargo transportation St. Petersburg rates second after Moscow railway junction. St. Petersburg is a railway junction connecting Russia with Finland, Estonia. It also joins with the sea waterways. There are 10 main lines within the railroad network of St. Petersburg which are served by 5 railroad stations and the largest in the North-West region railway yard. The railroad transport has developed capacities to provide for its comprehensive range of activities. The local junction serves more arriving than departing freight trains which is due to the fact that St. Petersburg does not have its own resource stock. Large amounts of raw materials, fuel, construction freight are to be exported to the city. At the same time there is quite a volume of exported cargo arriving at the trade sea port.
Apart from the freight operations, railway traffic node of St. Petersburg serves a lot of transit traffic. There are major communication main lines passing through the city which provide connection of the central and

eastern regions of Russia with the Republic of Karelia, Murmansk region, the Baltic states and Finland. About 60 percent of car traffic volume of the node are accounted for by transit traffic. Out of total car traffic volume only 30 percent passes through the node without being handled. The two railway yards (St. Petersburg Moskovskiy yard and Shushary) provide for 70 percent of cargo handling.
St. Petersburg transport node is served by Oktyabrskaya Railway (OZD) – the major railway line in Russia. Within the territory of the node there are over 13 thousand km of railway tracks (423 km in the territory of St. Petersburg).

Table 16 Railway tracks density

Territory	Railway tracks density as per 1000 sq. km
In St. Petersburg suburban area	45-50
Moscow and Moscow Region	60
Kaliningrad Region	41
France	61
Germany	72

St. Petersburg transport hub is connected with the external railway network by 10 radially diverging railroad lines: Moskovskoe, Kirishskoe, Volkhovstroyevskoe, Priozerskoe, Vyborgskoe, Batliyskoye, Narvskoe, Pskovskoe, Vitebskoe and Novgorodskoe. All the lines within the hub are interwoven by numerous branch lines and side lines which form Northern semi ring and Southern semi ring serving cargo traffic.
The heaviest passenger load for long distance traffic is at the railroad St. Petersburg- Moscow, the heaviest cargo traffic is at the railroad section Mga-St. Petersburg. International passenger trains connect St. Petersburg with Helsinki, Tallinn, Riga, Vilnius, Minsk and Kiev. There is direct railroad connection with Berlin, Prague, Sophia and Warsaw.
Railroad cargo traffic volume over the period 1990-1995 has decreased two times which was due to reduction of industrial production output, decrease of construction growth rate. With the year 1996 stabilization period started, a cargo traffic volume began to increase, although the growth was not stable. In the territory of St. Petersburg cargo traffic volume exceeded 140 million tons in 2006 being 1.5 times less than that of 1990. 35 million tons of the total cargo traffic – is foreign trade freight, over 56 million tons - transit cargo. The main amount of cargo handling is done at the two yards: St. Petersburg – Sortirovochniy –

Moskovskiy located at the compact built up area of St. Petersburg (about 5300 cars a day) and Shushary (over 700 cars a day). It is there that the major transit car traffic is handled. Trains carrying oil, timber, apatite, coal, mineral construction materials and other, of the following routes are allowed without stopping at the yards: Mga – Vyborg through Gory, Zanevskiy Post, Ruchyi, Mga – Weimar through Pustynka and Gatchina.

The existing situation calls for certain steps to develop the yard operation system at the hub. The Shushary Yard is planned to be reconstructed. A construction of a new yard near Mga station is expected. Among numerous freight terminals of the St. Petersburg transport node, there are eight warehouse depots: St. Petersburg – Tovarniy – Moskovskiy, St. Petersburg – Tovarny – Vitebskiy, St. Petersburg – Varshavskiy, St. Petersburg – Baltiyskiy, Shushary, Dacha Dolgorukova, Kushelevka, St. Petersburg – Finlyandskiy.

High concentration of warehouses and terminals of Oktyabrskaya railroad system within central districts of St. Petersburg is a serious challenge. Concentration in the centre of the city of major zones of interaction of railway and motor transport causes traffic accumulation especially in the vicinity of railway stations “St. Petersburg – Tovarniy – Vitebskiy”, “St. Petersburg – Finlyandskiy” and “St. Petersburg - Tovarniy - Moskovskiy" increasing high traffic density in these areas. These days the possibility of re-locating these stations outside the densely built central districts is being discussed.

The St. Petersburg railway junction is served by five main passenger terminals with railway stations situated in the territory of the city. They are: St. Petersburg – Glavniy, St. Petersburg – Vitebskiy, St. Petersburg – Baltiyskiy, St. Petersburg – Finlyandskiy and St. Petersburg - Ladozhskiy.

The railway station St. Petersburg – Glavniy has the largest in Russia passenger outflow on long-distance journeys. Trains bound for Moscow depart from this terminal. It connects St. Petersburg with central, northern, southern, eastern regions of this country, southern and eastern parts of Ukraine. The terminal provides for annual traffic flow of approximately 11 million passengers. The railway terminal St. Petersburg – Vitebskiy connects St. Petersburg with the Novgorod and Pskov Regions, Byelorussia, Ukraine, Moldova, the Baltic States and other countries of Central and Eastern Europe as well as with Western Europe. St. Petersburg—Finlyandskiy terminal connects St. Petersburg with Karelian Isthmus.

The railway station St. Petersburg – Ladozhskiy opened in June, 2003. It was a major breakthrough in upgrading passenger railway service and helped to redistribute external passenger traffic between main St. Petersburg terminals.

5.2.3 Air transport service

Air transport service is provided for by the Pulkovo airport located within 16 kilometre distance from the city. The total area of the airport is 60,000 square metres. It includes two airport buildings "Pulkovo-1" and "Pulkovo-2". The airport has two runways, 3 passenger ramps and 2 cargo ramps. Pulkovo-1 serves mostly domestic flights and flights to the former Soviet republics. The area of the airport building is over 40 thousand square metres. Terminal capacity is 2500 passengers an hour. “Pulkovo 2" serves international flights. The area of the airport building is over 19 thousand square metres. Terminal capacity is 1200 passengers an hour. Passenger turnover had decreased over the period 1990-1999 4 times going down from 10 million to 2.5 million passengers. From the beginning of the year 2000 passenger traffic had been growing to reach 5 million passengers in the year 2006. Over half of the traffic flow is accounted for by the international flights. Business aircraft service has been developing over the last years. Nowadays the business aircraft service provides over 600 flights a month.

When Federal State Unitary Enterprise went private, over 20 percent of shares were bought by the Government of the city. These days several concessive agreements are being prepared to modernise airport facilities. It is expected that infrastructure development will have increased passenger flow more than thrice by the year 2025 to 17 million passengers a year with 61 percent of international flight passengers.

According to the Federal Target Programme "Modernization of the transport network of Russia for the period 2002-2010" approved by the Government of the Russian Federation Decree as of 05.12.2001 No 848. the Pulkovo airport is to become a central air transport hub in the North West of Russia. In the nearest future it is planned to expand the course map of the Pulkovo airport by attracting new carriers to serve long-distance flights to North America, South and East Asia and Japan.

To provide modern service to its customers and enhance its business activities, the Pulkovo airport needs to consistently upgrade and develop airport infrastructure. With the existing passenger traffic growth

rates of the Pulkovo airport there is a problem to be tackled in the nearest future: connecting the airport with the high speed railway passenger transportation network. Pulkovo airport must develop as a large modern hub distribution centre of air traffic.
The “Rzhevka” airport serves business aircrafts and general-purpose aircraft. The Rzhevka airlines are now being reorganised. Organising of international flights services at the airport can be an impetus to resume its activities. Air service of St. Petersburg is focused mostly on passenger traffic. Air cargo transportation (of goods and mail) is developed to much lesser extent. Handling of air transported cargo at the Pulkovo airport is executed at the cargo terminal “Pulkovo”. It has facilities and equipment of international standards and an estimated capacity of 30 thousand tons of freight a year. Cargo traffic at “Pulkovo" is increasing fast. These days the volume of cargo transportation amounts to over 25 thousand tons a year. The second and third stages of freight terminal construction with estimated freight turnover of 30-35 thousand tons each are being planned.

5.2.4 Motorway transport

Transit transportation of domestic cargo by all means of transport through St. Petersburg make up about 50 percent of internal transportation. Railway transportation accounts for 85-90 percent of total service, the remaining quantity is provided for by motor transport. Russian transit traffic is bound for the northern regions of the country - Murmansk region and the Republic of Karelia, north-west part of the Leningrad oblast, connecting these subjects of the Russian Federation with the Central part of Russia.
The largest inflow volume of cargo to St. Petersburg is accounted for by the North-West Federal District areas - the Leningrad Region and the Republic of Karelia. Major part of railway cargo traffic is bound for Sverdlovsk, Novosibirsk and Leningrad Regions.
Motor transportation imports about 2 million tons of cargo (10.8 percent of the total volume of international cargo inflow serviced by motor transport). Half of cargo is imported by Russian carriers, the other half is serviced by foreign companies. Almost 500 thousand tons of cargo is exported from St. Petersburg by motor transport network making up 4.6 percent of the total volume of international cargo export from the RF serviced by motor transportation. 39 percent is exported by the Russian carriers, 61 percent - by foreign ones.

It is worth noting that:
- almost half of the imported cargo (55 percent) brought into Russia by motor transportation network across the national boundary within the territory of the North West Federal District is transit cargo bound for other regions of the country.
- 93 percent of the serviced by motor transport cargo which is exported through the national boundary within the territory of the North West Federal District is accounted for by foreign trade cargo of the District. Only 7 percent of foreign trade cargo exported through the state boundary of Russia within the territory of the North West Federal District is cargo exported from other regions of Russia.

In order to determine priorities for the development of St. Petersburg it is important to estimate expected results of the increased use of its territory and transportation network to provide for national and international transit services. Ordinary transit transfer of cargo within the territory of St. Petersburg will affect its economy and standard of living of the population. The increased traffic flow causes slowdown of traffic speed, detention of vehicles, traffic jams, high accident rate and environment deterioration.

5.2.5 Street-and-Road Network for motorcars

Street-and-Road Network. The St. Petersburg transport hub includes a complex system of federal and local highways with the total length of 3 thousand kilometres. 13 radial road directions converge in the city. The federal highway "Russia" connects the St. Petersburg transport hub with Moscow and southern parts of Russia, the "Skandinavia" highway provides connection with Finland, "Kola" – with the northern regions of the country, "St. Petersburg - Pskov" with southern territories of Russia, Byelorussia and Ukraine, "Narva" - with Estonia.

Within the boundaries of St. Petersburg there are 1.6 thousand kilometres of major avenues and street. Total length of the urban street network is over 3.2 thousand km. It includes 11 major bridges over the Neva River and its distributaries (on the whole there are more than 390 bridges in St. Petersburg).

The number of cars in the city is increasing. According to statistics of the Road Traffic of St. Petersburg Development Concept for the period of 2006-2008 approved by the St. Petersburg City Administration Decree as of 25.10.2006 No.1274 these days there are more than 200 cars per every 1000 of the city residents. The traffic on the major

avenues has become almost 2.5 times heavier, at some sectors and across bridges over the Neva and bridge approaches – 3-4 times heavier.

About 30 percent of main avenues of the urban network, especially in the central part of the city, have exhausted their traffic capacity. It causes overall traffic jams during rush hours not only in the main streets but also outside the centre of the city. All the bridges are overcrowded, the number of the blocked crossroads has already exceeded 200 and keeps growing.

In this environment major drawbacks in the urban network structure and its facilities are evident. They are:

- The lack of valid high speed motor bypass roads with high traffic capacity;
- The lack of bypass routes for transit flows, including cargo flows.
- Low construction rate of the new transport interchanges at different levels, bridges, pedestrian subways.
- Low traffic capacity of the road transport approaches to the city;
- Insufficiency of multilane avenues, especially in the southern part of the city;
- Lack of network of large car parks near the centre of the city, regulatory framework for short term car parking system which causes unauthorised parking in the traffic area of many main roads in the centre of the city reducing their traffic capacity.

Reasoning from the mentioned above, one of the main conditions of logistics development in St. Petersburg is the transport network extension, including roads and terminals. In view of this, St. Petersburg City Administration Decree as of 24.02.2004 No. 217 approves a list of priority activities to construct and reconstruct urban road network of St. Petersburg during the period 2004-2008.

Construction of the West High Speed Thoroughfare and the Ring Motorway will tackle the problems of withdrawing freight flow from the centre of the city and the port to the federal highways. Figure 16 shows a map of construction new federal highways in St. Petersburg.

The last section of the eastern part of the Ring Road was opened in 2006.

Next steps include increasing to 8 the number of lanes at the narrow sections of the eastern part (around the guy bridge, bridge over the Utka River, overpass at Moskovskoe shosse, Rzhevka junction).

The launch western section of the Ring Road is expected in 2012 including the section from Moskovskoe shosse to Predportovaya

station and up to the Tallinnskoe shosse to be open for traffic in 2008 and from Tallinnskoe shosse to the Bronka station in 2012.

The new ring road route will connect all major roads diverging from the centre of the city in the direction of Helsinki, Murmansk, Moscow, Tallinn and Kiev.

The Ring Road is 121 km long with estimated traffic speed of 120 km an hour, the number of lanes varying from 4 to 8. The width of the traffic area is 15-32 m. There are 18 transport interchanges, 58 bridges and overbridges, 2 highway tunnels. Estimated traffic capacity of the Ring Road by the year 2020 will have reached 190 thousand automobiles a day.

The launch of the eastern section will allow to withdraw from St. Petersburg transit cargo flows from the central parts of Russia bound for Finland and backwards. The construction of the Western section including southern section of the Ring Road will allow transferring freight via motor transport to St. Petersburg Big Port bypassing residential areas of the city. Construction of the guy bridge provides for round the clock connection of the right bank part of the city and the left bank one.

The West High speed Thoroughfare is to relieve the city from large amount of cargo transporting traffic. Its length is 46 kilometres from south to north, it has 8 lanes.

The West High speed Thoroughfare is split into three sections:

- Southern Section 10.8 km long stretching from the Ring Road to the Ekaterinhofka river (8.4 km) and from the embankment of the Ekaterinhofka river to the Beliy Island 2.4 km long
- Central section 9.1 km long stretching from the Beliy Island to the Vasilyevskiy Island (2.4 km) along the Vasilyevskiy Island (3.4 km) and from the Vasilyevskiy Island to the Primorskiy Prospect (3.3 km).
- Northern section 26.6 km long stretching from Primorskiy prospect to the intersection with E-18 highway.

The project can be implemented within 6-7 years.

The Southern section passes through the territory of St. Petersburg Big Port. Approaching the port and on the Kanonerskiy Island it is planned to build two flyovers to connect the West High Speed Thoroughfare with the 1st and 2nd port zones, OAO “Petrolesport” and OAO “Kanonerskiy Shipyard”.

The Central section is to join the Vasilyevskiy Island with Admiralteiskiy and Primorskiy districts all way through the Primorskiy prospect. On the Central section there will be two fixed bridges connecting the road with the Primorskiy Prospect.

The Northern Section will be connected with E-18 highway in the area of the Beloostrov Island. There will be 2 tunnels and 72 engineering facilities constructed on the thoroughfare. Among them – bridges, over bridges and flying junctions.

According to the Decree issued by the Government of the Russian Federation as of 23.11.2005 No. 2005-p the launch of the Western High-speed Thoroughfare is expected in the year 2010.

The increase of the cargo traffic at St. Petersburg Big Port requires better interplay between Oktyabrskaya Railway and companies of St. Petersburg Big Port. Insufficient traffic capacity is a key problem of the Avtovo railway station located near the port. These days the Avtovo station is being reconstructed to provide for increased transportation headed for St. Petersburg Big Port. Besides, it is possible to construct a new railway line from the Ligovo station to Bronka to provide for increased traffic bound for the Oranienbaum and Bronka stations situated near the port. It is planned to reconstruct the Shushary railway yard with building of additional crossover track stretching from Kupchinskaya station towards Slavyanka. A new railway yard at the Mga station from the Volkhovstroy side is outlined.

According to the Territorial Development Concept of the areas adjoining the St. Petersburg Ring Road adopted by the St. Petersburg City Administration Decree as of 27.05.2003 No.10 fostering of investment projects to develop terminal infrastructure, transport network and public facilities should be provided for. Withdrawal from the central urban districts of companies with high freight turnover and of companies causing adverse environmental changes is also envisaged by the Decree. The total area of the affected by the Ring Road zone amounts to 64252 ha including the area within the administrative boundaries of the city of 38617 ha which equals 60 percent of the zone area. Within this territory 12 percent or 4253 ha is an undeveloped area, 6 percent or 2224.5 ha is under transport networks including transport terminals and service centre facilities; 12 percent or 4591 ha – urban street network and so on. The territory adjoining the Ring Road is an area of low town planning value. These factor and the fact that there are land resources allow to discuss the possibility of the new urban zone connected with the transportation network, industrial and warehouses and terminal infrastructure development.

Decision making on particular planning projects is based on the Law of St. Petersburg as of 21.12.2005 “On the general layout of St.

Petersburg and on the borderlines of the conservation area of cultural heritage objects in the territory of St. Petersburg."

5.2.6 Areas of location of the zones of preferential economic treatment and their infrastructure.

January 18, 2006 intergovernmental Agreement on establishing in the territory of St. Petersburg a preferential economic treatment zone for technology and innovation development was signed.
In the territory with the total area of 200 ha in the Petrodvortsoviy District a preferential economic treatment zone for technology and innovation development is being created in accordance with the Federal Law as of July 22. 2005 "On the zones of preferential economic treatment in the Russian Federation" No 116 – FL and the Government of the Russian Federation Decree as of 21.12.2005 No 780 "On Establishing in the territory of St. Petersburg a preferential economic treatment zone for technology and innovation development" (the Noidorf zone in Strelna settlement) and in the Primorskiy District (the territory to the north of Novo-Orlovskiy forest park) of St. Petersburg.
The zone has been created to locate entities and science-consuming productions there, to create environment for their development and to foster high technology services development.
In accordance with the article 10 subparagraph 2 of the Federal Law "On the zones of preferential economic treatment in the territory of the Russian Federation" technology and innovation activities imply manufacturing and sale of scientific and technological production, commercial application of it, including production, testing and selling of pilot batches, as well as development of software applications, data collection, processing and transmission systems, systems of dispersed computation and providing application and servicing activities.
The territory of the preferential economic treatment zone (hereinafter referred to as PETZ) in St. Petersburg in accordance with the applications of the possible residents of PETZ, will host companies developing software applications, manufacturing communication facilities of different purposes and household electronics, computer-based engineering control systems, civil and military avionics, medical equipment, designing analytical devices and specialising on production of test batches.

5.3 Warehouses and Logistics centres

A challenging problem of insufficient infrastructure development is the lack of area near the port to set up freight terminals for storing, handling and distributing cargo. There is much lesser storage area in St. Petersburg port than in major transport hubs of Europe. Technological facilities of the port terminals are of very low standards. This causes low freight handling and traffic of goods.

The total area of warehouses in St. Petersburg according to statistics of the City Agency on Management of Real Estate Inventory and Valuation totals 5 million square metres. The total number of separate warehouse buildings amounts to 3308 with total area of 4.2 million square metres. The area of integrated warehouses totals 0.7 million square metres.

Almost half of all city terminals with the area of 2.6 million square metres is meant to service foreign trade freight turnover. Among them - 2.0 million square metres is the port area, while 0.6 million square metres – inside the city terminals which perform storing, re-packing and customs clearance functions.

Storage facilities are of the following types:

3.9 percent are logistics centres and warehouses within science parks;

13.2 percent are integrated storage facilities (ground floor facilities and basements);

82.9 percent – reconstructed storage facilities (former production facilities);

The types of warehouses with regard to equipment and facilities in the territory of the city are following:

A class – 5 percent (about 200 thousand sq. metres)

B class – 4 percent

C class – 79.8 percent

D class – 11.2 percent (including integrated storage facilities).

There is lack of supply on the market of warehouses with technologically advanced facilities of A and B classes.

The supply-making pattern of storage facilities is based on the following:

-reconstruction of former production facilities;

-construction of new logistic centres;

-small-sized facilities lease from the Committee on State Property Management.

Old manufacturing facilities were until recently the major source of supply on the market of storage facilities. Over the last years however

this market segment tends to shrink because production scales of the companies are expanding and they require more manufacturing facilities. Besides the majority of production and storage facilities do not meet the requirements of potential customers and lease holders.

Because of the lack of supply in the market, the utilised capacity of A and B class of storage facilities is almost 100 percent.

These days the majority of warehouses are located in Moskovskiy District (0.63 million sq.m), in Frunzenskiy District (0.52 million sq. m), Vyborgskiy District (0.51 million sq.m) and Central District (0.47 million sq.m). Although existing warehouses are being removed from the centre of the city by warehouse owners due to increasing land price. At the same time, on the whole in St. Petersburg there are 48 uninhabited areas. Among them 22 are to be developed into industrial zones.

Analysts think it promising to construct new terminals within the Ring Road zone, where the land is cheaper, and availability of transport higher.

Analysis of the existing market situation in the market of storage services in the territory of St. Petersburg revealed that storage business is not yet a full fledged sector of municipal economy. At the same time there is economic and geographic potential to develop this type of activities.

The majority of analysts mark surplus of demand for storage facilities over supply which is the result of exceeding growth rates of freight turnover in comparison with the growth rate of storage facilities area in the territory of the city. It is believed that the lack of storage facilities acts as a deterrent for other businesses development in the territory of the city.

Increase of prices on the warehouse property and of lease rates and storage services is a result of this situation. Thus, purchase and sale price increase amounts to almost 25 percent a year. The majority of customers (about 60 percent) is renting warehouses.

So the development of storage facilities and of terminal and logistic networks should become to our mind one of the priorities of the urban economy development. The Government of the city adopted a decree as of 14.12.2004 No.1961 “On spatial development of locations of industrial, transport and logistic, social and business and storage facilities” outlining sites for terminal location.

It is worth noting that storage businesses are growing into an independent specialised sector providing a wide range of additional services that is transforming into terminal and logistics centres. Customers begin to understand advantages of services of specialised

storage operators. However the process is progressing rather slowly. These days there are only a few storage facilities in the territory of St. Petersburg meeting the requirements of terminal and logistic centres with respect to technical characteristics and range of services offered.
Despite existing financial sources (foreign investors, banks), investment into this sector is limited.
There are following patterns of this type of business development in the market of St. Petersburg:
1st and dominant pattern – storage facilities are created to provide for the existing freight turnover by a company-carrier providing transportation services or by trade partners to service long-term agreements with large foreign suppliers. Storage facilities are functioning both as intercity distributors and as distribution warehouses to supply goods to other regions of Russia.
Such warehouses are set up by means of attracting investment, mostly foreign one, and by network integrating facilities into foreign terminal and logistic company.
The second pattern implies establishment of a warehouse for intercity distribution services by large companies and manufacturers of finished goods. The company itself usually acts as an investor.
The third pattern is a step-by-step development of specialised storage business with gradual intensification of networking with manufacturers and consumers (“from little to large-scale”) using internal company funds.
Another aspect worth to be noted is a complete absence of Russian network operators in the market of storage facilities located at the centre of St. Petersburg. As of now, creation of networks by the Russian terminal and logistic companies is actually at the concept development stage. The main causes to this appear to be the following:
- this business requires considerable investment and according to majority of assessments the payback period can last from 3 to 7 years with long-terms credits at moderate interest being hard to obtain,
- wide range of services and possibility to develop associated businesses to support the main one (transportation services, freight forwarding, customs clearance, information services, taxation, re-packaging, marking of goods – these is called added value) provide stability to business. Service development can be implemented by creating corresponding company departments or by using services of other companies. This requires additional investment and efficient interplay of adjacent sections of logistic network which increases the cost of storage operator services.

- difficulty in managing logistic network members.

It should be noted that benchmark for the company to choose between the two alternatives is cost equity of storing goods at the company's own warehouse and of using the service of the operator.
Dynamic growth and competitive stability of specialised storage business in the territory of St. Petersburg requires cutting down of payback period and reduction of storage costs while broadening the range of additional services.
To meet these challenges the company needs to develop new technologies in order to provide for high standards of meeting customers' requirements minimising stock and increasing goods turnover (as of now the average storing period is 10 to 15 days).
To reach these objectives the company must use competitive edges of its area to attract cargo traffic and to overcome factors which reduce business competitiveness in the territory of the city. The latter include the following:

- relatively high land lease rates (in comparison with the Leningrad Region for instance);
- insufficient development of the road network approaching storage facilities;
- lack of highly qualified managers specialising in this sector.

5.4 Transport sector administration and industry associations

There are spheres of state control and regulation of transport activities in the territory of the Russian Federation and in St. Petersburg. They are following: above all
- control over activities of carriers which are natural monopolists (for instance railway transport companies);
- control over transportation tariffs on all types of transport;
- setting of uniform rates and standards in the spheres of environmental protection, traffic safety, protection of labour at the transport companies, development of technical standards;
- control of execution of international agreements;
- efficient transport supply in case of natural disasters and accidents;
-allocation and parcelling of land plots for transportation networks;
- military defence issues.
Economic regulation and stimulation procedures by regional and federal public authorities are of utmost importance for creating a

system of state support of efficient goods flows, of competitiveness while investing into infrastructure development. The system of public regulation of transport activities implies creation of managing bodies and distribution of powers between them, outlining interplay procedures at the federal and regional levels. (Fig. 15

The supreme federal authority is Transportation Ministry of the Russian Federation. The main duties of the Ministry imposed by the Regulation Government of the Russian Federation as 13.07.2004 No. 395 include: development of the national policy and legal frameworks, including strategic transport development plan. The structure of the Transportation Ministry consists of following sectoral departments: of civil aviation, railway transport, sea and river transport, road facilities department, motor and urban passenger transport, land surveying and cartography. There are corresponding federal bodies and agencies providing public services, managing state property, performing law enforcement activities and coordinating the work of carriers for each mode of transport. Their structure and duties are defined by the regulations of the Government of the Russian Federation .

The Ministry of Transport of the Russian Federation has representative offices in all the Federal Districts of the Russian Federation.

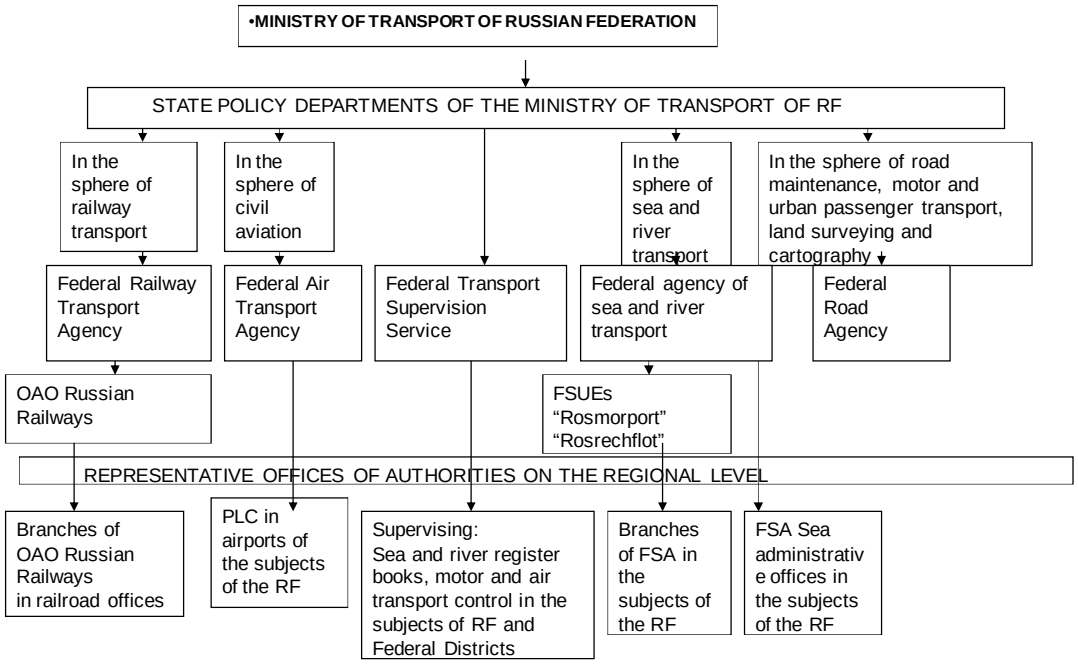


Figure 14 Federal transport authorities

These offices comprise supervising bodies executing state control over transportation and joint stock companies, state unitary enterprises (SUE) working directly with carriers.

There is special water transport supervising authority – the Russian Marine Shipping Register, performing engineering supervision functions.

Supervising authorities for land transport are Highway Traffic Supervising Agencies. Aviation Supervising Agencies are control authorities providing flights safety on air transport.

Controlling and supervising functions and duties are performed by State Inspection of Traffic Safety with regard to highway transport and for the road facilities.

The transport management structure at the federal level is focused on regulation of different types of transport activities.

Thus, Federal Railway Transport Agency is an administrative body of OAO Russian Railways with representative offices in all the regions of Russia incorporating former railway departments of Oktyabrskaya Railway, West-Siberian railway department and other. Representative offices' duties include railway traffic management, development and maintenance of technical infrastructure (railway facilities and rolling stock) as well as traffic safety issues. Sea and River Transport Department incorporates federal state unitary enterprise "Rosmorport" responsible for development and maintenance of port infrastructure and federal state agency "Sea (River) Port Administrations" mostly responsible for traffic safety of sea and river vessels. Both structures have their representative offices located in the subjects of the RF. Air Transport Agency incorporates companies (joint stock companies) within airports whose mission is to develop, maintain and operate airport facilities and to provide flight safety. The Agency has representative offices located in the subjects of the RF.

As illustrated by the examples, lower level authorities have different organizational and legal frameworks and different set of functions.

Figure 16 illustrates the management structure of transportation network in St. Petersburg.

The structure demonstrates that the powers of the subject of the Russian Federation embrace passenger traffic issues and street and road network. However St. Petersburg location and development of the city into a major transportation hub required efforts on behalf of the local authorities to develop transport infrastructure, to efficiently manage traffic flow of international cargo in the territory of the city. To

tackle these issues, a special Committee on Transport and Transit policy was established.

As follows from the chart in Figure 15 there is branchwise approach on the federal level, there are management bodies for each transport mode. Road Facilities Department implements state federal programs in the sphere of road construction. Increased freight flows due to development of foreign trade lay heavy burden on the urban transportation area which requires interplay of federal programs and development projects of road network in the territory of the city. Increased freight turnover requires identical development of other components of transportation infrastructure. This implies first of all terminals and warehouses with the required capacity, transport maintenance services development. Terminal construction must correspond to street and road network and cargo highway design projects and must take into account urban area resources and other town developments and environmental restrictions. Further efficient cargo transportation operation requires logistic-based approaches, that is interplay and coordination of activities of all traffic participants, which means horizontal interbranch connections. Existing management structure does not support this developments of transportation network. To implement comprehensive approach to these problems Transport Coordination Committee and Sea Council of the St. Petersburg City Administration were established.

Transport Coordination Committee of the St. Petersburg City Administration is an advisory body at the St. Petersburg City Administration to inform St. Petersburg Governor and St. Petersburg City Administration on state of affairs in the transportation and logistics sector of St. Petersburg economy, to provide authority's interaction with participants of transport and logistics network, to develop proposals and recommendation for the Governor of St. Petersburg and St. Petersburg City Administration on the up-to-date issues of policy in this sector.

The main tasks of the Council are:

- monitoring and research of separate aspects of transportation and logistics network and of transport and logistics network as a whole.
- development of recommendation on coordinating of transportation and logistics network of St. Petersburg;
- searching for mutually beneficial solutions to transport and logistic problems with participation of all the parties of transport and logistic network.

- proposals on elaborating efficient procedures of joint work of St. Petersburg City Administration and transportation and logistic companies of St. Petersburg.
- examining of transport and logistics projects, concepts, strategies and other framework documents;
- fostering balanced image making of St. Petersburg as an international multi-module transit hub, a major logistic and distribution centre in the North West of Russia.
- interpreting St. Petersburg City Administration's policy in the sphere of traffic development, trust-building among population toward transportation services, building up transport culture and business ethics.

Technical and organizational maintenance of the Council's activities is provided for by the Committee on transport and transit policy of the city Government.

The Sea Council of the St. Petersburg City Administration is a standing coordinating body of the Government providing balanced interplay of federal executive authorities, executive bodies of St. Petersburg, of companies engaged in marine activities. The latter imply research, development and use of the World Oceans resources, including sea and river activities, naval activities, exploitation of port infrastructure, shipbuilding, providing ecological and other forms of safety at sea, marine education and sciences, water tourism and aquatics and other types of marine activities.

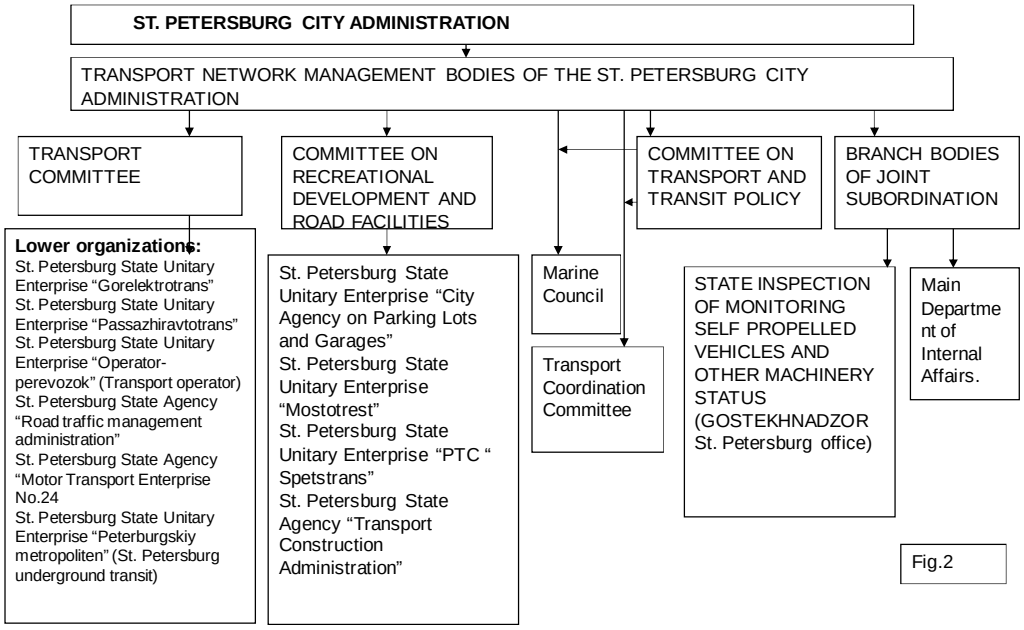


Figure 15 The structure of transport management bodies of St. Petersburg

5.5 Logistics industry: characteristics

Logistics sector of St. Petersburg provides an annual freight flow (excepting pipeline transportation) of 112.5 million tons which has been growing over past four years by 2-4 percent.

Port facilities and national sea gate status reveal key role of foreign trade cargo traffic for the city's transport and logistics network, its share of the logistics service market amounting to 56.8 percent. The second largest in this market is cargo traffic of intercity manufacturers, including that of other regions. Almost 6 percent of cargo turnover is accounted for by the logistics market servicing consumer goods traffic, the largest share being that of trade services.

Over the last 5 years there is a tendency of logistic service market concentration which leads to reduction of active players. It mostly refers to forwarding agents, their number halved.

In 2005 market consolidation got under way in the market of railway containerised cargo transportation. As a result of these processes about 15-20 companies will remain in the market out of total number of forwarding agents working at container yards.

Simultaneously in 2004-2005 there began consolidation of large-capacity motor transportation services which was caused by increased requirement of forwarders and freight owners towards carriers, and cost increase. As a consequence, in the expensive machinery segment (liquid cargo transport, containerised and refrigerated transport) the number of small enterprise is falling fast. There are still many small carriers working in urban transportation market and transporting by canvas topped vehicles.

Among major segments of logistic market there are two most dynamic ones. They are – containerised cargo traffic flow and trade and distribution activities.

Export shipments which depend on interaction of port terminal services and railway facilities are stagnating, and are very sensible to market fluctuations. Whereas containerised freight traffic flows and distribution cargo traffic have a long term upward trend and provide basis for efficient development of urban transport and logistic network.

These segments of freight traffic are very promising which is proved by profitability of cargo handling services (transhipment, transporting and storing) in comparison with general cargo handling – basic operations of containerised cargo handling and of trade support are twice as cost beneficial.

Thus successful development of this logistic market sector depends to some extent on the rate of growth of terminal facilities. Realising this, many companies started greenfield development or designing of additional containerised cargo transhipment facilities.

These days there is most intensive site development near Predportovaya station and at the Interminal Ltd and ZAO Eurosib terminals. These terminals are to be used as back ones for ZAO “PKT" and ZAO “PLP”.

The second promising site is located near Shushary station. In 2007 Logistika Terminal Ltd (subsidiary of NKK Ltd) is planning to launch phase 1 of terminal facilities which is being positioned as a rear one for ZAO PKT.

The demand for logistic services by trade businesses of the city is a second fast growing market segment.

The majority of trade companies – 80-85 percent – are using the services of outside carriers and logistic operators. Almost half of companies (51 percent) are using containerised transportation services, 5 percent - out of them – refrigerated containerised traffic.

Thus a major market of modern logistic and distribution services has been already formed by demand of trade companies. The logistic potential of the city has been studied by a work group carrying out corporate client’s inquiry working in different sectors within the LogOn Baltic project. The results are shown in supplement (section 8.2).

5.6 Employment and salaries

Expansion of production and aggravation of competition require optimization of flows of goods and services create demand for transportation and logistic services within the city. As a consequence, over the last 3 years despite reduction in the total number of companies working in this sector, the number of the employed in the transport companies has grown to about 200 thousand people.

There are following positions at forwarding, trade and industrial and logistics start up companies: Deputy Director of Logistics, Logistics Manager, Engineer or Logistician.

Job applicants should meet the following challenging requirement: Professional education, foreign language skills, extensive knowledge of specific software applications, file management skills, advanced user of informational and statistical systems.

Age-related requests of employers are usual: For most positions the required job applicants age varies from 25-30 (64 percent) to 45-55 years old. However the majority of workers are above 40 years of age.
For the majority of vacancies in the sphere of transportation (5.9 percent of the total number of positions), the level of education is not specified. It refers to executive positions and positions of skilled specialists with salary 800 to 1000 Euro conventional units (u.e.). It signals lack of personnel on the market.
The logistic market in St. Petersburg at present is being shaped. The number of enterprises applying up-to-date business administration techniques, including logistics, is increasing. Research illustrates that skilled logisticians are in demand and have very good perspective. Demand for logisticians is in surplus over supply. The rate of training specialists in this sphere does not correspond to demand increase rate. That is why employers emphasise not so much professional training, as experience and hands-on skills.
The average monthly demand for logisticians amounts to 560 vacancies a month. Over half of all vacant positions are opened for blue-collar workers and junior managerial staff. 13 percent of open vacancies are for executive level positions. About one third is for managers and specials.
The salaries of stockmen in St. Petersburg are as follows. For 42 percent of vacancies of stock control clerks the expected monthly salary varies from 300 to 400 Euro. 52 percent are less paid positions. The remaining 6 percent are vacancies with monthly salary above 400 Euro.
The study of the salary variance of logisticians allows to specify several groups of specialists with different levels of salaries. The salaries of these groups are shown on average. However salaries in one group may vary within the range of several hundred US dollars, for marketing directors – within the range of several thousand US dollars. Group "1" embraces blue-collar workers, stevedores (porters) and stockmen. As it was already mentioned, their salary is continuingly increasing. Group "2" embraces specialists. The salary of this group varies from 700 to 1000 Euro. For "manager" group (group 3) the range is from 1000 to 2500 Euro, for the last (logistics CEO) the salary varies from 4000 to 5000 Euro.
Thus, each group salary level double that of the previous one. The higher the group of positions the more dispersed the salary level is.
The demand for logistic personnel is now focused on terminal workers rather than trade and transportation companies. Shipping companies

also have high demand for such specialists. Such trend has a long-term perspective. The terminal component is increasing fast in the transportation complex structure.

5.7 Social Issues in the Transportation Sector.

The national policy in the Russian Federation with respect to regulating social, labour and related to these economic and political relations suggests addressing the following issues:

- creating environment fostering emergence and development of independent activities and cooperation of independent unions of employers and employees, as well as individual and corporate manufacturers.
- development of instruments of multilateral cooperation and social partnership of public and non-governmental organizations and unions providing for agreements between employers and employees, individual and corporate manufacturers on different levels.
- improving legal frameworks of labour relations and social partnership.

Labour relations are regulated by the Constitution of the Russian Federation, by the requirements of International Conventions, Federal Law “Labour Code”, as well as by a number of Federal Laws and by other regulatory documents addressing labour relations in various industries. Thus, for example in transportation sector, working conditions of various transport workers are regulated by following documents to the extent that they do not contradict the Labour Code: the Law of the Russian Federation as of 25.08.95 No.153-FZ ”On the federal railway transport", the Law of the Russian Federation as of 10.12.95 No.196-FZ ”On traffic safety” as amended on March 2. 1999; Resolution of the Labour Ministry of Russia as of 20.02.96 "On adopting the Provision on Working Hours and Time Off for Ship Personnel of Marine Fleet (Ministry of Justice No.1050 12.03.1996)", Resolution of the Government of the Russian Federation as of 13.08.96 No.996 “On Adopting Temporary Provision on Utility Aviation (ii. 23-26)” and so on.

The common features of regulating working conditions of transport staff are ability testing, professional training and compulsory physical before hiring. This regulation was provided for by item 3 article 16 of the Law of the Russian Federation “On Federal Railway Transport”, while medical inspecting of drivers was stipulated by item 1, article 23

of the Law of the Russian Federation “On traffic safety”. However for the first time this regulation was provided for by one single entry for all kind of transportation workers.

Article 329 of the Labour Code prohibits enlisting the services of transport workers, whose labour is directly connected with driving, for driving beyond their set working hours. It is stated that scheduling working hours and time off and other working conditions of transport workers are regulated by a federal executive authority supervising a certain mode of transportation (article 329 of the Labour Code, item 2. article 16 of the Law of the Russian Federation "On Federal Railway Transport"), whereas in accordance with article 252 of the Labour Code specific working conditions are set by general legislation. Particularly specified is the discipline of the transportation workers which is regulated not only by the Labour Code, but also by the Provisions of the Federal Laws in accordance with item 1, article 17 of the Law of the Russian Federation "On Federal Railway Transport Network", which refers to all type of transport workers.

Other features of political system are of high importance as well, including trade unions.

Interactions of state and trade unions have a political dimension. The type of these interactions define to a large extent how tense the society is. They can accelerate or smooth social conflicts.

The important aspect of interaction of public authorities and trade unions within the framework of social partnership system based on the principles of social partnership is that the parties enjoy equal rights. Both state and trade unions have the same rights as to develop, sign and execute corresponding agreements. They are equally responsible as to their implementation.

The necessity of creating and developing social partnership network is defined by the political situation in the country, by the need for stability. Solid tripartite agreement considerably decreases the possibility of accepting the promises of right and left winged crazies by the general public.

Russia has already gained certain partnership experience from Trilateral Commissions, signing industrial (tariff) agreements and collective bargaining contracts. It is on the branch level that the issues of social security of employees and of granting them social guarantees are addressed. Present social protection sphere is characterised by a lack of or poor developed groundwork at the company level. The experience of cooperation of trade unions and public authorities, signing of branch agreements and collective agreements in the long

run provides for the opportunity to create a coordinated network of collective agreements, industrial (tariff), regional (special) and general agreements, that would secure social welfare of employees. Interaction of trade unions and public authorities branch wise is implemented as follows:

- consolidating efforts aimed at industry development, improving its technical and economic performance;
- enhancing social protection of employees, providing normal conditions for their activities.

Respect of rights and interests of the employees at the industrial level combines national approach and recognising of specific conditions and activities.

To follow up its protective function the trade unions need efficient instruments. They include:

- taking part in elaborating and introducing draft laws on labour and urgent social and economic issues to the legislative authorities, promoting laws protecting employees' interests.
- public evaluation by trade unions of every bill on labour and social issues which is being introduced to the legislative authorities by government and other organizations and bodies as to their accordance to vital interests of workers, non-admittance of impairment of rights and interests of the workers by these laws when they are executed.
- public control over law integrity during its execution, so that subsequent regulations, resolutions of Ministries and Agencies do not cancel the previously adopted law which can infringe upon of the working people, control over full and consistent implementation by administrative bodies of laws, regulations, resolutions of all levels addressing the multitude of labour and social issues.
- extended use of all types of tools of social partnership: at the company level – the use of collective agreements between the working staff and company management; at the level of industry - industrial (tariff) agreement between public authorities, trade unions and representatives of company owners (employers); at the national level – general agreement between the Government, representatives of the Russian trade unions and businessmen.

Trade unions have different instruments of implementing its protective function such as – the right to appeal to court or arbitration, to appeal to media, to organise various public events (meetings, demonstrations, vigils, strikes), to act together with other trade unions and social and political movements which are promoting social protection of employees.

We can examine the system of industrial trade unions using the Russian Railway Trade Union example.

The mission of the Russian Railway Trade Union in accordance with the Charter is to represent and protect social, labour, professional and other interests of the trade union members. The objectives to realise this mission are as follows:

- to promote social partnership and interunion democracy;
- implementing and strengthening trade union supervision over following the regulations of the labour and social security legislation of the Russian Federation, abiding to the Federal Law “On trade unions, their rights and guarantees of their activities".

- promoting follow up of constitutional regulations with the focus on social sphere;
- exploring professional, social, labour and other interest of the union members;
- regulating the remuneration system, various form of financial encouragement. The size of wages and norm setting;
- promoting and developing employment;
- broadening the scope of social guarantees;
- control over labour protection and environmental safety.

The interaction of industrial trade union with public authorities is in line with these objectives. They make up the long term action plan of the trade union. Within the frameworks of this Programme the Russian Railway Trade Union is to implement the following tasks:

- to provide for each union member fair remuneration in accordance with his "market value" through tariff agreements;
- to provide for each trade union member a work place in accordance with his qualification;
- to protect each union member from illegal penalties and dismissal.
- to provide public support to all currently unemployed union members including retired members;
- developing the social insurance system, including insurance against accidents and professional illnesses;
- encouraging before trip medical examinations.
- promoting higher living standards of every union member.

Thus the major lines of activities and tasks of the trade union activities within the railway sector are social protection issues. Although in contemporary conditions, addressing social protection of employees issues (including railroad men) is impossible without adequate social

policy which in its turn determines relations of trade unions and public authorities.

One of the practical achievements of cooperation of the public authorities and trade unions providing social security of the industry's employees is the Federal Target Programme Promoting Employment of the Retired Railway Workers adopted by the Government of the Russian Federation Decree as of 31.07.1998 No. 870.

The main task of the Program's social dimension is providing social security of disengaged railway workers.

Under conditions of structural reforming of railway transportation system, decrease of traffic flow the most important task facing all the Committees of the Trade Union is to supervise follow up of the Target Programme of Promoting Employment, providing social security, respect of rights and interests of all the disengaged union members. The main task of the Central Committee of the Union is to strengthen its protection function. The major dimension of law making activities of the Union is control of the follow up of the Programme in the industry, focusing on improving federal standards for the workers of the industry.

The Water Transport Trade Union, Trade Union of Sea Transport Workers and of other transportation industries are performing similar activities

5.8 Environmental Issues.

Introducing quality standards of environmental protection is aimed at setting scientifically based maximum permissible impact upon environment which secures ecological safety and health protection of the population and guarantees prevention of pollution of urban environment, reproduction and rational use of natural resources.

Basic tasks of introducing environmental standards are as follows:

- setting of environmental criteria and exploring its impact upon human health, protection, reproduction and rational use of natural resources;
- setting maximum permissible values and impact level of detrimental effects upon environment.

The types of quality standards of environment include:

- standards outlining maximum permissible concentration of detrimental impurities in the environment;
- standards outlining maximum permissible pollutant emissions in the environment;

- standards outlining maximum permissible noise and vibration level, magnetic field and other physical detrimental effects;
- standards outlining maximum permissible level of radiation;
- standards outlining conservation zones, control area and other types of protection zones.

Environmental standards of transportation load upon environment is based on the following conditions:

- providing for the level of maximum permissible concentration of contaminants in the environment at the border of the zone of impact of transportation and road facilities.
- providing maximum permissible level of physical agents load (noise, vibration, infrasound) at the border of the transportation load object and residential or recreational area;
- keeping the sanitary distance from the transport and road facilities.

General requirements of following environmental standards and providing maximum permissible man-caused loads upon environment are regulated by GOST ISO 14001, by the Law of the Russian Federation “On environmental protection of natural environment” and by the Law of the Russian Federation "On epidemiologic well-being of the population".

The Basic Environmental Policies of St. Petersburg aimed at environmental protection and providing ecological safety for the period 2003 to 2007 were adopted by the Decree of St. Petersburg City Administration as of 26.09.2002 No.50. They specify the most urgent problem for St. Petersburg as air pollution. Transport input into total gross volume of emissions is 77 percent.

Despite a number of national environmental standards, over 70 percent of highways in the centre of the city is characterised by a level of contaminant concentration exceeding 5.0 MPC (maximum permissible concentration). 15 percent of main roads have a critical environmental load level - 7.0-10.0 MPC. At the outlying districts concentrations of contaminants within the highway impact zone vary within the range of 1.5-2.0 MPC reaching 3.5-4.0 MPC at major latitude and radial roads. Over 50-60 percent of the territory of the city have critical and high levels of acoustic load. The level of vibration load within the impact zone of major roads varies within the range of 51-66 decibel.

This signals low efficiency of environmental policy in transportation sector. There is awareness of need for development and implementing efficient measures aimed at decreasing detrimental effects of transport facilities upon environment. The main factors influencing upon air pollution by vehicles emissions are as follows: significant increase of

number of vehicles, of international traffic, slow development of transport infrastructure, poor traffic management, low environmental characteristics of vehicles manufactured in Russia. The quality of engine fuel does not meet up-to-date requirements. As it is mentioned in the Traffic Management Frameworks for the period 2006-2008 adopted by the Government of the Russian Federation as of 25.10.2006 No.1274, the characteristics of the transportation load upon road and transport network of the city is given (see Section 5.2 Transportation, communication and infrastructure of the present report).

To address the issues mentioned in the Basic Environmental Policies of St. Petersburg there are measures to protect environment from transportable sources of pollution (Section Sh. 1.1.) and measures to develop transport infrastructure and to improve traffic (Section Sh.1.1.1.). The Administration of St. Petersburg established city headquarters on municipal improvements. One of the main tasks of this body is traffic management of heavy haulers and so on.

5.9 Logistics Sector Development. Summary

Implementation of prerequisites for the logistic sector development requires certain efforts, on behalf of the local authorities as well to create favourable environment for its development. There is a need for the task-oriented policy targeted at the development and support of the city area to make logistics one of the industries of the city economy.

The main dimensions of this policy are:

- promoting of development of large logistic centres with various value-added services;
- encouraging of the development of the companies which have formed logistic networks in other regions of Russia with the management company located in St. Petersburg;
- fostering value added services including outsourcing and out-tasking which would promote cost efficient capital expenditures, related businesses development and job creation;
- development of system of targeted parcelling out of land for constructing terminal, logistic and transportation facilities within industrial zones specified by the Decrees of the City Administration of St. Petersburg;

- creating within the territory of the city areas for logistic facilities with developed engineering and road infrastructure (engineering and road networks can be created both on the intercompany basis and at the expense of budget means) which would decrease land development costs;
- coordinated road infrastructure development projects and the requirements of logistic centres and warehouses;
- creating investment friendly environment in the region by encouraging long-term credit programs by Russian banks or foreign investment;

- promoting agreements between the City Administration and banks ready to invest in logistic industry guaranteeing long-term credit repayments at stipulated interest rates;
- agreements on cooperation with North-West Customs in the field of locating transit warehouses and customs terminals, managing freight flows, creating and developing exclusive economic zones and available warehouses;
- promoting agreements between the Administration of the Leningrad Region and other subjects of the Russian Federation to encourage balanced development of the linked highway and railroads;
- promoting agreements with foreign partners (government, non-profit and public organizations) to attract freight flows and investment, to train specialists and to exchange experience in the field of developing and managing logistic companies, to foster positive region image;
- to provide informational support in the form of releases in the periodical press and in electronic mass media;
- support and financing of supply chain management systems with the use of computer information systems including the one with foreign partners;
- development of consulting services to create and manage supply chains.

6 ICT IN THE REGION

6.1 General ICT infrastructure in the region

Main players that promote ICT development in St. Petersburg are shown in Fig.16

Figure 16 Network infrastructure development of ICT in St. Petersburg.

The City Administration of St. Petersburg and its bodies are promoting the policy of ICT development in various fields of the city life. The City Administration of St. Petersburg encourages implementation of federal programs of ICT development which are backed by federal executive bodies.
St. Petersburg City Administration has a number of departments whose task is to follow up the policy of development and implementation of ICT in the industries they are responsible for Fig. 17 illustrates basic elements of the power structure implementing the policy.

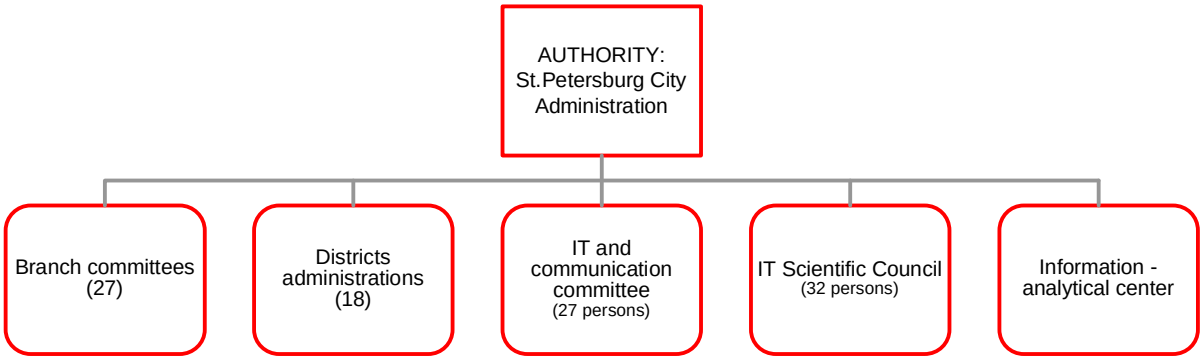


Figure 17 Power structure elements promoting ICT development.

The tasks of information society development are facing the Committee on Electronic Communication Development on the City Administration (http://www.gov.spb.ru/gov/admin/otrasl/c_information), institutions of higher education and non-profit organisation “E-Development Partnership in the North-West of Russia“ (www.prior.nw.ru).
These companies are closely linked to federal organizations. To name but a few: “Saint-Petersburg Institute for Informatics and Automation of Russian Academy of Science“ (www.spiiras.nw.ru) and research organisation “Institute of the Information Society“ (www.iis.ru/en/).
Information-oriented society development is promoted by the state programme "Electronic Russia" (www.e-rus.ru) which provides funds to support main stages of this process.
Projects which are partly financed by the European Commission also support the development of information-oriented society. For instance at present, there are following projects being implemented in the sphere of ICT implementation:

- Development of Internet Based Interactive Government to Business Services in Northwest Russia (www.g2b.nw.ru)
- E-Skills for Russian SMEs-II (www.e-skills.spb.ru/eng/)

6.2 ICT infrastructure in logistic sector.

Main users of ICT are:

- Local departments of federal state authorities, first of all customs departments are using information systems which support procedures of customs control and customs clearing procedures.
- Business companies which prepare customs declarations, exploit information systems which support customs clearance of freight.
- Business companies developing information systems for transportation and logistic networks.
- Business companies which are official representatives of web portals supporting global order systems and shipping tenders.
- Business companies developing information systems for their internal activities.
- Business companies - subsidiaries of transportation and logistic companies exploiting corporate information systems of large external operators.
- Business companies which support the work of terminal and logistic networks.

The tasks of information society development is facing the Committee on Electronic Communication Development on the City Administration (http://www.gov.spb.ru/gov/admin/otrasl/c_information), institutions of higher education and non-profit organisation “E-Development Partnership in the North-West of Russia“ (www.prior.nw.ru).

These companies are closely linked to federal organizations. To name but a few: “Saint-Petersburg Institute for Informatics and Automation of Russian Academy of Science“ (www.spiiras.nw.ru) and research organisation “Institute of the Information Society“ (www.iis.ru/en/).

Information-oriented society development is promoted by the state programme "Electronic Russia" (www.e-rus.ru) which provides funds to support main stages of this process.

Projects which are partly financed by the European Commission also support the development of information-oriented society. For instance at present, there are following projects being implemented in the sphere of ICT implementation:

- Development of Internet Based Interactive Government to Business Services in Northwest Russia (www.g2b.nw.ru)
- E-Skills for Russian SMEs-II (www.e-skills.spb.ru/eng/)

The scope of use of ICT by companies is a very important indicator while making evaluations of local service and goods markets, as well as their development potential. The detailed analysis of branch-wise and territorial value distribution of this indicator may form basis of spatial development and creating of global strategies of goods and services promotion.

St. Petersburg is second large region of Russia to Moscow with regard to the level of ICT use. A very important factor for introducing ICT into companies activities is a multitude of good higher education institutions which train IT specialists. After graduation IT specialists start working for companies and promote IT development of this companies.

Within the frameworks of the project LogOn Baltic – TACIS, the level of ICT use by companies was researched to provide for common understanding of the place of St. Petersburg among the Baltic Sea regions in the field of ICT. To a large extent the problems are being addressed in line with cooperation of companies of different sectors in the field of transportation and logistics processes. The best practices of ICT application by transportation and logistic companies of St. Petersburg region and in Russia have been analyzed as well.

The information on regional partner companies with regard to ICT use can be found in Section 6 (ICT in the region) of the Regional Logistics and ICT Profile.

The approximate number of ICT provider on St. Petersburg market is shown in table 17.

Table 17 Number of local ICT providers in St. Petersburg

ICT branch	Num	%
Internet: technologies, development	26	2.0%
Information electronic systems	37	2.8%
Computer games	4	0.3%
Computers: hardware	251	19.0%
Computers portable	47	3.6%
Computers: accessories	20	1.5%
Computers: diagnostics, service	156	11.8%
Computers: accessories, peripheral equipment	163	12.3%
Computers: software	301	22.8%
Computers: consumable supplies	22	1.7%
Computers: networks, network products and systems	68	5.1%
Computers: system integration	50	3.8%
Office equipment	46	3.5%
Office equipment: service	132	10.0%
Total:	1,323	

The number of ICT providers amounts to about 1.3 percent of the total number of companies of St. Petersburg.
Table 18 is the list of leading local ICT providers of St. Petersburg.

Table 18 The list of leading ICT companies of St. Petersburg

Company name	Sphere of activity	Turnover, mil EUR	Staff	WEB
Nienschanz	Integration	123	411	www.nnz.ru
BCC	Integration	105	720	www.bcc.ru
RAMEC-BC	Manufacture	86	295	www.ramec.ru
OLLY Grooup	Integration	44	114	www.olly.ru
Bercut	Software	26	360	www.bercut.com
Audit-new technologies	IT - consulting	22	137	www.audit-nt.ru
StarSoft Development Labs	Software	14	550	www.starsoftlabs.ru
Policom Pro	Integration	12	110	www.polikom.ru
Askon	Software	11	443	www.ascon.ru
Reksoft	Software	9	300	www.reksoft.ru

The level of telecommunication environment development is an important condition for the development of IT. The city boasts a well-developed optical fibre cable infrastructure which allows to build networks for distributed information systems and broadband access to Internet.
The major infrastructure component of ICT is communication – one of the leading sectors of St. Petersburg economy which is growing fast at present. The telecommunication market of St. Petersburg occupies the

second place in Russia after Moscow. The city has its own high-technology networks of cellular and digital communications and one of the most developed markets for telecommunications in Russia. The total volume of communication provided by St. Petersburg organizations in 2006 amounts to 2,3 billion Euro.
The key indicators of telecommunication development in St. Petersburg are presented in table 19.

Table 19 Indicators of telecommunication development in St. Petersburg as of 01.01.06

	As of January 1, 2007	In percent as against January 1, 2006
The number of lines, million units	2.1	102.6
Including in-house lines	1.7	102.6
The number of subscribers of cellular mobile communication networks, million units	8.8	119.9

Major organizations providing communication services providers are subsidiary of “Peterburgskaya Telephone Network” and OAO “North-West Telekom”. In 2005 “Peterburgskaya Telephone System” expanded its dial access modem pools network. Thus the total capacity increased by 1560 lines to reach 6180 lines. In December 2005 OAO “North-West Telekom” launched a campaign to win the mass market of broadband ADSL Internet access in St. Petersburg. As a result 50 thousand of ADSL ports were put into operation in St. Petersburg which equals 30 percent of broadband access market in the city. In 2006 the construction of optical fibre communication facilities has finished stretching from St. Petersburg to Primorsk to Vyborg for 240 km. This section is a part of optical fibre infrastructure for establishing integrated interregional multi-service network (IMN) connecting St. Petersburg IMN with IMN in all the North-West regions.
Mobile communication services are provided by cellular operators ”Delta-telekom”, OAO “Megaphon”, GSM and other.
These days St. Petersburg City Administration has bought out a majority interest (55 percent) at one of the key cellular operators ZAO “Metrokom" which controls over 49 percent of St. Petersburg telecommunication market. Other 45 percent of shares was bought by

OAO “Komstar – Unified Telesystems" - the largest Russian investor in telecommunication industry.

ZAO “Metrokom” is focused on providing phone communication, Internet access and data transmission services. Annual operator’s receipts in 2006 amounted 26,6 million Euro, growth as against 2005 totalled 16 percent. Capital investment of the companies in the year 2006 is 2.5 times as much as in the year 2005. Investment allowed to increase bandwidth of the network up to 10 Gb/sec as well as to establish 200 new points of presence including new ones in Kronshtadt and in the vicinity of the Ring Road. In 2006 Metrokom strengthened its positions both with public clients and with corporate ones. Using the facilities of optical fibre network of the company the following systems have been installed: automatic information system to secure sustainable vital activities of the city; optical and fibre system to secure safety of local underground network; broadband Internet access for local educational institutions and health care system; a fragment of telecommunication system at the G8 summit, St. Petersburg and Leningrad Regional GIBDD GUVD departments' network. In 2006 the volume of services provided to corporate clients has significantly increased. The number of corporate clients themselves grew by 22 percent, total number of business centres being serviced by the company increased to 90.

As of the beginning of 2007, the total length of optical and fibre network of ZAO “Metrokom" exceeded 1.5 thousand km. It is laid in the tunnels of St. Petersburg underground system. The company owns over 800 communication centres of various hierarchy which cover almost 2500 square metres of area within the territory of St. Petersburg and Leningrad region. The basic network is constructed with the use of modern means of data transfer of SDH standard (synchronous digital hierarchy). Technological advantages of ZAO Metrokom network are as follows:

- the use of digital data processing and data transfer methods, the use of optical and fibre cables;
- about 90 percent of channels is laid in the facilities of St. Petersburg underground which makes cable breakdowns impossible;
- modern equipment and optical and fibre cable laying techniques provides for high reliability of data transfer systems (faults free seconds make up 99.995 percent, average operational availability rate is at least 0.99997).

The layout of basic network of the first access level is multiring, with major stations of each of the 9 separate rings being situated at the

Network Control Centre. Network Control Centre provides for the opportunity to efficiently redistribute traffic and switch digital ring channels. Network Control Centre enhances network's flexibility and protectability if its capacity is maximised. Additional factor increasing network's reliability is bidirectional data transmission system within each ring with the use of transmitter – receiver modular redundancy. In case of faults in the basic network traffic transfer is provided by standby line without any communication gap and loss of transmitted information. The applied method of linking multiplexers provides not only for cable redundancy, but for separate fibres redundancy, as well as for optical ports' redundancy. The Metrokom communication network provides to corporate and individual clients a wide range of dedicated digital communication channels with various speeds and interfaces, implements international and intercity traffic through channels provided by international and intercity operator, access to information and reference data bases, Internet resources and so on.

Major clients of this company are large corporations, banks, public enterprises and organizations.

Another large telecommunication operator is "PeterStar". PeterStar is a market leader in the North-West region. It focuses on providing telephony services, Internet access and data transmission. The company maintains over 100 thousand telephone lines and controls a large share of business telephony market among alternative communication operators - about 60 percent. To name but a few of PeterStar clients: Central Bank of RF, Sberbank of RF, Vneshtorgbank, Grand Hotel Europa, Radisson SAS Hotel, Pulkovo Airlines. PeterStar has subsidiaries in Moscow, Murmansk, Velikiy Novgorod, Pskov, Kaliningrad, Petrozavodsk and Vyborg where communication services are supplied on the basis of modern digital technologies. Transportation network of PeterStar is one of the largest in the city as to the length of its optical and fibre cables - over 3000 km. The network integrates 10 rings of SDH. ZAO PeterStar provides services of local, long-distance and international telephone communication, all modern digital services of ISDN-, Frame Relay-, ATM-based data transmission. It also leases dedicated channels, Internet access, IP-telephony (VoIP), provides modern services of call processing, system integration and other. Besides providing telephone wire lines, PeterStar offers wireless radio access. Wireless network of PeterStar covers all the territory of St. Petersburg, its suburbs and several cities of the Leningrad Region.

- Total investment in transportation network of PeterStar has amounted to over 145,3 million Euro since 1992. The company offers a comprehensive range of solutions for every business problem. PeterStar is among 30 largest telecommunication companies in Russia as to the quality of services provided. The company is on the list of top 10 Russian Internet providers having been granted the LARGE status by the European organisation RIPE NCC (which is the status of the largest Internet - logger in the territory of Russia). August 01, 2005 Emergent Telecom Ventures S.A. and First National Holding (FNH) finalised agreement to buy out 71 percent of ZAO PeterStar shares from Metromedia International Group, Inc. (MIG). As of now, 29 percent of shares are owned by OAO Telecominvest, 71 percent are distributed between European investment companies First National Holding (FNH) and Emergent Telecom Ventures (ETV). ZAO PeterStar is an owner of 100 percent of shares in telecommunication company Baltic Communications (BCL), of 90 percent of shares in OAO “Pskovskaya City Telephone System", 100 percent of shares of OAO Pskovinterkom, 100 percent of shares in ZAO ASPOL-Diamant-Murmansk, 100 percent of shares of Kaliningrad communication operator ZAO Telekom West Navigation.
- Companies PeterStar and Metrokom as local telecommunication market leaders offer complex technological solutions meeting the demands of both large businesses and individual clients. Their telecommunication capacities have been and are dominant components of local communication operators' infrastructure.

Cellular Market. According to the data of analytical company ACM – Consulting, the number of cellular communication subscribers on the Russian market amounted by 2006 115.76 million people. Land line subscribers in St. Petersburg total 7.17 million people. The leader of the Russian market of cellular communication services is MTS, but in St. Petersburg market the Megaphon Company has a bigger share. On average in Russia, MTS controls 34.9 percent of the market, Beeline – 34.3 percent, Megaphon- 18.6. In St. Petersburg 3 G mobile communication networks are being actively developed providing high-speed Internet access for mobile users. St. Petersburg area has already been covered by access to CDMA2000 (IMT-2000) 1xEV-DO (SkyLink operator) with access speed up to 2.4 Mbps. In 2007 there will be licenses granted to exploit Radio frequencies 1935-1950 MHz, 2010—2015 MHz, 2125—2140 MHz to use in the territory of Russia IMT standard 2000/UMTS with the services launch date being no late than 2 years since the day of the decision to grant a license. Some

mobile communication operators have already developed pilot areas for this type of communication in the territory of St. Petersburg and in 2008-2009 there will be an opportunity to use networks supporting these standards in the territory of the city.

6.3 Global multi-tier complex IT systems

In Russia in particular in St. Petersburg there is a number of information systems introduced which provide for shipping companies to search for cargo transportation orders, while cargo owners can hold auctions for delivery orders or select a suitable carrier. Such systems allow for cargo owners to reduce cargo delivery costs, and for transportation companies - to quickly find customer. The example of such trade area is a solution offered by Peresvet Logistics Company (www.peresvet-logistik.ru). Portal www.perevozki.ru belongs to the same type of information system.

The examples of global multi-tier complex systems are systems used by railway transport and customs authorities.

6.3.1 Railways muli-tier complex IT systems

OAO “Russian Railways” has integrated modern ERP systems (Enterprise Resource Planning), CRM systems (Customer Relationship Management). A special data processing system DISPARK for this industry was developed and introduced. It allows offering on-line solutions for such problems as control over car fleet location at the railroad yards of the Russian Federation, CIS countries and Baltic Sea countries, and optimising cargo flow management. The containerised traffic control system DISKON was also introduced. Implementing a shipment management system has started. The system is based on electronic data interchange with the use of electronic bill of lading ETRAN (developed by IntelLeks Company). Information technologies are already performing business forming functions for railway transportation and contribute a lot to its efficiency. Integration of domestic railway system into the global transportation network produces additional challenges for information technologies development and provides new opportunities as well. The advantages of logistic services based on electronic technologies allow, according to expert estimates, to save up to 20 percent of delivery time, decrease

average paper processing cost by 50 percent, reduce depot stock by 30 percent, cut total transportation and storage expenses by 10 to 15 percent.

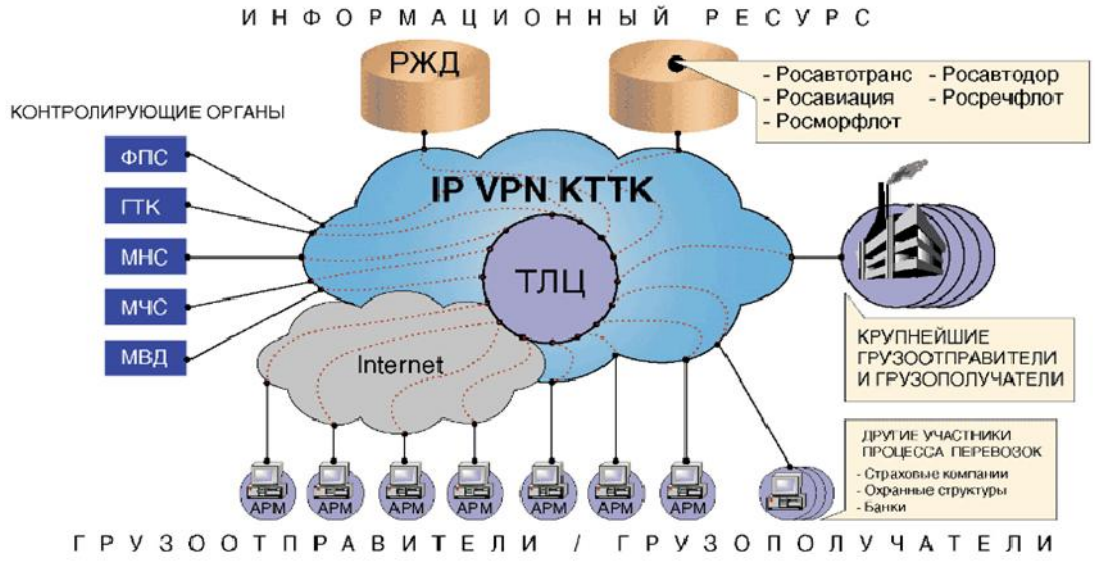
The major telecommunication operator within railroad transportation sector is ZAO "Company TransTeleKom". The Russian railway system has developed a unique fibre and optical Unified trunk digital communication network (UTDCN/EMCSS) over 45 thousand km long. The owner of this network is Russian Railways. The network has 17 regional affiliated companies providing maintenance of network's sections. EMCSS covers virtually all the country. Data transfer rate within the network is 2.5 Gb/sec. It is over 30 thousand of conventional voice channels through a couple of optical fibres simultaneously. There is more to that. The carrying capacity of the network can be increased more than twice, without laying new cables. The network integrates over 900 access nodes including all the major cities where there is railroad communication and many middle-sized and small settlements. It provides real opportunity to integrate different modes of transportation at the information level. The network tackles the challenge of entering global telecommunication network through railroad communication connections of the neighbouring countries to which it is linked at frontier railway crossings. Even these days there is international data transfer to Finland, Latvia, Kazakhstan, China and Mongolia. There is work going on to provide connection with Estonia, Ukraine and Byelorussia. "TransTeleKom" cooperates closely with similar companies providing services to railroad networks of the neighbouring countries – CoreNet (Finland), China RailCom (China), Eurotranstelekom (Ukraine), with communication service departments of Latvian, Lithuanian and Ulan Bator railroad systems and others. Network environment completely corresponds to transport corridors passing through the territory of the Russian Federation along the West-East and North-South directions. Apart from cooperating with OAO "Russian Railways" TransTeleKom provides services to public authorities, such as Ministry on Taxes and Levies, Internal Affairs Ministry, Ministry of Civil Defence and Emergency Response, Central Bank of the Russian Federation and Sberbank of the Russian Federation, The Russian Academy of Sciences, Rosaviakosmos, insurance, power engineering, TV broadcasting companies, telecommunication operators, including the largest cellular company of the Eastern Europe "Mobile TeleSystems", "Vympelkom", major fixed line telephony operators "Golden Telekom", "Ekvant" and many others. Information and telecommunication architecture implemented within

railroad sector, meets the requirements of the whole transport system including providing through transportation along international transport corridors. There is an easy transition to the second stage of installing information and telecommunication environment in the whole transportation sector of Russia. All the necessary information resources of transportation sectors are being connected to a global telecommunication environment. The interactive systems joining ports and near-port stations are being actively developed. Transportation market participants using the information system of OAO "Russian Railways" (Fig. 18) are as follows:

Public organization: Rosmorflot (the Russian Sea Navy), Rosrechflot (the Russian Inland Water Transport), Civil Aviation, Transport Inspection, Rosavtodor (Russian Motor Highways), Rosmorport (the Russian Sea Port Agency).

Public Supervising Authorities: Federal Customs Agency, Federal Frontier Agency, Internal Affairs Ministry, Federal Security Service and others.

Business companies: forwarders, logistic companies, cargo carriers, agents, cargo owners.



FPS (Federal Frontier Agency)
GTK (State Customs Committee)
MNS (Ministry of Taxes and Duties)
MChS (Ministry of Civil Defense and Emergency Response)
MVD (Ministry of Internal Affairs)

Figure 18 Transportation market participants connected to information system of OAO "Russian Railways"

Local departments of railway system actively integrate information technologies in their operations both within the frameworks of federal programmes and on their own initiatives. Oktyabrskaya Railway (OZD) has the largest number of international frontier railroad junctions and stations cooperating with the ports of the North West District of Russia. Major freight flows from Siberia and Ural pass through Oktyabrskaya Railroad as well. Within OZD network there are several transfer frontier stations. This defines existing information traffic volume. It is not by chance that OZD was the first road to develop information and logistic systems of contractor interaction. For instance, information support technology of international railway transportation between departments of Oktyabrskaya Railway(an affiliated branch of OAO Russian Railways) and North-West Customs departments at railway border checkpoints with the Baltic Sea countries has been developed. It promotes automatic transfer of electronic documents before train arrival to checkpoints and provides for control and efficient paperwork during customs clearance of goods and vehicles. It increases efficiency of railway checkpoints, saves time during cargo and train handling especially of trains arriving from the neighbouring states to border checkpoints of the Russian Federation.

The regional customs subnet intends to launch information exchange between North West Customs, local customs departments, customs posts located in the territory of St. Petersburg to access through North West Customs the higher hierarchy level of the Federal Customs Agency. Customs declaration will be organised at the local level (at customs posts). Information exchange is implemented through the use of private communication and data transfer network. In St. Petersburg there was organised a transportation and logistic railway centre. Major efforts to develop an electronic data interchange system of cargo traffic management are being realised within the framework of the international project TEB1M. The objective of TEB1M is to develop more flexible solutions for international trade and logistics and to supervise these activities. The development of this international programme was initiated five years ago by Finland with the active input of Germany and Russia. TEB1M projects promote efficiency, reliability and safety of goods transportation between European Union and the Russian Federation. TEB1M was approved as one of the strategic projects to develop global logistics and transportation network in the Baltic Sea region.

The programme was incepted to address the issues of improving and developing communication and global logistics in the region close the Baltic Sea, to form and exploit international transport corridors No. 1, 2 and 9. Taking into account the size of the territory, one should not underestimate the importance of railway system for through transportation along the direction Europe-Asia or with the CIS and Baltic countries. There are three lines of cooperation promoted by TEB1M: Telematics, foreign trade transportation logistics and interaction of information system. Integration and decision optimization in the field of processing of carriage and other technological and financial documents during transport operations implies active application of electronic document management systems. UN/EDIFACT ("Electronic Data Interchange for Administration, Commerce and Transport") can serve as an example of electronic document management system according to railway experts. These days there is awareness that modern information and telecommunication technologies should be implemented. However their practical application lags far behind.

A number of multifunctional information technologies standards have been developed for railroad systems of the country. They provide for performing commercial and handling operations in the field of cargo shipping on the basis of electronic data exchange. It is based on the developed information and telecommunication infrastructure within the industry.

6.3.1.1 Key functions of information system of OAO Russian Railways

- Control over moving vehicles and containers - DISPARK, DISKON.
- Ticket selling – EXPRESS-3
- Coordinating railroad and seaports Automatic Control Systems – "Cargo Express"
- ETRAN – electronic document management of shipment reports.
- Electronic commercial site and other.

The focus on the centralising leads to creation of unified information systems for certain lines of activities of railroad network. There are over 30 operational subsystems.

Since the major part of railroads revenues is accounted for by cargo shipping, it is a priority task to make these operations automatic. Cargo

shipment order placement and execution is implemented by all-Russian network incorporating Centres of Premium Transport Service (CPTS/CFTO). To solve the task of centralised control of freight traffic market the ETRAN (Electronic Transport Bill of Lading) system was developed and introduced. The main calculating system kernel is on the central server in Moscow. Local users send inquiry along internal corporate communication channel to the central server, the system processes the inquiry and provides feedback. It makes easy the process of providing normative and reference data to the personnel since amendments to the existing documents are done at the single server. Besides, there is an opportunity to provide information about the location of freight train and estimate the expected time of arrival.

For train traffic management the basic information system is the automatic system of operational shipment control (ASOUP). This system provides on-line planning and controlling of making up of trains and railway traffic, train and engine crew performance, cargo operations and car fleet management. ASOUP provides collecting and transferring data from information offices at the horizontal units (coach yards, motive-power depots, maintenance and service parks) to create computer model of service position to railroad data processing centres). ASOUP provides traffic superintendents with information on arrival and make up of the trains, on keeping with the train making up plan, on train tonnage and length standards. These data in the form of format messages is forwarded from linear units into regional railroad departments, and is processed. The results are then presented to users (automatically in the form of restricted messages or at format request). Since 2001 a new system ASOUP-2 has been developed and introduced by stages. When elaborating this new system, the developers focused on host centric calculations, on the use of SUDB DB2 UDB by IBM, Web-technologies support and local thin clients. To facilitate information output demand assignments and construction of generic reports two more systems were developed and implemented based on DB ASOUP. They are used for transportation control operations.

Extended use of these systems at working places of management of the local railroad departments and traffic superintendents contributed to facilitate and speed up decision making processes on train running control.

One of the most challenging dimensions in the field of automatic performance of basic data collection on state-of-the-art of the traffic is development of technical means for automatic registering of passing of

trains, locomotives and cars. In RZD Company an Automatic Rolling Equipment Identification system has been developed.

6.3.2 Customs multi-tier complex IT systems

The high level requirements of efficient traffic management create the need to high level of informational support. Information technologies are an important transport infrastructure element. They are no longer additional means, becoming dominant technologies and an essential condition to improve traffic management. In public sector over the last decade the most dynamic development of informational technologies was in the sector of federal customs. To further integrate the Russian economy into global one, reforming of the national legislature has been revitalised. The main objective is to draw it nearer to common international trade legal frameworks.

In particular the Customs Code, which outlines the work of customs service in Russia has experienced considerable amendments. The new version was adopted in 2003 and will be valid as of 01.01.04.

Amendments were done in line with the approved by WTO Kyoto Convention on Simplifying and Harmonising Customs Procedures in the version adopted in Brussels in 1999 and take into account instruments of many foreign countries and international organizations. One of the tasks outlined by the new version of the Customs Code is addressing issues connecting with promoting of international goods exchange. The new version includes articles dealing with informational customs technologies development. The provisions of these articles are based on the extended hands-on experience of implementing information systems in customs authorities of the Russian Federation.

Automatic technologies implementation in customs authorities of Russia has been going on for 15 years. Over the years, an efficient, nationwide extended corporate data exchange network has been developed. It is organised on a star basis and promotes interaction of all customs divisions in the territory of the Russian Federation from customs point to customs, then to regional department, and then to federal customs service (Fig. 19).

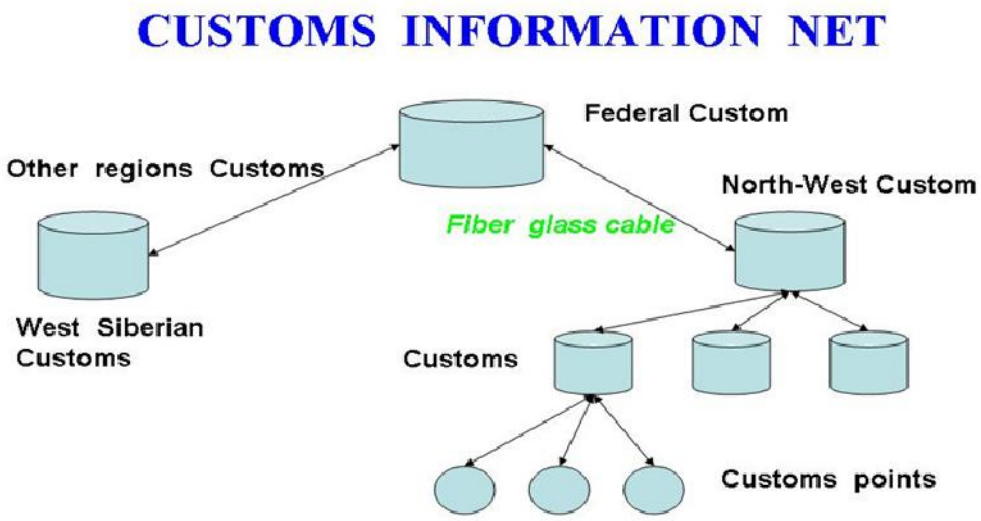


Figure 19 Customs information system architecture in Russia

The Customs Code outlines a possibility of drawing a preliminary customs declaration and of using electronic declaration and electronic signature. Nowadays within 15 days of arriving of goods at the customs territory of Russia, one can submit customs declaration and pay customs duties. Experiments have demonstrated that such a procedure reduces time of goods handling at the customs up to hours and minutes. A number of simplified procedures of customs clearance have been stipulated.

- declaring goods beforehand;
-incomplete customs declaration;
-terminal customs declaration;
-terminal temporary declaring;
- release of goods before drawing up a customs declaration;

The use of simplified procedures and electronic declarations must enhance customs control and customs clearance thus making a positive effect upon cargo flow rate. The use of the above mentioned techniques will provide for preparing and submitting all the necessary documents to public control bodies beforehand, before arrival of goods at the checkpoints and drawing up electronic and paper documents if required. One positive factor is that informational systems of customs authorities are based on the international standards of data exchange in XML format. It is in this format that the templates of customs

documents and accompanying notes submitted to a customs body with electronic signature have been prepared. The rules of filling in such documents have been also outlined. It is worth noting that informational system of customs authorities of Russia is a complex, multilevel and multitasking system, based on advanced global technologies in the field of electronic documents circulation. There are no similar systems in Russia.

Major part of customs documents management is being done with the use of computer based technologies. Until recently electronic data processing was supported by submitting paper documents. Electronic declaring procedure with the use of electronic signature signals a new step in automation, which requires restructuring of not only informational technologies, but also of customs operations and of the work of foreign trade market participants.

Addressing the issue of implementing new technologies one cannot neglect the fact that the velocity of customs clearing must not affect customs control quality. Foreign practice of implementing similar systems supports this thesis. In the first place they are implemented with regard to the most respectable foreign trade market players whose work is transparent and who provide customs authorities with an access to their internal corporate informational resources.

Customs authorities work in close cooperation with other control and public bodies. This contains the above mentioned process. These bodies are, above all, the quarantine inspection, chambers of commerce and industry. These bodies grant various licenses and certificates which are being checked during customs control and customs clearance. The level of automation of other control bodies in Russia is lower than the level of information system of customs authorities. As a result it is necessary to request electronic documents from foreign trade market participant. Although it is possible to establish information exchange with another department directly.

One more factor is the fact that foreign trade market participants are not ready to implement such technologies. They are not skilled at using international standards of electronic data exchange. There are no corporate complex systems of cargo registration.

Not only carriers alone contribute to goods transportation. Transportation network includes other infrastructure elements. First of all, these are terminal and warehouses facilities. The process of tracking of freight flow, by control bodies as well, suggests informational exchange between all the participants of goods traffic

joined in a logistic supply chain. Nowadays their interbranch horizontal information networking is not well developed.
WTO accession of Russia requires a new level of IT in customs operations. It is the most important provision of simplifying and speeding up of customs procedures. As it follows from the world experience, for large-sized countries with highly developed types of transport flows administrative measures alone are not efficient. Informational technologies development of customs clearance procedure is essential. The key aspect is drawing up of electronic declarations.
The Federal Law as 10.01.2003 No 1-FZ “On Electronic Digital Signature” taking effect on 23 January, 2003. provided legal frameworks of digital declaring. Customs declaration submitted in a digital form is an electronic document comprising a body of data to be recorded in writing in a customs declaration form TD1 (TD2) and to be submitted in a customs authorities in the formats specified by the Federal Customs Service of Russia and signed by electronic digital signature (further referred to as - electronic declaration).

Thus, in the territory of St. Petersburg apart from
telecommunication services provided by companies (see Section
6.1) there are fragments of corporate telecommunication networks described in Section 6.3 which support implementation of information technologies within the region. On the basis of these fragments within the region there are information technologies of data interchange and processing, regional and local data base control systems are supported.
Russian developers of Electronic Data Interchange systems try to follow UN/EDIFACT standard which is set by ISO 9735 EDIFACT.
Many developers of information systems base their products on EANCOM standards, which was developed on UN/EDIFACT ground and used by more than 70000 companies worldwide.
These days international basic standards in this field are being developed by a joint technical committee ISO/IEC JTC1 "Informational Technologies”, in subcommittee SC 31 “Automatic identification and data capture techniques"). In line with these standards, GOST. R. standards will be accordingly developed.
These activities are being implemented by 4 working groups:
WG 1 – Data Carriers
WG 2 – Data Structure

WG 3 – Compatibility
WG 4 - Radio-frequency identification for goods management
The issues are addressed by the following subcommittees:
PK1 – General method
PK 2 – Bar - code (according to types of goods)
PK 3 – Electronic Data Interchange EANCOM
PK 4 – Radio-frequency identification
PK 5 – Measurement assurance in the field of technologies
PK 6 – Automatic identification in integrated logistics
PK 7 – Biometric identification
Within the framework of these activities there will be following standards developed providing comprehensive international data compatibility for automatic identification of transported freight and for warehouse logistics.
Customs bodies are using XML standard for data interchange with exterior users. These days on the basis of this standard information interchange within the Green Corridor project realised in cooperation with customs authorities of Finland was established.

6.4 Regional ICT cluster.

6.4.1 Business informational systems and of software

Business activities of many companies in St. Petersburg are connected with ICT development. Among them – developers of informational systems and of software, telecommunication companies, providers of hardware and telecommunication equipment.
Out of total number of companies registered in the territory of St. Petersburg (over 100 thousand), about 5 thousand companies position their activities in the field of ICT. At the same time there are many companies which develop ICT within the frameworks of industry development programmes, they are not ICT companies proper, but have advanced IT development in their structure.
Categories of ICT companies according to data base of Yellow Pages (www.allinform.ru) are shown in tables 20 and 21.

Table 20 Telecommunication companies of St. Petersburg

Category	Num
Internet: access services.	95
Cellular communication: the equipment	21
Cellular communication	603
Mobile phones, accessories	616
Mobile phones: service	49
Paging communication	5
Post services	960
Radio communication: the equipment	69
Radio stations	48
Broadcasting city network	14
Communication: optical fibre	18
Corporate communication: designing, installation	33
Satellite communication: services	3
TV companies	134
Television cable systems: equipment	11
Satellite television systems: equipment	2
Television centres: equipment	14
Telecommunications: equipment	145
Telecommunications: services	179
Telecommunication equipment: service	27
Phone: public: telephone points	4
Telephone equipment	14
Telephone equipment: service	22
Telecommunications: long-distance and international communication	46
Telephone system: communication centres	11
TOTAL:	3143

Table 21 IT companies of St. Petersburg

Category	Num
Internet: design, development of WEB-sites	157
Internet: shops	76
Internet: technologies, development	26
Information electronic systems	37
Computer games	4
Computers	252
Computers portable	47
Computers: accessories	20
Computers: diagnostics, service	156
Computers: accessories, peripheral techniques equipment	164
Computers: software	301
Computers: consumption materials	22
Computers: networks, network products and systems	69
Computers: system integration	50
Office equipment	46
Office equipment: service	132
TOTAL:	1559

At present practically all the existing companies use ICT in their activities. First of all it is due to complicated taxation system in Russia. It is impossible to prepare reports for taxation authorities without special information system that incorporates financial accounting methods applicable for all enterprises. Sometimes companies use services of other companies that record their financial activities and prepare reports for taxation authorities. Often it is a cheaper solution for small size companies.

This complicated reporting performs positive role. It compels companies to purchase respective information system and have personnel that can use it.

Generally in the class of information systems people use "1C" system developed by a Russian company. Over 700 thousand companies in Russia use the above mentioned information system (http://www.1c.ru/eng/).

It is characteristic only for big and middle size companies to use special-purpose information system to support their internal activities (ERP - Enterprise Resource Planning), as well as for customer relationship management (CRM - Customer Relationship Management). Some small sized companies implement elementary functions of CRM system on their web-sites.

At present large size retail trading Cash & Carry networks actively expand in St. Petersburg:

“Metro” - www.metro-cc.ru

“Lenta” - www.lenta.com

“O’K” - www.okmarket.ru

“Auchan” - www.auchan.ru

“Perekrestok” - www.perekrestok.ru

“Piaterochka” - www.e5.ru

“Eldorado” - www.eldoradoshop.ru

There are other companies. These trading networks have highly developed logistic infrastructure and use foreign ERP systems as an information system.

As usual the middle-sized companies use information systems developed specially for their business processes by independent application developers.

The most advanced information systems in St. Petersburg are presented at annual exhibitions organised by "RESTEC" exhibition union in spring (www.restec.ru).

Usually they exhibit following information systems:

- Business management, ERP-systems

- Production management technologies
- Industrial solutions for enterprises
- Financial management, accounting
- Management of document circulation
- Databases, CRM-solutions
- Logistics systems at enterprise
- Web-content management systems
- Personnel management technologies
- IT-consulting
- Audit of information systems

The legal information systems are extensively used at enterprises of St. Petersburg as well as all over Russia. The legal information systems provide information concerning current legislation in Russia. The most advanced and popular systems of this type are the following: "Consultant-Plus" – over 200 thousand users all over Russia (www.consultant.ru), "Garant" – about 100 thousand users (www.garant.ru) and "Kodeks" – over 30 thousand users (www.kodeks.ru).

There is a variety of companies that prepare special analytical reviews of information system market. These reviews contain hundreds of pages and it is possible to purchase them. One of the effective resources that accumulate reviews of the kind is www.marketing.rbc.ru. As an example you may find there the following reviews that can be useful for ICT survey users:

Analytical report of Warehouse Management Systems (WMS) used in Russia

Analytical report of corporate information systems used in construction industry of Russia

Analytical report of EDI systems of Russia market

Analytical report of budgeting information systems of Russia

Analytical report of ERP systems of Russia food industry

Analytical report of personal resource management systems in Russia

and others.

Key clients for developing of information systems are public authorities. All the orders of St. Petersburg public authorities for open tenders are published at web-site www.gz-spb.ru. Foreign companies may take part in many of them.

The list of information systems that are commonly used by companies is given below.

CoreIMS	http://www.coreims.com
FOLIO Logistics-Warehouse	http://folio.ru
1C Logistics, Warehouse management	http://v8.1c.ru/solutions/1c-logistica.htm
	http://www.axelot.ru/prod/
	http://www.o-fin.ru/index.php?id=306
	http://www.o-fin.ru/index.php?id=280
	http://www.nova-it.ru/index.php?Content%20=42&Data%20=010111
1? - ASTOR: WMS	http://www.1c-astor.ru/ru/cat_prod/WMS/
1?:Aspect 7.7	http://www.1c.ru/rus/products/1c/aspect/aspect.htm
Manhattan WMS	http://www.korusconsulting.ru/services/wms/
System# 1 WMS	http://www.adalius.ru/
Solvo WMS	http://www.solvo.ru
Radio Beacon WMS Logistics Vision Suite	http://www.ant-tech.ru
Navison	http://www.elforsoft.ru/it-systems/navision/wms
	http://www.impactsoft.ru/
BUHTA: Warehouse	http://www.buhta.ru
Avarda	http://www.ansoft.ru
EXceed™ WMS	http://www.exceed-wms.ru/ru/
COS.WMS ????	http://www.cos.ru/
AZ.WMS R-suite.wms, M-suite.wms	http://softwms.ru
AWACS WMS	http://www.avalonvision.ru
WarehouseExpert	http://www.servplus.ru/storeauto/
SV:Warehause	http://www.bc-group.ru/soft/software/svstorage.shtml
Advantics.WM	http://www.impactsoft.ru
LEAD WMS 3PL	http://logistix.msk.ru
PROXIMA-WAREHOUSE	http://www.itscan.ru/proxima.htm
R-Keeper StoreHouse	http://www.pilot.ru
SEVKO (1C)	http://www.sevco.ru/logistika.asp

Virtually all the companies of the region use Internet in their activities. First of all they use e-mail services as well as web-sites surfing while searching for required information and placing information about their products and services. The more extensive penetration of broadband Internet increases the level of information resources usage by different companies.

At the same time the Internet usage activity differs greatly. The considerable part of companies, particularly small-sized and retail trading companies do not have corporate e-mail. If e-mail is required they use private e-mail boxes of their personnel. Other companies have own IT departments. As an example, work group of Project have analyzed the availability of e-mail addresses and web-sites of 5 thousand companies representing different fields of industry and business in St. Petersburg for 2006 year. The company was choosed for research according their main area of work, time their work on the market (more then 2 year) and if there are many people attend site that company (more then 100 time). The results of the analysis are given below in the table 22.

Table 22 The availability of company e-mail addresses

#	Sector	Total Co.	e-mail	WEB shown	WEB is acts	e-mail %	WEB %
1	Motor industry						
	Centres of service	480	77	38	28	16.0%	5.8%
	Truck selling	66	38	25	21	57.6%	31.8%
2	Retail trade						
	Food stores	436	1	1	1	0.2%	0.2%
	Retail food stores	2041	3	1	1	0.1%	0.0%
3	Wholesale - butchers'	176	59	19	19	33.5%	10.8%
4	Construction						
	Construction of buildings	368	122	46	37	33.2%	10.1%
	Construction of cottages	169	87	53	47	51.5%	27.8%
5	Tourism and recreation activity						
	Tourism and travel abroad	395	244	135	114	61.8%	28.9%
6	Transport companies						
	Motor carriers	618	305	88	69	49.4%	11.2%
	Railroad transportation of cargo	170	83	31	25	48.8%	14.7%
	Air transportation of cargo	60	43	13	13	71.7%	21.7%
	Sea cargo shipping	149	86	33	31	57.7%	20.8%
		5128	1148	483	406	22.4%	7.9%

The table confirms the statement that the use of Internet differs with the companies working in different industries.

As it follows from modern marketing studies, each company should have its own web-site on the Internet. As indicated in the table it is evident that the level of Internet use by business companies is low.

The reasons of low Internet use by companies are various. First of all it is caused by market conditions, low competition level. And also it depends on general standards of business that in their turn are determined by the level of competition. There are no technical problems in telecommunications and Internet access in St. Petersburg region. The level of telecommunication expansion is adequate for successful presence of all the city companies on the Internet.

6.4.2 Electronic commerce

Electronic commerce is widely represented on the market of St. Petersburg. The considerable part of employees of the city has deposit cards that afford payments via Internet. However the procedure of goods ordering and payment via Internet is not so popular. Mainly people of young generation use it.

It is more popular to use electronic catalogues and order goods with home delivery. In this case the payment is done after the delivery of the goods by a courier.

The complex taxation system of accounting does not allow using corporate credit cards to settle payments with suppliers.

At the same time there are special bank cards for companies that work with customs. It substantially speeds up the procedures of customs payments.

An important part of electronic commerce is payment instruments. The main payment systems that are used in Russia are:

- Bank credit cards VISA and MASTERCARD
- Electronic money system WebMoney (www.webmoney.ru)
- Electronic money system Yandex Money (www.money.yandex.ru)
- Payments from mobile phone accounts
- Cashless payments from bank accounts
- Prepaid cards
- Payments via automatic cash receiving machines

It should be noted that over the last years the networks of automatic terminals of cash receiving were actively developing. They allow for an individual person to easily replenish personal accounts at different companies that render various services like Internet, mobile phones, satellite television and many others.

Individuals can increase their personal bank accounts, including those for which banking cards were emitted. It makes account increasing operations easier because one does not have to go to bank and it promotes wider use of credit cards, including credit cards use in e-commerce.

By the beginning of 2007 about 3000 cash receiving machines or ATMs have been installed in St. Petersburg. The automatic cash receiving machines network is expanding. The majority of automatic payment machines are working through more powerful processing centres which are described below.

The important component of e-commerce systems developed by various IT companies is the possibility to work through processing centres, which process payments via credit cards and other instruments. In Russia there are several large processing centres providing such services. They are as follows:

- “CYBERPLAT” system (www.cyberplat.ru). It is one of the most developed electronic payment systems in Russia. Over the year 2006 the company’s turnover with regards to electronic payments processing amounted to 2.2 billion Euro. The system incorporates 49.3 thousand of payment processing terminals (via Internet and through other electronic terminals). Average system capacity totals 75-100 transactions a second. Maximal output reaches 400 transactions a second.
- “OSMP” system (www.osmp.ru) provides servicing of prepaid cards and other instruments. Incorporates about 48 thousand

terminals, 30 thousand of them being self-service terminals. Average capacity – 170 transactions a second.

- WebMoney system (www.webmoney.ru)
- “e-port” system (www.e-port.ru)
- ELECSNET system (www.elecsnet.ru)
- ASSIST system (www.assist.ru)

These systems provide for Internet stores, service ordering systems developers to connect their own WEB-systems and terminals to provide servicing of credit card owners, prepaid cards and other payment instruments.

Turnover structure of the major five electronic payment systems of Russia (Fig. 20)

Figure 20 Turnover structure of the major five electronic payment systems of Russia, %%.

On the whole in St. Petersburg implementation of information systems in business processes of the companies is rather dynamic. A multitude of information systems is being developed by Russian companies. There are localised versions of most popular foreign information ERP and CRM systems. They enter the market through dealers.

Thus St. Petersburg is a region with a highly developed telecommunication infrastructure capable of providing for the needs of every company located it its territory.

The majority of companies use Internet for their activities.

Alongside with ICT development friendly environment, the usage of high tech information systems is low. Information systems for accounting departments which are used by virtually all the companies are an exception.

Many companies do not give much importance to marketing of their goods and services through the Internet. Less than 30 percent of

companies have WEB-sites, although in some industries this figure is larger.

Taking into account low costs of WEB sites support and communication services, the reason of such under-use of WEB marketing can be found in the commodity and services market state. First of all in high demand for some types of goods and as a consequence no motivation of companies to launch marketing campaigns. Despite continual development of commodity and service markets and increasing competition, the latter has not yet reached the point at which Internet advertisement becomes an important marketing channel for local companies. It is quite likely that this process will be accelerated after WTO accession in 2008 and liberalization of international trade and intensified competition.

Major companies widely use information systems for enterprise resource planning (ERP). In most cases these are foreign informational systems, adapted and tuned by local dealers to meet the requirements of local customers.

Middle-sized companies as a rule use more cheap solutions, developed by Russian IT companies. Box systems are less popular than individual products focused to meet specific requirements of particular companies. It allows for flexible approach to particular needs of user.

Small companies as a rule do not use information systems to support their business activities. In most cases they use only accounting support systems which provide reporting to tax authorities.

Some companies, both large-, middle- and small-sized ones, widely use WEB – solutions for their interactions with customers. In simple cases these are WEB-catalogues with order placement services, in more advanced companies – full fledged CRM systems.

The majority of St. Petersburg companies, including those which do not have their corporate information systems, widely use Internet resources to support their activities. For example to search for best solutions with regard to freight supply. However the number of information resources offering full fledged WEB – service is quite limited.

It is worth noting that in Russia there are several full-blown portals which provide for cargo owners placing information on necessary shipments and for cargo forwarders–demonstrating their opportunities. Some of these systems provide auctions for shipment tenders which noticeably decreases cargo transportation costs. Unfortunately these systems do not support foreign languages interfaces.

6.5 Prospects of ICT sector development

As a result, we can state that the level of information system use and formalising proxying on the Internet (WEB-sites) by the city companies does not meet up-to-date requirements. Only a third of these companies pays proper attention to this. Among transportation companies only 30 percent supports corporate Web sites. Only 22 percent of motor transportation companies have proxiship in the WEB.

With a number of favourable conditions (low telecommunication services cost and availability of these resources) these figures can be explained by low competition in many local industries. Commodity and service markets are dynamic with demand for commodity and services being very high and many companies do not have to launch even comparatively low cost advertising campaign for cost efficient work. Internet resources use leaders on the market are tourist companies, because favourable conditions have been provided for them.

Informational resources are being created by local public and control authorities, financial companies, trade companies, as well as federal public bodies located in the territory of the city. Property ownership of information resources belong to organizations, companies or departments which developed informational resources. Informational resources of the federal local authorities are developed on the basis of corporate regulations and standards. However local electronic communication developments are rather unbalanced. The development of unified software, data interchange formats and so on is not horizontally centralised. At the same time, the development of ICT in the long run will be a powerful driving force for transport market development.

Nowadays the implementation of ICT systems in a number of public and business companies is insufficient, including:

- Insufficient data interchange between transport market participants.
- Absence of remote access to necessary information, non-transparency of the transportation process.
- Reluctance of many market participants to exchange information because of the fear to loose their competitive edges.
- Ambiguity of shipment information status as a predetermined cost commodity and the right of exploitation.

Consequently efficiency of transportation is deteriorating both for cargo carriers and cargo owners, competitiveness is going down.

One of the perspectives is further introduction of ICT solutions onto the market which will promote competition. The companies' activities will be enhances by WTO accession and abrupt increase of market competition. The successful transport network development in the short run depends on state of the art in the field of IT. IT development in its turn will depend on the level of IT development in network forming transport companies and agencies.

In St. Petersburg and in Russia there are a lot of companies ready to execute orders for information system development. Moreover in St. Petersburg and in Russia a number of new science and technology parks are to be constructed with a focus on software development. Due to this fact future customers have good opportunities to choose ICT developer with suitable price and experience.

7 HUMAN KNOWLEDGE BASE

7.1 Professions and their qualifications

The market of logistic services is being gradually created in Russia which creates demand for logisticians. Comparative analysis of demand and supply on the labour market demonstrates that until recently the number of vacancies was twice that of job applicants. That is, there is demand surplus. There are both objective and subjective causes which are extensive logistics development, promotion of logistic techniques, positive examples of competitors. For over 10 years there is demand for logisticians. Demand for experts in the field of shipping and storing is stable and tends to increase. When one mentions the type of jobs in demand, the most urgent is the need for multifunctional logisticians. In many companies a logistic manager has a wide range of tasks: he is responsible for warehouse maintenance, customs clearance procedures, delivery issues. Industrial production logisticians who are familiar with industrial processes are also in demand.

Most popular logistic vacancies as of now are the following :

- purchase specialist/expert;
- logistic director (positions of such type are on the top of the company hierarchy; their job responsibilities embrace all supply chain and include planning, strategy and budget development);
- start up positions (with shortest experience in the field of logistics).

Basic requirements to logisticians by recruiters and human resources managers are as follows: higher technical/logistic/economic education; profound knowledge of English; extensive software knowledge (MS Office, 1C, Sun, SAP R/3); higher education is required in all cases.

Basic skills and qualifications which are expected from job applicants by employers are following:

1. Development of strategy and logistic plans;
2. Evaluation of logistic operations efficiency;
3. Introducing and developing of logistic solutions
4. Management of goods flows, purchases, production and stock;
5. Distribution;
6. Informational technologies

7.2 Education and training

Logistic development in Russia is very dynamic. New industrial and trade companies are starting up, they incorporate in their management structure logistic divisions (management, departments, offices). The market of domestic logistic operators (SPL-providers) is being shaped. Scope of application of modern logistic systems and technologies is being expanded. At a background of this positive dynamics there is an evident lack of qualified logisticians. Specialised educational institutions for logisticians are but a few. The national educational standard for major -62200 “Logistics” was approved by Resolution of the Ministry of Education of the Russian Federation as of 25.04.2000 No. 1213.

Among graduate schools training specialist in the field of logistics there are five Moscow institutions (State University of the Graduate School of Economics, State University of Management, Plekhanov Russian Economics Academy, Bauman Moscow state technical university Mendeleev Russian University of Chemistry and Technology, two St. Petersburg institutions (St. Petersburg State University of Economics and Finance, St. Petersburg State University of Engineering and Economics, and Rostov State University of Economics.

Since 2006 several technical schools of St. Petersburg were accredited to confer such degrees: University of Communications, Admiral Makarov Marine Academy, Polytechnical University, University of Waterway Communications.

Many companies have their own corporate training on the seminars or short term training programmes. These programmes are targeted at experienced trainees and are focused on practice. The number of training courses is low, the system of study placement (both in Russia and abroad) that could extend hands-on experience of transportation and logistic specialists is not developed. Many workers engaged in transportation and logistic networks have additional training and are granted diplomas on additional higher education in the field of management, marketing and logistics at various programmes and at schools, established at the afore mentioned higher education institutions and at Civil Aviation Academy. Additional professional training in the field of logistics is provided in St. Petersburg - in the North-West Department of International Logistics Centre.

However the demand for qualified experts in the field of logistics, technologies and automation of freight handling operations, transportation and storing exceed the supply. Such positions are

opened at organizations working in the field of logistic design, supply chain design, automatic and mechanical handling and storage complexes development and freight terminals design. There is a lack of educational institutions for secondary technical and economic training of logistic networks and operation specialists (technicians, bachelors) and qualified workers: automatic loader operators, piler crane operators, operators of pipeline systems, automatic transfer machines, packers as well as workers for technical maintenance of these machinery and equipment. A number of higher education institutions train more particular experts. In St. Petersburg these are eight higher education institutions, ten secondary and primary vocational schools in the field of transportation and five specialised courses. Table 23 shows major education institutions of different levels which train specialists in the field of transportation and logistics.

Table 23 The List of Educational Institutions Training Specialists for Transport and Logistics Sectors in St. Petersburg.

Higher Educational Institutions	
St. Petersburg University of Economics and Finance	St. Petersburg State Academy of Engineering and Economics
State International Academy named after S.O.Makarov (Institute of Management and Economics under the Academy)	St. Petersburg Institute of External Economic Relations, Economics and Law
Saint-Petersburg State University of Railway Transportation (Communications)	St. Petersburg State Marine Technical University
Saint-Petersburg State University for Waterways communications	Automobile and Road Institute of St. Petersburg
Academy of Civil Aviation (Saint-Petersburg)	Saint-Petersburg Institute of Economics and management of Transportation Systems
	State Academy of Customs
Colleges and vocational schools	Technical schools
Automobile and mechanical vocational school No. 77	St. Petersburg Technical Schools of Railway Transportation
Car service, vocational school No. 110	Advanced Training Centre of St. Petersburg University for Waterways Communications
St. Petersburg College of Advanced Technologies for Marine Recruiters under the auspices of St. Petersburg State University for Waterways Communications	Advanced Training Department of St. Petersburg State University of Railway Communications
Marine College	Courses, training centres
Marine Technical College	1. International banking institute
Vocational School of Railway Transportation	2. Customs Broker License Training courses, St. Petersburg branch of State Academy of Customs
Marine Vocational School No. 26	3. MARSTAR, Marine educational and training centre
BASIS, Institute of Technical Training, Logistics, 1C, Trade and Warehousing	4. North-West Department of International logistics centre
	5. Educational and Production Centre No. 3, St. Petersburg Department of Oktyabrskaya Railway, OAO "RZD" branch

Presently the system of vocational training in transport and logistics sectors does not meet the demands of today. It is basically targeted at rendering services in particular industries of transport sector, notwithstanding that it is decision making techniques in logistics, together with logistics in warehousing, which have become urgent issues. Presently there is not any system of elementary and secondary vocational training for terminal and store workers. In the past years no special training was required to perform these jobs and a worker was regarded to be capable of getting practical skills at his workplace.

However, recent trends in supply chain and equipment costs management make high demand for professional skills of store workers, and these demands do not allow performing professional development at the labourer's workplace.

Regarding the plans of St. Petersburg companies to develop about 123,000 hectares of terminal capacities and 250,000 sq.m of new, class A warehouse complex, demand in personnel in logistics and transport sectors of St Petersburg will amount to 1,850 people (in transport) and 2,900 people (in logistics) according to the reports of recruiting companies. Only a complex system of vocational education will allow training this number of middle and low managers by the year of 2008.

Complex solutions finding makes demand for profound knowledge and skilled specialists capable of realising the system of supply chain management. Regarding these demands the Gosstandart in speciality “Logistics” envisages training specialities: in the following fields:

- Supply chain organisation and development
- Supply chain planning in companies of different economy sectors
- Supply chain resources optimization
- Supply chain management in procurement, manufacturing and distribution
- Interfunctional and interorganisational logistics coordination
- Key supply chain business processes management: orders, procurement, transportation, warehousing, cargo handling, packaging and servicing
- Information support of supply chain management
- Supply chain managing: consulting and auditing services
- Global supply chain establishment and international logistics
- Macro supply chains development and management

Another activity with respect to training skilled logisticians is certification of specialists. In November 2001 the General Assembly of European Logistics Association adopted a decision to establish the National Certification Committee for Logistics (NCCL/НСКЛ) under the auspices of Moscow School of Economics of Lomonosov MSU as a branch of European Certification committee (ECBL). The committee performs skills testing of candidates (managers involved in different sectors of logistics) in conformity with European Certificate system at testing levels:
Junior level - EJ Log, Senior level - ES Log and Master level - EM Log

NCCL includes 4 regional branches:
North-West (St. Petersburg);
Siberian (Irkutsk)
Volga region (Nizhniy Novgorod)
Southern (Rostov-on-Don)

A new non-governmental organisation – the National Logistics Association of Russia was established and registered 2002, 11 November to provide public support to these activities. The founders were Moscow School of Economics of Lomonosov MSU, Business Education Association and Association of Forwarders of St. Petersburg. Thus, the first Logistics Association has been established in Russia. The objective of the organisation is to promote establishment and development of logistics in Russia as a new school of practical and scientific importance, fostering social and economic development of companies, different sectors of economy and the country in general. Another objective is cooperation and coordination of activity of governmental institutions, enterprises, companies, scientific and educational institutions and organizations, as well as individuals, to provide Logistics science development.
The Bologna declaration was signed in 2003 in September to prepare professionals for innovative economy sectors in Russia. The Bologna process and the process of modernization of Russian education are going in line. The Bologna process development in Russia is an integral part of realization of the Concept of modernization of Russian education. Besides, these processes facilitate Russia’s European economic integration. Russia’s Bologna process access enables the country to cooperate with European community in educational sector, that is, in decision making, which affects the system of education in the country. It should be noted that the concept of modernization of

Russian education is wider than the Bologna programme. It affects not only higher institutions but education in general. With the Bologna process implementation, the majority of educational institutions of St. Petersburg have adopted the two- level education system: the first cycle awarding a Bachelor's degree and the second cycle awarding a Masters degree. Control over quality in educational sector is another urgent issue which Russia has raised independently of the Bologna process.

7.3 Researches

St. Petersburg is one of the largest education and research centres in Russia. 11 per cent out of the country's scientific potential is concentrated in the city. About 14 % of Russian researchers work in educational and scientific institutions. There are 329 research institutions including 40 scientific institutions of the Russian Academy of sciences and other state Academies, 190 research institutes, 12 state scientific centres. Higher school holds a special place. St. Petersburg higher vocational education system includes 49 state and civil higher schools and 47 non-state higher schools. 78 higher schools are involved in science and research activities. Out of 26 000 of teaching staff 3.700 have doctor of science scientific degree and more than 12,000 - candidate of science scientific degree. More than 8% of all Russian students, 13% post graduate students and 15% PhD students study in St. Petersburg.

In general about 300,000 people are involved in research activities of different research institutions, among them there are more than 170,000 scientific researchers, 5,400 doctors and more than 18,888 candidates of science.

The major institutions specialising in research activities in transport, logistics and ICT sectors are the following:

Scientific and research institutes of the Russian Academy of sciences:

St. Petersburg Transportation Problems Institute

St. Petersburg Institute for Informatics and Automation of RAS

St. Petersburg Institute for Economics and Mathematics

Leningrad branch scientific research institute of communication

Saint-Petersburg Workshop on Simulation and intellectualization of complex systems

Scientific and research institutions of Rosobrazovanie

State Centre of Computer Interactive Simulation
Association of Centres for Engineering and Automation
Saint-Petersburg State University for Waterways Communications
Saint-Petersburg State Maritime University named after Makarov
Saint-Petersburg State University of Railway Transportation (Communications)

Industry research centres:
ZAO “Scientific Research and Project Construction Institute of the Fleet (CNIIMF)”
Research Institute of Territorial Development and Transport Infrastructure
"Lenaeroproekt" Institute (air transportation)

7.4 Regional demand for innovations

The following regulatory documents of the Russian Federation provide legal grounds for the development of innovation process:

- Enactment of RF Government as of 31.03.1998 “On creating conditions for attracting investment in innovation sector”
- Enactment of RF Government as of 14.09.2006 “On setting up government committee on production and technology sectors development”
- Enactment of RF Government as of 14.09.2006 “On realising 2006 pilot project of improving system of payment of scientific researches, directors of research institutes and scientific researches of scientific centres of the Russian Academy of Sciences”
- RF Government Directive document as of 5.08.2005 “Principal directions of RF policy in innovation sector for the period of 2010.”
- Order of RF Ministry for Industry and Energy as of 4.02.2005 No. 24 “On setting up RF committee on awards “for Quality and Performance Excellence”.

St. Petersburg city administration has adopted Enactment No. 1053 as of 29.08.2006 “ On approval the Programme for Development of Innovation and Technology in production sector of St. Petersburg for the years 2006-2008”, which envisages advancement of innovation-based high technology, including creation of infrastructure for innovation. In particular, these measures are targeted at supporting activities which promote establishment and development of special-purpose centres, including design centres, aimed at modernization of

production, as well as activities on establishing the Fund facilitating venture capital investment into small-sized enterprises of St. Petersburg which are involved in research and technology sector etc.
Priority area of accelerated innovation development in St. Petersburg economy sector is being realised with a view to developing infrastructure for innovative entrepreneurship, the major factor being arrangement of proper conditions and reducing risks of private sector on risk factor stages.
The main goal is to provide support for new businesses. As far as venture capital investment is concerned, Venture Capital Association has its Headquarters in St. Petersburg; the city hosts traditional Russian Venture Fair, the first Venture Innovation Fund has been established and is implementing activities in Russia. Under the auspices of the Venture Innovation Fund the first venture Fund for aero cosmos industry was set up with a view to supporting investment into this sector. Venture capital is regarded as a perspective way of financing business as the city has a large innovation potential. The Programme on innovation and technology centres development envisages establishment, development and modernization of the existing IT-technoparks. The work began with signing the memorandum on establishing a special economic zone (SEZ/ОЭЗ) “Neudorf”-IT Technopark in 2005. The SEZ of technology and innovation development, which is located in St. Petersburg, occupies two areas: the “Neudorf” district (Strelna) Petrodvorets, and the area north of Novo-Orlovskiy forest park, Primorskiy district. Figure on page 26 depicts the SEZ territory.

St. Petersburg city administration has adopted a number of legislative documents with a view to supporting Special Economic zone of technology and Innovation development. These are:
Law of St. Petersburg “On transport tax” as of 16.10.2002 No.487-53;
Law of St. Petersburg “On amendments and additions to Laws of St. Petersburg stipulating tax concessions” as of 02.05.2006 No. 190-29;
Enactment of St. Petersburg “On special economic zone in St. Petersburg” as of 17.10.2005 No.1542;
Enactment of legislative assembly of St. Petersburg “On establishment of a public corporation "Special Economic zone of technology and Innovation development “St. Petersburg” as of 06.03.2007 No. 210;
Enactment of St. Petersburg city administration “On approval of the project of Additional Agreement No. 3 to the “Agreement on St.

Petersburg Special Economic Zone of Technology and Innovation Development" as of 18.01.2006" as of 03.04.2007 No.365;
Enactment of St. Petersburg "On special economic zone in St. Petersburg" as of 17.10.2005 No.1542;
Enactment of St. Petersburg city administration "On Approval of "On approval of the project of Additional Agreement No.1 to the Agreement on St. Petersburg Special Economic Zone of Technology and Innovation Development" as of 18.01.2006" as of 24.07.2007;
Protocol of Petrodvorets district administration " The results of the public discussion of the city construction project. The object of the projected construction: "Neudorf" (Strelna) construction project development.
"Transas" networked companies ZAO "Transas", ZAO "Transas Technologies" and OOO "Stroitek" were registered as residents of "Neudorf" special economic zone of technology and innovation development in June, 2006. The company is investing 650 000 000 roubles in "Neudorf" zone development. ZAO "Transas" specialises in finding complex innovation software engineering solutions in the sector of transport systems management and ecological monitoring. It is involved in developing and advancing high-technology products for maritime, river and civil air transport, including vessel tracking management systems, chip-cards, different-purpose training systems, avionics (navigation, terrain awareness and warning systems, etc). In June 2007 ZAO "Design institute Gas Project" and scientific development and production centre "Lasing systems" became two new residents of the SEZ. These companies invested 345,000,000 and 150,000,000 roubles in production respectively. The agreement on establishing "Newdorf" special economic zone was signed in January 2006 by German Gref, Minister of Economic Development and Trade, and Valentina Matvienko, Governor of St. Petersburg.
In accordance with the Law "On special economic zones in the Russian Federation" a special economic zone is established for the period of 20 years. The SEZ regime allows simplifying the procedure of import-export operations owing to the special preferential customs regime introduced there; considerable (by 12%) reducing of unified social tax; exempting SEZ residents from land and transport taxes and reducing profit tax to 20%. For organizations – residents of a special economic zone for the whole period of the SEZ development the Law of St. Petersburg introduces a reduced profits tax rate (reduced to the rate of 13.5%) on the portion of profits taxes due to St. Petersburg budget with

respect to profits received from the activity being implemented on the territory of the special economic zone.

(Article 11-3 of the Law of St. Petersburg as of 02.05.2006 No. 190-29 “On amendments and additions to the laws of St. Petersburg regulating introduction of tax concessions”). Aggregate profits tax rate for organizations-residents is currently 20 %.

- Organizations – residents of SEZ are exempt from corporate property tax in respect of the property being recorded in their balance-sheet for a period of 5 years since the date of registration. (Item 17 of article 381 of the Tax code of the Russian Federation.)
- Organizations – residents of SEZ are exempt from land tax for a period of 5 years since the date of registration of their ownership right to the land plot transferred in their use.

- Organizations – residents of SEZ located in St. Petersburg are exempt from transport tax for a period of 5 years since the date of registration of the vehicle in accordance with the procedure established in the Russian Federation (article 5-1 Law of St. Petersburg as of 02.05.2006 No. 190-29 “On amendments and additions to the laws of St. Petersburg regulating introduction of tax concessions”). Table 24. demonstrates comparative data on taxation of SEZ residents and other entities implementing business activity in the city.

Table 24 Comparative data on taxation

Type of tax	In St. Petersburg	In SEZ
Unified social tax	26 %	14 %
Land tax (% of cadastral values)	Max.1.5%	0 %
Property tax	2.2%	0% for a period of 5 years
Transport tax (Euro./h.p.)	Max. 6,5 Euro.	0 rub. for a period of 5 years
Profits tax	24 %	20 %

Preferential customs regime of a free economic customs zone has been introduced in the territory of the special economic zone of technology and innovation development. Free economic zone is a customs regime under which foreign goods are located and used within the territory of a SEZ without payment of customs duties and VAT, nor are they subject to any prohibitions and regulations. Russian goods

shall be placed and used in the territory of SEZ on the conditions applicable to the exported goods, with payment of excise tax and without payment of export customs duties. It is only a resident of a SEZ who can lay claims for benefits of the free economic customs zone regime with respect to Russian and foreign goods. The residents of a special economic zone of technical and innovation development will enjoy preferences of a free economic customs regime during the whole period of the SEZ development.

The following goods will be placed under the free economic customs zone regime:

1. foreign goods imported into the customs territory of the Russian Federation from abroad;
2. Russian and foreign goods imported into the SEZ from the rest of the customs territory of the Russian Federation;
3. Russian and foreign goods located in the SEZ and acquired from parties who are not SEZ residents.

In the last two cases foreign goods are regarded as goods exported from the customs territory of the Russian Federation without payment or with return of import customs duties and VAT they had paid before.

Another project under realization is Technopark, the centre of information technologies “Severniy” (Metro station “Pionerskaya”). Russian Software Developers Association (RUSSOFT) is the principal project manager. The management company OAO “IT park Severniy”, which attracted investment essential for the first stage of the project, was established for the realization of the project. “Anchor tenants” invested in the first stage of the project development, which laid the foundation of the future technopark complex. At the next stages middle and small-sized companies will participate in the project on preferential terms, which will facilitate the execution of the project. One of the conditions the IT companies working in collaboration with “Severniy” are to fulfil in return to the benefits granted to them is that they will transfer a share of their business to the principal project management company. The objective of “Severniy” is to provide easy contacts between different-sized companies involved in one business activity in one particular confined space.

7.5 Development and outlook

Insufficient workforce potential lows down competitiveness of the companies involved in transport and logistics sectors and leads to

inefficient management and increased costs. Training skilled professionals in transport and logistics sectors is expensive and these specialists must be treated up to standard. Presently graduates from higher schools of transportation quite often have to perform work different to which they are qualified for.

Thus, we need the well-grounded forecast regarding demands of transport and logistics sectors for professionals specialising in different branches. Higher schools of transportation shall have a particular order for training professionals, they must form a clear idea of not only the number of specialists required for the short or long terms, but also of the particular qualifications these specialists must acquire. Besides, such an order is to conform to the trends in the development of the whole transport and logistics complex and its particular industries and enterprises. Higher school curricula should be based on the principles promoting appropriate skills and knowledge in view of developing transport and terminal and warehousing network, introducing new methods of management and achievements of science. Enterprises of transport and logistics sector are to plan their activity with respect to making orders for training professionals for some years ahead. Only such an approach can guarantee effective use of the potential higher institutions have. We shall avoid fallacious practice to retrain specialists at their workplaces or, what is even worse, to offer them the work that is different to which they are qualified for.

A PR campaign and a career-guidance system should be introduced to attract young specialists into transport and logistics sector, which should be done with the assistance of transport and logistics organizations, as well as wholesale and production companies in close cooperation with St. Petersburg city administration and the Government of the Leningrad region, together with educational institutions. The main goal of the campaign shall be regaining prestige and attractiveness of the major professions in transport and logistics sectors. Support should be provided for institutions of vocational education, such as sponsorship, development of a special system of practical and probation period trainings against a background of a proper advertising campaign.

As a result the demand for young skilled specialists in the sector will be satisfied, mainly by attracting young citizens of St. Petersburg and the Leningrad region.

8 REGIONAL LOGISTICS AND ICT COMPETENCE

8.1 Regional key indicators

The prospective target indicators of the region development are stated in the Programme for socio-economic development of St. Petersburg for 2005—2008, adopted by the Decree of Saint-Petersburg Administration as of 19.04.2005 No.474. For the period of 2005-2008 the main target of the socio-economic development of St. Petersburg is the growth of its citizens' welfare provided that it the following criteria are met in accordance with the standards of living in the city:

- quality of life

- availability of resources for people, state and economy of St. Petersburg and their effective use;

- effectiveness, availability and quality of services for people, state and economy of St. Petersburg.

The main target development parametres stated in this programme for the year 2008 are given in table 25.

Table 25 List of targets and target indicators of the socio-economic development of St. Petersburg for the year 2008

No.	Target	Name of target indicator, unit of measurement	Basic value of target indicator (2003)	Target value of the indicator (2008)
1	Poverty reduction	Percentage of population	15.6	10.0
2	Provision of high incomes for Citizens of St. Petersburg	Average money income of citizens of St. Petersburg in relation to living wage on average per capita times	2.67	4.51
		Average money income per month, Euro	220	590
3	Increase in the quality of the city environment of St. Petersburg	Compliance with norms of living standards in St. Petersburg - Percentage of normative standard indicators for which guaranteed values are reached, %	-	95
4	Growth and increase in competitiveness of St. Petersburg economy	Growth rate of gross regional product of St. Petersburg, %	5.2	8.6
5	Increase in the budget income of St. Petersburg	Volume of income of St. Petersburg´s consolidated budget, billion Euro	3,0	7,2
		Budget income of St. Petersburg per citizen per year, thousand €	0,5	1,5
6	Human care, development of family institution, support for maternity and childhood	Life expectancy, years	67	68
7	Forming a favourable climate for enterprise	Investment into capital assets per citizen Per year, thousand €	0,8	1,9

8.2 The Region's Potential in the Logistics Branch (Appendix)

The materials of the opinion poll conducted by the logistics working party within the framework of the project Log On Baltic show that logistics operators present the biggest share in size groups of micro companies (with the personnel of 10 – 50 people), small and medium size enterprises. Among big size enterprises the number of enterprises providing logistics services is the smallest, which corresponds to the peculiarities of the industrial, trade and logistics businesses.
Most operators provide motor transport services. Some of them carry out only automobile transportation, some of them organise deliverance by different means of transport or provide warehousing or information services. Logistics operators' activities is presented Fig. 21.
Motor transport enterprises providing only cargo transportation services make 74% of the number of operators providing; enterprises capable of organising deliverance by different means of transport and receiving transported cargos for warehousing, i.e. transport-expediting enterprises, make 26% of this number.

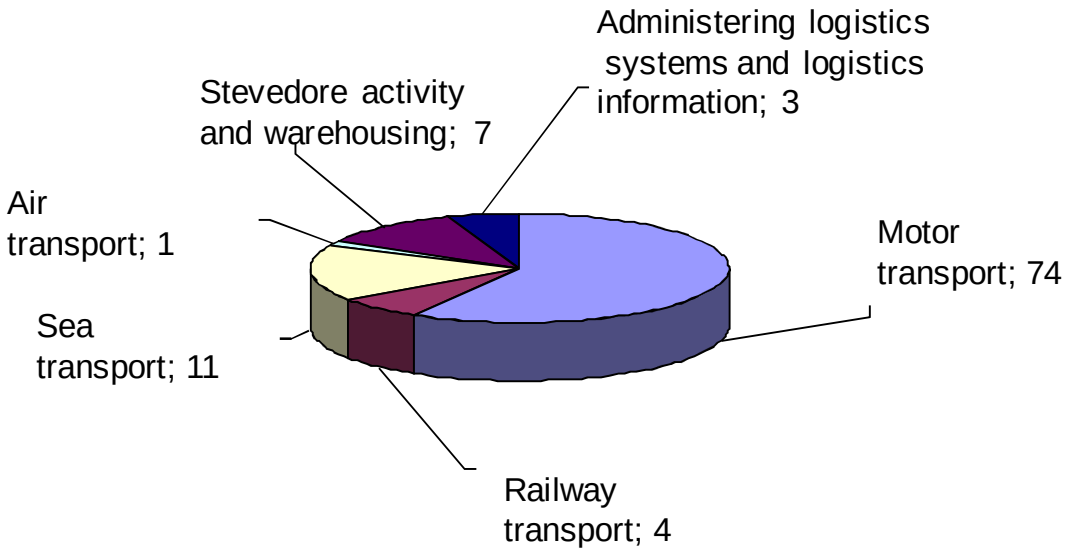


Figure 21 Lines of activities exercised by logistics operators (in %)

Despite the fact that St. Petersburg is a big transport junction in which the sea port plays a big role, there are not many enterprises providing deliverance services by sea transport alone. Such enterprises are mostly the agents of sea (foreign) lines. Independent enterprises refuse to specialise in sea transportation as competitive privileges are gained by the combination and coordinated functioning of different means of

transport, for this purpose many companies possessing sufficient facilities organise warehouses and provide warehousing services. Special emphasis in the chains of deliverance is laid on the cargo deliverance to the consumer taking into account the remoteness of most of them from the sea port. This is one of the reasons for active development of especially motor transport in St. Petersburg.

Motor transport enterprises operate all sections of deliverance chain: suppliers, manufacturers and participants of distribution systems. Enterprises providing services in sea transport deliverance mostly serve suppliers (here we see the influence of commercial customs of foreign trade contracts conclusion). Warehousing services can mostly be of demand in the goods distribution, particularly by distributors. The share of the manufacturing chain, which is mostly operated by enterprises, is presented in fig.22.

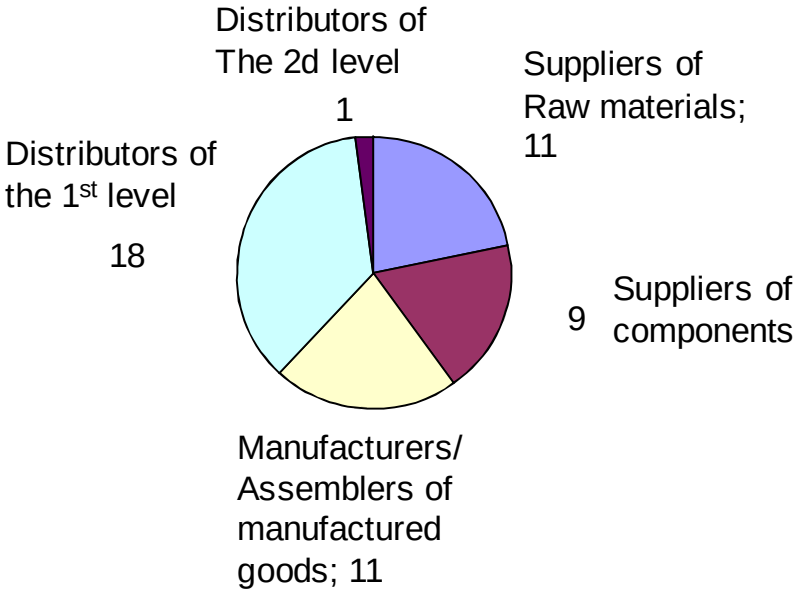


Figure 22 Sector of the manufacturing chain operated by logistics operators

32% of operators work exclusively at the internal Russian market (100% of the turnover); 23% of operators work only at the external market; 45% of operators work at both internal and external markets.

The turnover share received at internal and external markets differs depending on the line of a logistics operator's activity. The turnover share received at the internal market by operators of different sectors is illustrated in fig.23 from which we can see that the biggest turnover share at the internal market is received by companies

providing warehousing services; it can be explained by the fact that these enterprises mostly maintain distribution networks of enterprises.
Enterprises providing only motor transportation hold the 2d place which is quite logical as this is the only means of transport capable of delivering goods to the ultimate consumer. Companies providing sea and other means of transport carriages receive the least turnover share from the internal market services. This fact is explained by the transcontinental character of sea transport carriages.

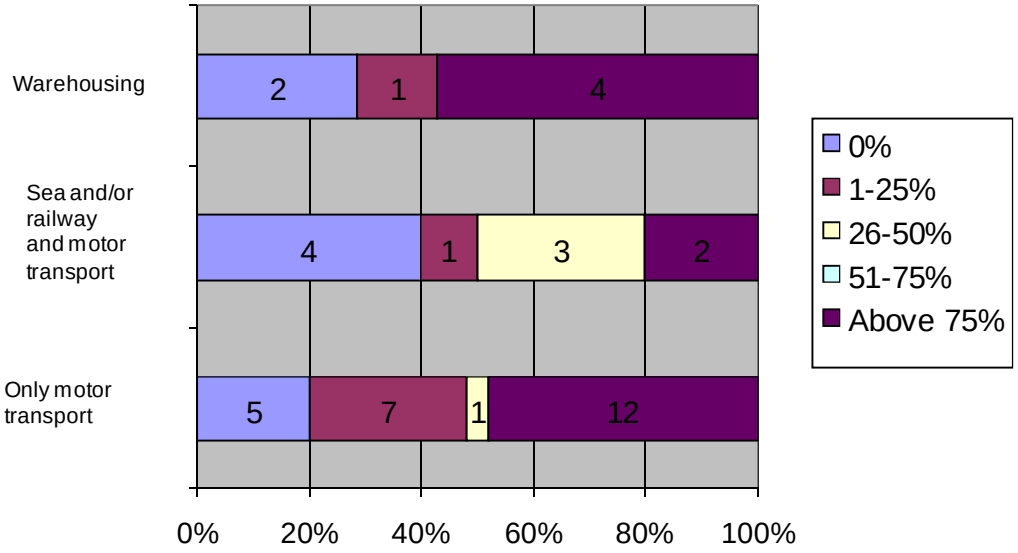


Figure 23 Distribution of logistics operators by the turnover share received at the internal market

The turnover share received at the market of the EU countries (including Norway, Iceland and Switzerland) by operators belonging to different sectors is shown in fig.24, which illustrates that the biggest turnover share at the market of the EU countries is received by motor transport carriers participating in the opinion poll. Operators providing different means of transportation services hold the 2nd place. Operators specialising in warehousing services receive the smallest turnover share.

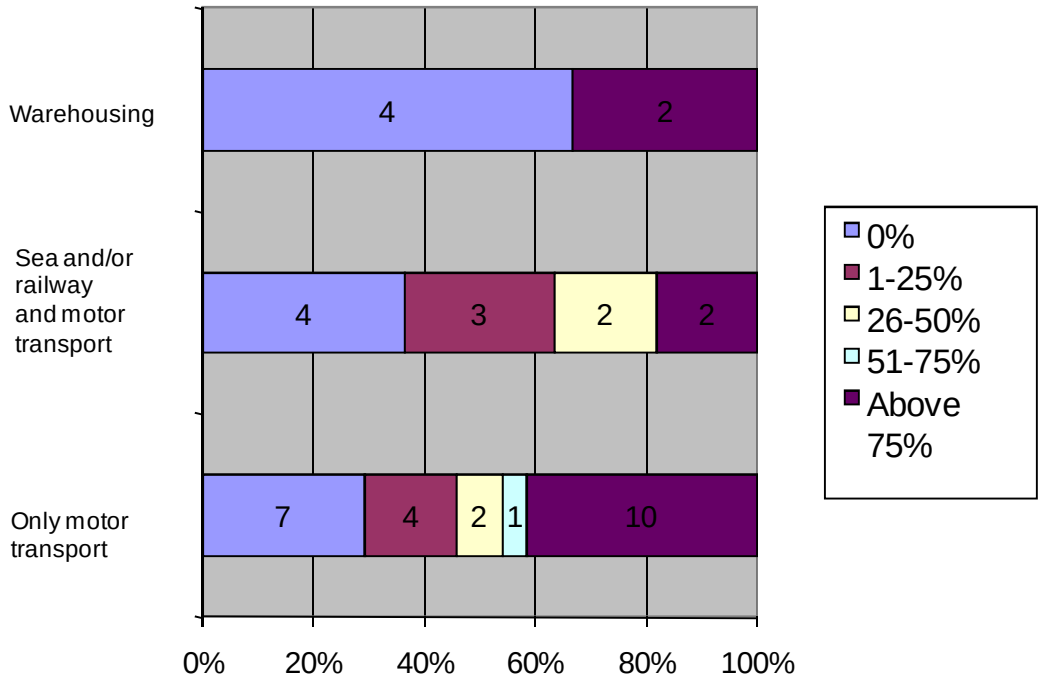


Figure 24 Distribution of logistics operators by the turnover share

received at the EU market

The turnover share at the market of European countries outside the EU amounts to 13.6%, while the market of the rest parts of the world makes 37.8%.

Fig.25 illustrates the distribution of the turnover shares received from one of the 5 biggest customers among all kinds of logistics operators. The links between operators' lines of activity, operated geographic areas, sectors of the deliverance chains and turnover shares received from big customers are not traced. The biggest customer's share amounts to from 10 to 70% of the turnover, on average a big customer's share is 28%. More often than not five big clients comprise from 30 to 90% of a logistics operator's turnover; the average turnover share received from the five biggest customers amounts to 51%.

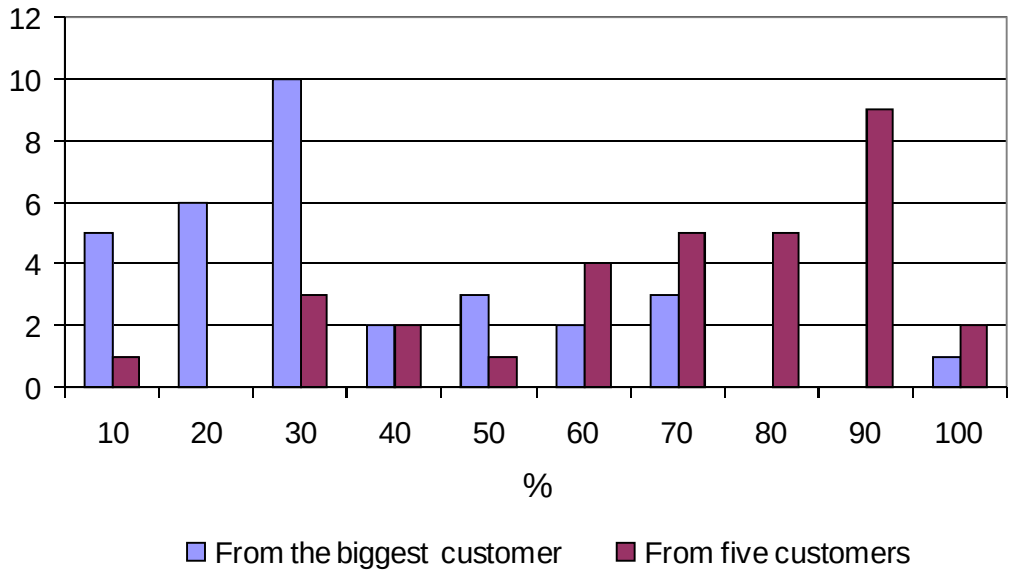


Figure 25 Distribution of a company's turnover (in %) received from the biggest customer and five big customers.

In Future, it will be changes structure of activity which will affect the turnover structure of companies. Enterprises providing transportation services plan to increase the turnover share mostly by providing related transportation services both in a standard package and at a customer's will (almost two thirds of transport enterprises). 5% of transport companies consider it reasonable to provide not only transportation but also warehousing services, and only 13% find that the turnover share will increase due to transportation services, that is they see their future in increased focus on carriage services. Enterprises providing warehousing services see their future mostly in increasing specialization with possible provision of related services.

The characteristics of the demand for logistics services by 2010 - domestic and international carriages, backward logistics, freight-forwarding (transport expediting), order administration, maintenance of accounts, warehousing, purchasing administration, customer manufacturing (manufacturing goods meeting demands of a particular customer), information logistics services, 3PL/4PL services – is presented in fig.26.

Internal transportations and International transportations. The experts forecasts, that these kinds of logistics services in St. Petersburg will have increased by 2010 considerably as other logistic servises.

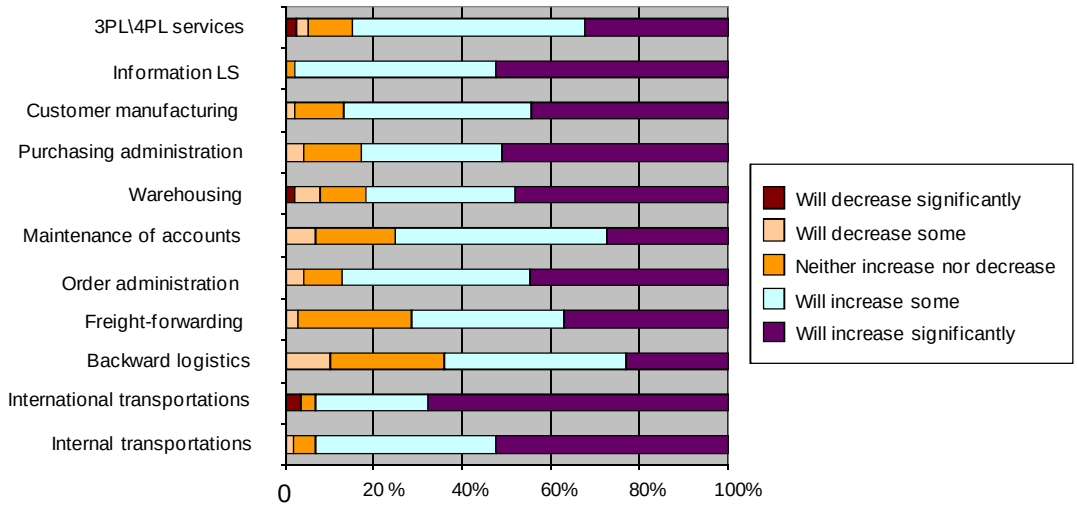


Figure 26 Distribution the respondents' replies to the question about the change of the demand for logistics services

The characteristics of methods regularly applied by logistics operators in the processes of servicing customers is presented in fig.27 from which it becomes clear that the most spread are ordinary mail, telephone, fax and email. One third of company uses a web-site, the number of enterprises using intranet is twice as little.

Technologies of electronic data exchange, bar coding and radio frequency identification are not widely spread technologies. Technologies of electronic data exchange are mostly applied by logistics operators performing stevedore activity and providing warehousing services, as well as transportation services mostly by sea transport. This technology is also applied in trade companies.

Bar coding is applied at enterprises specialising in warehousing services as well as in manufacturing companies having direct channels of distributing goods.

In spite of operating convenience radio frequency identification is very rarely applied (among the respondents it is one large-size trade enterprise with the personnel of 2000 – 4999 people and the turnover of 1 mln Euro).

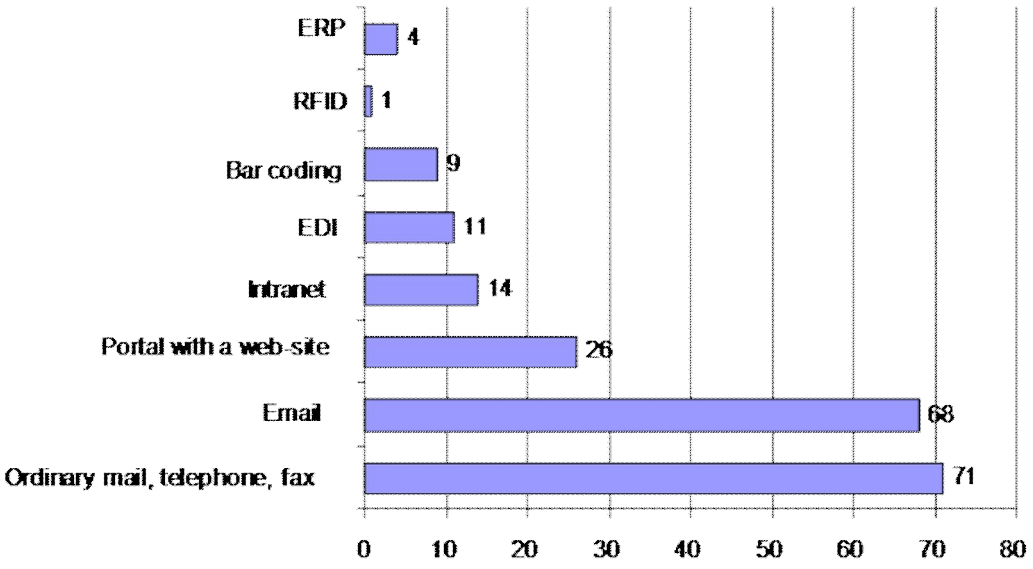


Figure 27 Technologies applied by enterprises in processes of customer servicing

Most of logistics company (46%) have high level logistics competence, 15% very high level, 28% medium level of competence, 11% very low level of competence. The interrelation between the level of logistics competence and logistics' organisation should be remarked. Enterprises with medium, low and very low levels of logistics competence have problems organising logistics activities too. More often than not at such enterprises logistics' influence on the environment isn't monitored, competitors experience in logistics organisation isn't compared with their own experience, expenses on logistics in association with consumers and contractors are not estimated, the company's advantages in the branch of logistics are not evaluated, expenses on logistics are not estimated.

Enterprises with a high level of logistics competence also not often monitor logistics' influence on the environment, other enumerated shortcomings can be found rarely (not more often than in 20% of the cases).

Most enterprises support internal and external contacts and are ready both to internal and external mistakes and failures in the process of performing operations. About 50% of enterprises apply information systems for supporting contacts and provide with information internal management as well as contractors and/or consumers.

About 55% cooperate with contractors and consumers within the strategy operational planning and prognostics. There exists an interrelation between the characteristics of external and internal

cooperation. An association scale and correlation analysis of received valuations made it possible to detect a high connection between the distribution of information within the company and the support of providing managers with necessary information via information systems (correlation coefficient 0.78), between the exchange of information with some contractors and consumers and the support of this exchange with the help of information systems (correlation coefficient 0.71). This indicates that the exchange of information within the company as well as the external exchange is performed with the help of information systems. A visible connection exists between distributing information within the company and performing strategy planning in the cooperation between departments (0.66), readiness to internal mistakes and failures and providing the managers with necessary information (0.68), between providing the managers with information and performing strategy planning in the cooperation with the company's departments (0.58), between the data exchange with contractors and consumers and the cooperation with them in promoting operational planning and improvement of prognostics (0.64).

The results of this analysis illustrate the importance of information exchange both between the company's departments and with contractors and consumers, this can give an opportunity to be ready to failures and mistakes, perform strategy planning and setting objectives in association with departments, to specify prognoses, etc.

Basic requirements most important for the company's development are presented in fig.28.

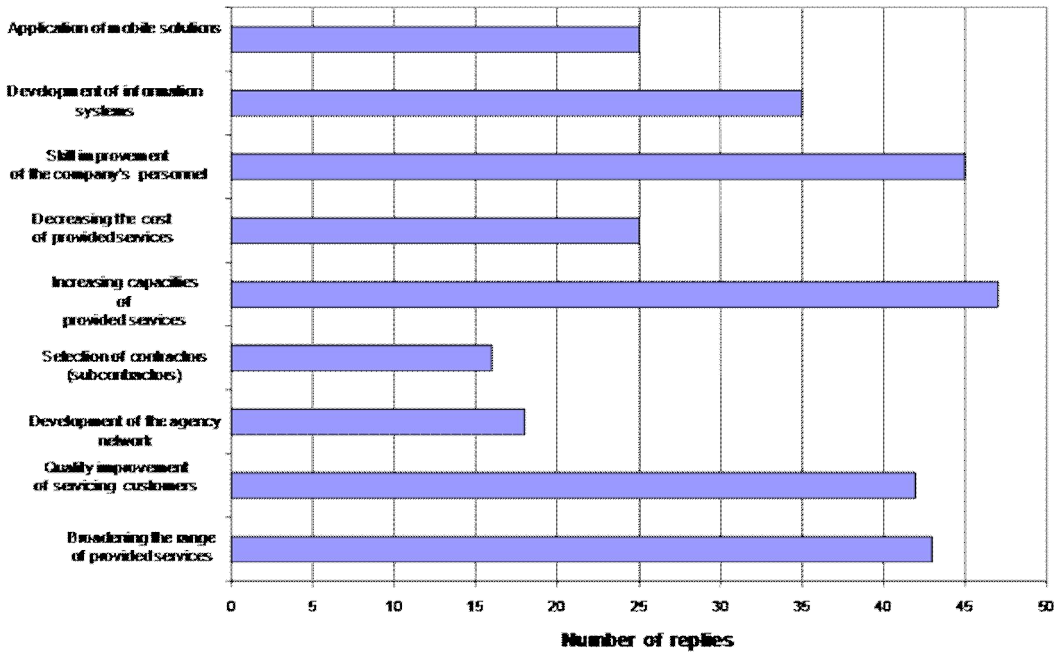


Figure 28 The most prominent requirement for the future development of the company

Fig.28. show that the most important problem for the future development of enterprises is increasing capacities of provided services, this problem is the most important one for industrial and building companies as well as logistics operators providing warehousing services. For the rest of enterprises this problem is also important but they put it in the 2nd (trade) and third (transport services) places.

One of the most important problems is skill improvement of the personnel. Different companies put this problem in the first/second place. For logistics operators providing transport services the first place is occupied by the problem of broadening the range of provided services. For building and industrial enterprises the most important problem is quality improvement. For trade companies the development of information systems, quality improvement and broadening the range of services are essential.

The problems of medium importance practically for all enterprises include decreasing the costs of provided services and development of information systems. Transport enterprises also consider quality of service improvement, application of mobile solutions to be problems of medium importance; for warehousing enterprises broadening the range of provided services is of medium importance; for trade companies application of mobile solution is of medium importance, for industrial

and building enterprises the same is true for broadening of the range of provided services and development of the agency network.
The least important problems include selection of contractors and development of the agency network (except industry). Industrial and building companies find the application of mobile solutions the least important problem.
In spite of the commonness of the problems faced by enterprises, priorities differ depending on the sector. Moreover, the importance of problems is differently estimated depending on the level of logistics competence and logistics organisation at the enterprise. When are levelling-up of logistics competence the importance of problems shifts from skill improvement and increasing capacities of provided services to broadening the range of provided services, quality improvement of servicing customers and selection of contractors. With improvement of servicing the importance of problems of the development is associated exactly with providing logistics effectiveness, and the problem of participants' selection in the chain of deliverance is urgent only for enterprises with a very high level of logistics competence, ready to relations based on partnership. With levelling-up logistics competence more attention is paid to the problem of the IT development, at the same time the problem of increasing capacities of provided services becomes not so urgent. This indicates that companies with a high level of logistics competence choose an intensive way of development, while enterprises with medium and low (very low) levels of competence develop extensively. The disadvantages of this way of development are obvious.
The way the development problems are understood also changes with levelling-up logistics organisation at the enterprise. If enterprises with a low level of logistics organisation consider the problem of skill improvement of the personnel the most important, then with improving the organisation the emphasis shift to the problem of broadening the range of provided services, quality improvement of servicing customers, development of information systems and application of mobile solutions.

Fig.29 illustrates characteristics of the personnel's' specializations which have the greatest influence on the enterprise's profit. Taking into account that a great number of transport companies took part in the opinion poll their preferences affected the overall results of the opinion poll. Thus, trade, industrial and building enterprises lay much emphasis on the specialization in the field of

business strategy, while logistics operators selected specialization, corresponding the profile of logistics activity: transport companies gave the first place to the personnel's specialization in the field of transport management; enterprises providing warehousing services put the greatest emphasis on the field of warehouse management.

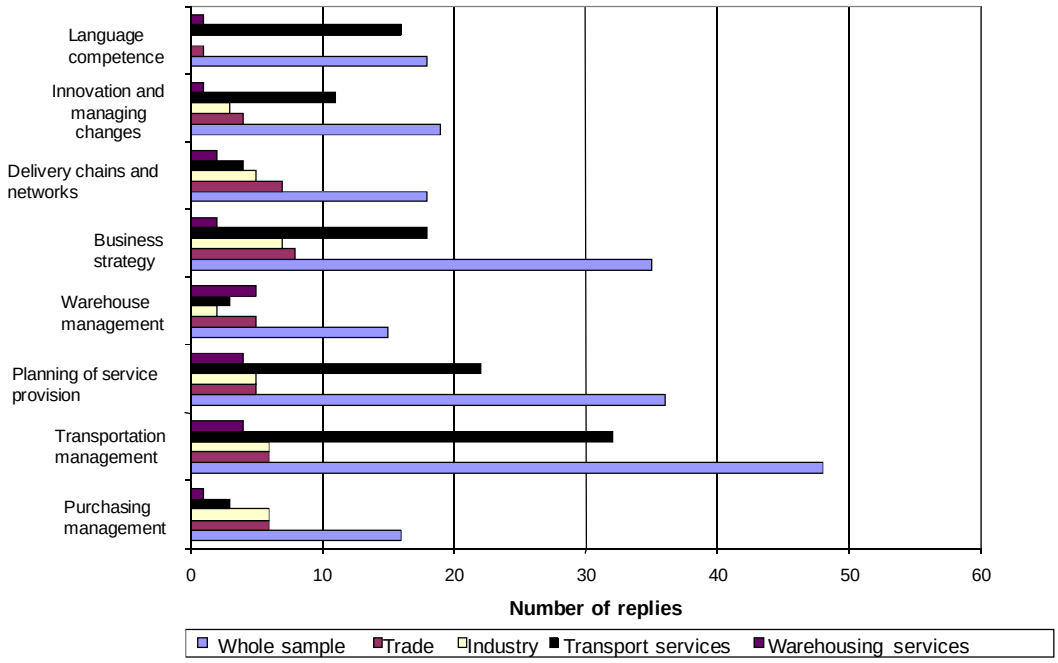


Figure 29 Fields of the personnel's specialization the development of which will bring the biggest profit to the company

Business strategy is an important specialization for logistics operators holding the third-fourth position.

For trade companies training in the field of delivery chains and networks is an essential personnel's specialization. For transport companies language competence of the personnel is very important which is explained by a big share of international transportations in the overall volume of their activities.

Fig.30 shows risks for the development of enterprises which makes it clear that more often enterprises name such risks as a decrease in the demand for services and an increase of expenses (equal numbers of replies). The correlation of replies about risks for the company and demands for the future showed that only 15 out of 41 companies (37%), which remarked an increase of expenses as a risk, consider reducing expenses to be the demand of the development, i.e. they try

not to let an increase of expenses to affect badly the enterprise's development in the future.
The third place is held by such a risk as hardening of competition. Correlating replies about risks and demands we can conclude that enterprises mostly fear non-price competition as only 32% of those who fear hardening of competition see the demand of reducing expenses, 50% see the demand of broadening of the range of services, 56% see the demand of quality improvement of services.
The respondents were suggested to estimate external conditions encountered by companies in its location by performing its activity. In this case the characteristics of the external environment are general business prospects, availability of production and favourable conditions for running business, logistics' effectiveness, transport infrastructure, dislocation of competitors.

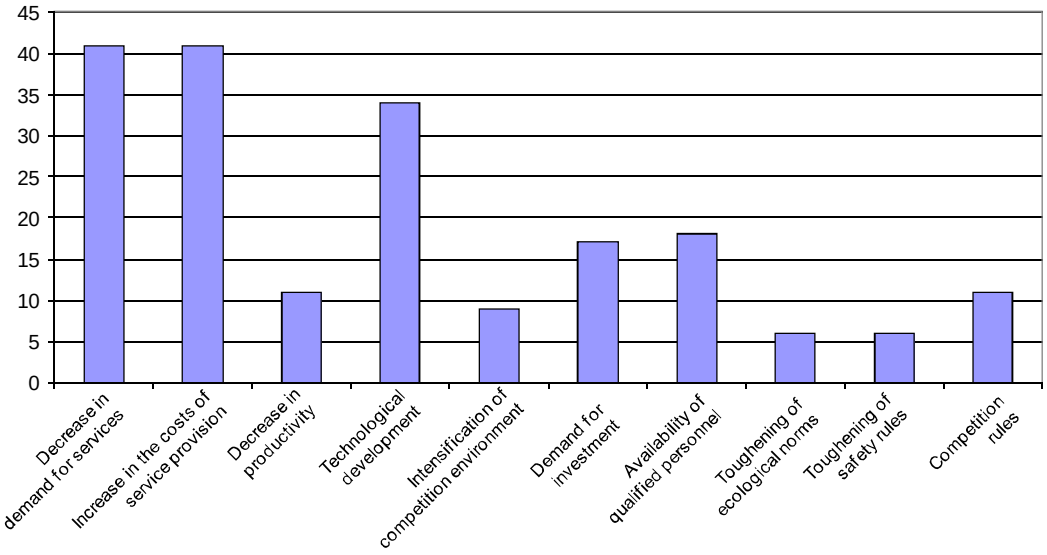


Figure 30 The most serious risks for a company

8.3 The region's potential in the field of ICT (Appendix)

The telecommunication infrastructure of the city is well-developed, therefore the arrangement of communication channels of any productive efficiency can be realised quite easily. The cost of telecommunication services are in line with the prices in European countries, while prices on some of them can be even lower.
The decisions in respect of the applied systems ERP and CRM should be made depending on specific conditions. There is a great number of IT companies in Saint Petersburg which can offer localization services

for foreign systems and develop new information systems based on available solutions in various business fields.
There are well-developed processing centres in Russia, which make it possible to accept electronic payments in accordance with Russian laws and regulations. It enables the building of e-Commerce systems letting corporate bodies accept electronic payments in native currency and build proper e-Business systems. There is a developed system of payment instruments to transfer electronic payments.
It is probably possible to find a contractor who will localise software to Russian-language interfaces. It is as well possible to find dealers who will offer you to buy localised products.
Before launching a product on the market it is necessary to analyze business processes at enterprises in the field for which the products are destined, as in Russia there often can be found specific features not typical for foreign business processes.
Taking into account high demand for all kinds of services and goods, including services in the branch of transportation and logistics, it's necessary to keep in mind a great shortage of systems with Russian-language interface supporting foreign companies' services. The development of such WEB interfaces for foreign companies willing to get orders from Russia presents an important component of their success.

It must be kept in mind that Russia possesses strong communication platforms which make it possible to conduct auctions of transportation orders. It enables cargo owners to get offers which can considerably reduce expenses on cargo deliverance. These solutions support only Russian-language interfaces therefore it's necessary to engage Russian-speaking staff.
In the interaction with Russian customs authorities XML-format should be used for electronic data exchange.

8.4 Needs

To sum everything up it can be remarked that the following conditions are necessary for an effective logistics development in St. Petersburg:

- state programmes (supported at both the national and regional levels) encouraging logistics development, the introduction of ICT and new working methods.

- flexible system of the state interaction with organizations and logistics companies involved in the transportation branch
- tax concessions for developing companies and foreign investors
- improvement of the regulatory framework
- training specialists and skill improvement of logistics companies and industrial enterprises' personnel
- acquisition of European experience in the field of logistics and ICT competence
- scientific research
- cooperation with the European Union and with the Baltic states in particular

The key guidelines which demand special consideration are:

- Developing the city road network;
- Building new terminal complexes;
- Perfecting communication (EDI, EFI, e-trade, bar codes);
- Development of software educating ICT in logistics and data exchange standards XML, EDI;
- Increasing efficiency of officials' operation;
- Levelling up the collaboration between enterprises belonging to various industries;
- Outsourcing development;
- Development of Internet portals;
- Expectations for future educational training in logistics and ICT

To develop logistics and ICT in the region it's necessary first of all to increase expenditure for training logistics specialists, skill improvement of the personnel and levelling up the competence of logistics companies, instances of authority, logistics associations and scientific centres.

Subject of training courses for staff development in logistic:

- Language training
- Innovations and management of changes
- Supply chains management chains and networks
- Strategy of business
- Management of warehouses
- Planning of service providing

- Freight forwarding management
- Management of transportation
- International business

Subject of training courses for staff development in ICT:

- Internet technology using
- Mobile technology using
- ERP, MRP systems
- Websites, Webportal

Expectations and wishes for further logistics and ICT development

The success of development of the transport complex in St. Petersburg will directly depend on:

- Development programs in the fields of logistics and ICT worked out and supported by the Government
- Building partnership between instances of authorities and private logistics companies
- Road system development
- Reconstruction of Marine channels
- Skill improvement of logistics companies' personnel and officials
- ICT using

In particular:

- for private companies: training and staff development, better organization, integration of logistics operations and ICT, achieving economies of scale, better location, increased labour productivity, partnership with authority;
- for local authorities: port improving, extension of marine channel, road infrastructure improving (ring roads), development planning, dialogue with private sector, vocational planning system;
- for support agencies: working out different standards, legal and rules, spreading information, project lobbying.
- Supporting the development of national and international transport and logistics systems;
- Supporting the development of transport corridors;
- Development of motorways and the port infrastructure;
- Deepening sea channels;
- Developing new terminal complexes;
- Support and participation in the Baltic States' initiatives;
- Formulating the concept of development of St. Petersburg as the main centre of the Russian Federation logistics aimed at the cooperation with the European Union;
- Elimination of bureaucratic barriers;

- Acquisition of European experience;
- Establishing tax concessions for developing companies and foreign investors.

8.5 Gap / portfolio / SWOT analysis

Transport has been one of the most dynamically developing branches of St. Petersburg economy during the recent 10 years. This was facilitated by the geographic location of the city as well as the peculiarities of the country's economic development in general which had for a long time been aimed at the rapid development of foreign trade relations.
External goods turnover in St. Petersburg in 2006 amounted to about 17 bln. Euro . During the period from 2000 the import increased 5.2 times, the export – 2.8 times. In value terms it rose by 30% in comparison to the year 2005. The passivity of the balance of trade belongs to the negative tendencies. The import exceeds the export almost 2 times. The value of imported goods amounts to 11 bln. Euro , while the value of exported goods is only 6 bln US Euro.
St. Petersburg does trade with 172 countries. For some years Germany, China, the Netherlands, Finland, the USA have stayed the most important trade partners of St. Petersburg. The CIS countries make 6% in the structure of the goods turnover, while far-abroad countries total to 94%. In the trade with far-abroad countries the share of import is rapidly rising. In the relations with the CIS countries the export component has increased.
It's important to remark that one third of the whole goods turnover of St. Petersburg falls to the share of the Baltic states. The transportation complex includes all kinds of carriage: sea and river transit, railways and motorways, air and pipeline transportation.
Currently about 20% of the overall volume of foreign trade and in-transit freights is carried out in the territory of St. Petersburg. Altogether it comes to about 270 bln tons a year.

The transportation complex is based on the sea transit. St. Petersburg is a big port. From 1995 to 2006 the ship turnover increased almost 3 times. It makes 14% of the cargo turnover in the ports of Russia and more than 50% of the cargo turnover of the Gulf of Finland ports, as well as 30% of the cargo turnover of St. Petersburg. Indices of the port's cargo turnover are rising much faster than it was expected

earlier. Thus in 2000 the cargo turnover of 60 bln tons was expected to be reached only by 2010.
Among general freights the percentage of expensive container cargos has begun rising in the recent years (which already exceeds 18% of the overall volume of transhipment), the percentage of metals is quite stable. Currently the port provides about 60% of container transits in the Russian Federation. The container turnover has increased 11 times in the recent 10 years. The yearly container turnover of the port reached over 1 mln TEU. At present the big port of St. Petersburg is an undoubted leader in the container freights turnover among the Baltic sea ports, which has almost doubled its share in the recent ten years.
As for the volume of the railway freight turnover St. Petersburg holds the second position after Moscow railway junction. St. Petersburg railway junction connects Russia with Finland, Estonia and the sea territory. Transit transportation comprises about 60% of the railcar traffic value of the junction. Only 30% of the total amount of the transit railcar traffic goes through the junction without any processing, while 70% is processed at the consolidating stations (St. Petersburg, Moscow and Shushary).

Air transport is also characterised by an essential growth of carriage. Subsequently it is planned to buy new aircrafts and modernise those in hand, to renew means of radio navigation and radiolocation.
The biggest transport artery in the territory of St. Petersburg is the Neva river, whose span 23 km long is included in the Integrated deep-water system of the European part of Russia. The Neva is one of the most important links of the Volga-Baltic waterway which connects the Volga with the Baltic Sea and with the White Sea through the Belomoro-Baltiyskiy channel. St. Petersburg functions as the gate connecting inner waterways of the European part of Russia with the Baltic Sea. During the recent years transit flows of foreign trade cargos have been prevailing, and the Baltic direction has become primary for cargo flows.

About 2 bln tons of freights are brought to St. Petersburg by motorways (10.8 % of the overall volume of the international freights imported to the Russian Federation by motorways). About 500 ths tons of freights are exported from St. Petersburg by motorways (4.6% of the overall volume of the international freights exported from the Russian Federation by motorways), among them Russian carriers make 39%, while foreign carriers make 61%.

It’s obvious that in the conditions of such dynamic development the city infrastructure isn’t ready to such a big cargo flow.
Without any bias St. Petersburg is in need of the solution of several problems typical for big metropolises.
One of them is that the city territory resources necessary for the allocation of such units as terminal-warehouse complexes are limited. This deficiency is especially tangible on the territory of the port of St. Petersburg. At this point the following aspects require our closer attention. First of all the territory of the port is not zoned, present office buildings often occupy unreasonably big areas. An elaborate approach could enable us to define real resources of the port territory. Even now many heads of stevedore companies working in the port have to solve these problems.

Another question is the introduction of innovation in the procedure of cargos processing in the port (this concerns also the processes of loading and unloading).
The traffic capacity of the motorways is also depleted. Moreover, the high density of the population and a big amount of functionally interrelated units considerably increases the danger of the consequences of technogenic accidents which makes it necessary to monitor the environment, engineering and other technical systems and communications on a permanent basis.
There exist problems in the connectivity of federal motorways, including the Belt highway, the Western High-speed diametre and the inner city road system.
The Belt highway is a factor of attraction for building new units, particularly terminal complexes, logistics and service facilities, gas stations, car washes, technoparks, servicing depots, etc. At the same time the allocation of this related infrastructure makes it necessary to solve the questions of changing the legal status of the adjacent territories.
It is also essential to solve the questions of the interaction between different means of transport in the process of carriage.
The problems of the territory development of St. Petersburg transport complex are associated with the necessity to implement both a cross-sectoral approach to their solution and the combination of interregional and international partnership. Thus, for instance, there exist questions of providing the connectivity of the road system of St. Petersburg and neighbouring constituent entities of the Federation, as well as their

connectivity with international motorways and railways, if these questions are not sorted out it's impossible to solve the problem of the effective routing of transport flows.
Another business line of the city authorities is the realization of the focused policy in concern of the allocation of transhipment sites on the territory of the city, providing territory for modern terminals where concentration and processing of shiploads would take place, including so called "rear terminals" and the project of their separation from the residential area.

The list of the main problems was adduced in the Strategy of the development of St. Petersburg transport-logistics complex till 2015, passed by the Government of the city 26.06.2007, to be exact:
The situation is aggravated by the facts that:
- up to now there is no complex approach to the development of various components of the complex as it is;
- the process of introducing innovation means to this field is not being supported which obstructs the intensification of the cargo transportation process;
- demand for cargo transportation through the Big port of St. Petersburg is considerably higher than the port's capacity of ship admission and processing. The shortage of the port's capacity results in partial switching of cargo flows to other ports;
- lack of specialised terminals for the processing of Po-Po cargos and new imported cars in the Big port of St. Petersburg;
- St. Petersburg doesn't use the advantages of attracting international cargos, especially container ones, to the full. Currently less than 20 % of the container cargos flow is processed at the city terminal complexes, the rest container cargos leave the city without any processing which obstructs receiving added value thanks to the development of related services: "filling" and "unfilling" containers, warehousing, completion, marking, forming commercial batches, etc. If the number of related operations grows, an extra income from processing one container can increase 2-3 times. The loss of profit caused by a small share of processed containers at terminal-warehouse complexes of St. Petersburg makes according to experts 10-13 bln ROUBLES a year .
- limitation of the waterway canal system according to the carrying capacity;
- the city economy suffers essential losses due to the not effectively organised railway cargo transportation on the territory of St.

Petersburg. At present railways and stations, as well as local railways of enterprises and organizations occupy about 4 ths ha in St. Petersburg (6% of the overall area of the city).

Many warehouse and transfer capacities of railway transport organizations which occupy considerable areas in the centre of St. Petersburg don't meet modern demands and generate substantial motor transport flows in the city centre which worsens the situation on the city road system and aggravates the quality of the environment. Due to the lack of the railway bypass of the city the railway junction of St. Petersburg functions as the classification yard for transit cargo flows bound for Finland, The Baltic states and other regions of Russia. Transit cargo flows go through the railway station St. Petersburg-Sortirovochniy-Moskovskiy situated in the south part of St. Petersburg which results in pressure increase and decrease of the carrying capacity of the transport infrastructure. Grave problems arise in the coordination in the functioning of the Big port St. Petersburg's organizations and the railway.

It's necessary to remark the insufficient carrying capacity of the by-port stations "Avtovo" and "New Port" that process railcars directed to the Big port of St. Petersburg which causes regular malfunction in the maintenance of the port by the railway transport. 220 railway crossings situated at the same level as motorways are registered on the territory of St. Petersburg which raises the risk of road traffic accidents, time waste on the roads and aggravation of the conditions of the city traffic and pedestrians' movement.

- lack of resources of the Volga-Baltic waterway carrying capacity on the Neva area within St. Petersburg borders. This is associated with the limited time of bridges' raising in the city which hinders many ships from timely passing through the city and makes them wait in a line. According to the data of the Head Department "Volga-Baltic Basin Authority" the losses of shipping companies during 2005 due to the forced downtime in the waiting lines for passing through the Neva reached 10.6 mln tonnage-days (2,868 ships) which corresponds to 260 mln ROUBLES. From the overall volume of river freights bound for export through the Neva (9.8 mln tons) 7.9 mln tons are transhipped from river transport to sea transport in the sea ports, therefore downtimes negatively effect the income of shipping and stevedore companies. At present the city expenses on the raising of bridges considerably exceed tax revenue to the budget from enterprises providing river transportation and related services.

- depletion of the carrying capacity of the street and road network of St. Petersburg. Road hold-ups, bad transport-exploitation state of a number of roads, bad organised road traffic cause unpredictable delays in the cargo deliverance and raise prime costs of transportation. The efficiency of the usage of freight motor transport in St. Petersburg is 2-3 times lower than in developed European countries.
- not sufficiently developed system of air traffic. St. Petersburg is distinguished by a not sufficiently wide geography of flights and frequency of air voyages. There are no direct flights from St. Petersburg to many big cities of the world located in the countries of America, Asia and Africa. The number of direct flights to St. Petersburg from many big cities of the world yields to the European indices and doesn't meet the potential demand. At the same time the cost of flight to St. Petersburg considerably exceeds the costs of flights to other big European cities.
- discrepancy between the present terminal-warehouse infrastructure and the demand for its services. Most terminal-warehouse units in St. Petersburg are presented by premises of B and C classes, their share in the overall area of warehouses is 89%. In 2005 there could be found only 290 ths m² of A class warehouses in the city which comprises only 5% of the overall area of covered warehouses of the city. Currently there are almost no big multimode general use warehouses and contract warehouses administered by operators which specialise in providing the whole complex of logistics services.

Warehousing capacities are allocated around the city without any plan as they were partially formed as a result of the change of nature of industrial facilities into warehouses in different parts of the city. As a consequence, about 90% of warehouses are situated on the territory limited by the Belt highway which causes transport problems.

- at present development programs of different means of transport and the street and road system are being worked out and implemented practically without any coordination with the development of warehousing capacities.
- the main obstacle in the logistics development in the region is caused by the lack of the regulatory framework and high bureaucratic barriers.

One more problem should be remarked – a not essential income of the city budget from the transport-logistics activity is determined by a number of reasons:

- a range of companies conducting transport-logistics business in the city are not registered on the territory of St. Petersburg;

- existing in Russia tax system, the structure of ports' administration, as well as relations of property on the transport infrastructure (first of all in sea ports) prevent the city from receiving substantial tax income from the transhipment in the Big port of St. Petersburg. At present the tax income from the activities of all stevedore companies of the Big port of St. Petersburg make less than 1% in the revenue side of the city budget;
- the existing system of taxes and duties distribution between the budgets of all levels implies concentration of tax income in the federal budget.

8.6 Regional outlook

As a result of interviews with experts taken within the framework of the projects LOG ON Baltic and their analysis of the opinion polls data, it's necessary to remark that from the standpoint of geographical approach St. Petersburg is a unique centre for the North-West of Russia and the Baltic region of Europe. The geographical approach to the regional development is the only possible one for St. Petersburg. St. Petersburg attracts investments and investors as the city possessing advantageous geographic and geopolitical location, close location to European especially to the Baltic States. A big amount of recent years' investments is spent on trade complexes, warehouse and logistics terminals, building of the belt motorway, reconstruction of airports, etc. In the recent ten years there has been a stable growth of economy in St. Petersburg. The prognosis of socio-economic development of St. Petersburg for the period up to 2008 was worked out by the Committee of the economic development, industrial policy and trade of St. Petersburg with the participation of other executive bodies of the state authority in the city on the basis of regulatory-methodical materials produced by the Ministry of the economic development and trade of the Russian Federation ratified 14.03.2005 No. 3024-VS/D14.

8.6.1 General targets

The prognosis was being worked out in two variants: an inertial one, which implies the retention of existing tendencies, and an innovative one. The accepted variant of the prognosis is oriented at the innovative

way of development on the basis of realization of the package of institutional transformation and the most important strategies of development of economy sectors using the mechanism of the private-public partnership. This variant implies the fulfilment of intended social obligations in respect of the average salary growth in the public sector and the average retirement pension. The growth of the gross regional product of St. Petersburg during the period till 2008 is determined by the growth of internal and external demand for goods and services produced in St. Petersburg.

For the period of 2006-2008 the main objective of the socio-economic development of St. Petersburg is the welfare growth of the city dwellers. The achievement of this objective implies the solution of the following tasks:

- Provision of the growth of the money income of St. Petersburg dwellers per capita and reduction of the scale of poverty;
- Quality improvement of the city environment;
- Provision of growth and increasing competitiveness of St. Petersburg economy;
- Increase of the revenues of St. Petersburg consolidated budget;
- Forming favourable entrepreneurial climate.

The growth of citizens' welfare can be provided only by growing economy. The economy growth in its turn is possible only on conditions of attracting big investment for which favourable entrepreneurial climate, resources and personnel, quality improvement of the city environment are necessary.

One of the conditions of realising the growth strategy of the citizens' welfare on the basis of stable and dynamic economic growth is building an effective pattern of administering socio-economic development of the region.

The estimation of the volume of the gross regional product with account of an expected increase of internal and external demand enables the prognosis of yearly rates of its enlargement at the level of 5.7 – 7.2% according to the 1st (inertial) variant and 8 – 8.4% according to the 2nd (innovative) variant of the prognosis.

According to the 2nd variant of the prognosis in 2008 the gross regional product of St. Petersburg will reach 33 bln Euro which will make 137.5% of the level of 2004 (in equitable prices).

In the sectoral structure of the gross regional product the decrease of goods production share, the reduction of the share of net taxes on products and increase of the services production share are predicted.

8.6.2 Development of industry

According to the prognosis the tendency of the industrial production growth will persist in St. Petersburg till 2008.
The structure of the industrial complex will not suffer significant changes. As before determining influence on the results of industry functioning will be produced by such fields as the machinery-producing, metalworking and food industries.
The conditions of the machinery-producing industry functioning in St. Petersburg will be determined not only by the availability of big export orders, but also by the growth of demand at the inner market of Russia.
St. Petersburg machinery producers have enough orders for the near future which means that the products of the leading branch of St. Petersburg industry is of a big demand.
The large-scale reconstruction of the production which is being currently implemented and is planned to be continued in the following years enables these enterprises to reduce the time of manufacturing goods with a long-term production cycle, to improve the quality of manufactured goods, to explore new segments of both the national and international markets.
During the mentioned period the influence of the terms of big orders' manufacturing on the indices of the machine-building complex functioning will remain the same. This explains a lower rate of the industrial production growth in this branch in 2005.
In the coming years ship-building enterprises of the city will continue building civil-oriented and military ships for Russian and foreign customers.

It's necessary to remark that successful development of the ship-building grants additional opportunities to increase the production output of the professional equipment enterprises and other branches of the machine-building complex of the city which supply separate components and whole systems of shipboard weapon and automatics management, shipboard systems, electric goods, etc.
Such fields as the power-engineering and electrical industries have very good prospects of development for the years to come. The products of this field's enterprises are in demand not only at the national but also at the international markets. Predictable annual average rates of growth in the machine-building are expected to be within the limits of 104-108% depending on the terms of big orders' completion.

Modernization, reconstruction and technical re-equipment activities which are planned at many enterprises of another leading branch of St. Petersburg – the food industry – will provide stable production growth in the short-run.
The fish industry also has good development prospects for the coming years, especially in the case of increasing investment flows. The growing demand of the population for instant food creates favourable conditions for the meat industry development.
The development of the milk industry is being hindered by the limitation of resources. Annual average rates of the production growth in the food industry will be moderate – 102-150%. The constraining factor of the food industry development still stays a not high enough level of purchasing power of the population. In general annual average rates of the production growth are predicted to be on the level of 104-105%.

8.6.3 Development of transport

The basic documents determining the development strategy of St. Petersburg transport junction are “The general scheme of development of St. Petersburg port junction (The Big port of St. Petersburg)”, “The perfection and development programme of drive-up motorways to the Big port of St. Petersburg”, “The urban planning conception of the airport Pulkovo zone development” and “The perfection and development conception of the traffic organisation system in St. Petersburg”. One of the most important activities increasing the functioning effectiveness of the Big port of St. Petersburg is the implementation of the perfection and development programme of drive-ups to the port.

The cargo turnover of stevedore companies of the Big port of St. Petersburg is stably rising. Promising container transportation holds a special place.
With the objective of tourist business development the Sea ferry-passenger complex is currently being built on the newly-formed (wave-built) area at the western bank of the Vasilyevskiy Island. The realization of this project will create conditions for the admission of multi-tonnage cruise ships using the existing city infrastructure. To develop railway transportation there are being realised a range of projects aimed at the optimization of train movements, increasing carrying capacity, organising bypasses for transit carriages.

It is planned to build new overbridges, reconstruct railway stations and electrify main roads.
The Oktyabrskaya railway also pays much attention to the development of container carriages. In perspective it's planned to develop multimode and piggy-back transportation.
Air transport is marked by the substantial growth. Later on it is supposed to buy new aircrafts and modernise existing ones, to renew the means of radio navigation and radiolocation.
Special consideration for the development of the North-West region, solution of ecological problems and improvement of the transport situation must be given to the building of the transport bypass around St. Petersburg, The Belt highway and the Western High-Speed Diametre. The sponsorship of the project is being realised out of the funds of the federal budget and the European Bank of Reconstruction and Development.

8.6.4 Support of small business

According to the 2nd variant of the prognosis (the innovative-active one) small business will develop further in St. Petersburg. In the case of a successful realization of the provisions of the Development and support conception for small business in St. Petersburg ratified by the Government of St. Petersburg 19.10.2004 No. 1676 "Small business development and support act in St. Petersburg", favourable economic environment will develop in the city which will stimulate opening and stable functioning of small enterprises.
This will result in increasing the number of small enterprises up to 111.03 ths by 2008, first of all in the branch of building, public catering as well as in the innovation field.

8.6.5 Development of tourism

St. Petersburg government activity is aimed at turning the tourism branch into one of the most high-yielding economy sectors, which will contribute greatly in the socio-economic development of the city due to the increase of the revenue of St. Petersburg budget and local budgets, the investment flow, the increase of work positions, the retention and reasonable application of the cultural-historic and natural heritage.

It should be taken into account that at present moment there are no accurate economic calculations in the tourism branch as well as reliable data about tourist flows which hinders economic research and analysis.
St. Petersburg is one of the most attractive tourist destinations in the world. The interest in the city is caused by the cultural-historic wealth, the abundance and variety of the tourist service components. More than 1.5 ths tourist companies work at the tourist market of St. Petersburg that arrange a comfortable stay for the city guests and offer a wide range of services.
In absolute figures the expected number of tourist visits by 2008 can amount to 4 mln foreign tourists and 1.4 Russian ones.
It's supposed that the revenues of the enterprises belonging to the tourist and related branches of St. Petersburg will increase to 2,6 bln Euro a year by 2008 which will imply that more than 500 mln Euro of taxes will go to the budgets of all levels annually.

From the standpoint of the regional tourism infrastructure it should be remarked that in the recent years the hotel room fund of the city has increased by more than 1500 rooms of the first, middle and economy classes. In the case of fulfilment of the projects claimed by the investors by 2008 the hotel room fund of the hotel enterprises of St. Petersburg can increase by 6000 rooms relative to the indices of 2002.
According to the experts' estimation revenues from the activity of St. Petersburg tourist branch enterprises amount to about 10% of the revenue part of the budget which is comparable to other branches of economy.

8.6.6 Investment policy

St. Petersburg investment policy aimed at attracting new investors and retention of existing ones by creating conditions for profit reinvestment is oriented at the achievement of two objectives: the creation of financially attractive conditions and elimination of bureaucratic barriers.
From the standpoint of forming a favourable financial condition of a potential investor, the greatest influence on the flow of investments to the St. Petersburg territory must be exerted by the act "The enabling law "On favourable taxes" aimed at stimulating the investment activity in the region and the retention of the favourable investment climate in the city. The act is intended first of all for the development of big

industrial enterprises as well as stimulating innovative processes. The investment effect must become apparent in the course of the next 2 years, as this mechanism will be made known in the city, in Russia and outside Russia, and as there appear practical examples of successfully realised projects with the application of tax concessions and other forms of support for investors.

The government regulation passed by St. Petersburg government 21.09.2004 No. 1592 is also very important, it is included in the order of making decisions about providing real estate units for building and reconstruction.

St. Petersburg possesses unique competitive advantages, such as available skill labour, a high industrial and scientific potential, a developed transport infrastructure, which present factors stimulating investment flow in the city economy.

On the other hand the city economy depends on the all-Russia tendencies and changes in the investment attraction of other regions, such as the Leningrad region.

Taking into account the influence of the above named factors the prognosis of the overall volume of investment till 2008 mostly depends on the changes of the business climate outside the city.

In the forecasting period there won't be any considerable changes in the branch structure of investment. The biggest share of investment will fall on such branches as industry (first of all the food and machine-building industries), transport, municipal building, communication, trade and public catering.

A substantial amount of investment is forecast to go in the branch "transport". The branch of transport services is a priority one for investment due to its high profitability and low investment risks. The geographic location of the region provides stable demand for transport services and potential for future development of this branch. The development of the intermode transport corridor North-South going through St. Petersburg will result in a stable transit cargo flow and will consequently attract investment.

According to the General scheme of the development of the Big port of St. Petersburg building drive-up railways and motorways, extending and building new port facilities are planned for the period till 2010.

The means of the city budget will be mostly applied in the building of engineering-transport infrastructure and social sector units as well as in the building accommodation for privileged categories of citizens.

Working with particular investment projects is of great importance for the activation of investment processes in the real economy sector. The

realization of projects stimulating the economic activity growth in the region and the development of promising city areas predetermining further economic growth will also be very significant. Special attention will be paid to the realization of projects aimed at the development of the hotel infrastructure.
The state authorities in St. Petersburg carry out focused work to create favourable conditions for the attraction of private investment: tax, credit and monetary policy and the regional regulatory framework are being perfected.
During the recent years foreign investment plays a significant role in the investment activity. Currently the dynamics of foreign investment gain in the region is positive. Possessing unique factors of competitive advantages enables the region to count on a stable flow of investment in the future too.

8.6.7 Labour resources and population

The amount of labour resources of St. Petersburg according to predictable estimation will increase by 3.67 ths of people on average during the year.
Annual average rates of increasing labour resources of St. Petersburg will reach 0.12%. The increase in the number of employed people during the period of 2006-2007 according to our predictions will make 0.24% (in both variants of the prognosis).
The prognosis evidently shows that the increase of the number of people employed in St. Petersburg economy has been stable during recent years. This fact is explained first of all by the investment flow, introducing new work positions functioning on the basis of high technologies. Moreover, attention should be paid to the fact that in perspective the flow of working age people will fall and the ageing coefficient of the population will dramatically rise.
Thus, if according to the calculations of the State Statistics Committee the number of the working age population in 2005 will come to 2829 ths people, or 63% of the overall population in St. Petersburg, the decrease of this index in 2008 in absolute terms will reach quite a considerable amount in comparison with 2006. At the same time the number of people older than able to work will increase up to 1080 ths people in 2007 and will reach 1097 ths people in 2008. Alongside with this the index characterising the number of people aged from 0 to 15 will fall: from 593.0 ths people in 2005 to 546 ths people in 2008.

The calculated coefficient of aging of St. Petersburg population in 2005 amounted to 23.8% and in 2008 it will reach 25%. At the same time the percentage of the working age population to the overall population number in 2008 will make 62.6% contrary to 63.0% in 2005. The number of population younger than able to work (0-15 years old) in 2008 will amount to 12.4% contrary to 13.2% in 2005 and 12.7% in 2006.

The detected tendencies of the demographic development of St. Petersburg enable the conclusion that in the years to come the growth of the number of employed in the economy will be realised due to the attraction in the labour sphere of the economically inactive population and in the first turn older people occupied in the household.

Analyzing an average monthly salary of employees of the organizations financed by the St. Petersburg budget it should be taken into account that from the 1st of January, 2006 in St. Petersburg branch systems of labour remuneration of state establishments employees financed by the city budget will be put into practice in the determined order. In this respect an average salary of the public sector employees can rise considerably.

Among the tendencies of changes in employees' salaries during the forecasting period the main ones are:

- Outrunning growth of the average salary in comparison with the growth of consumer prices;
- A higher level of labour remuneration of employees of St. Petersburg organizations than in the rest of Russia in general;
- Labour remuneration of the public sector employees in St. Petersburg is not lower than the minimum cost of living of the working age population fixed in St. Petersburg;
- A dramatic decrease of arrears of wages of employees of St. Petersburg organizations.

On the whole during 2006-2008 the Fund of salary remuneration is predicted to rise. The average annual increase will come to 15.1% (in the case of the 1st variant) and 17.7% (in the case of the 2nd variant).

The preliminary prognosis of indices presented in the balance of money income and expenses of the population during 2006-2008 was being worked out in two basic variants taking into account different conditions of the economy development – both external and internal ones. In the process of making calculations the scenario conditions of the socio-economic development prognosis and the fundamental indices of the summary financial balance of the Russian Federation for 2006 and the period till 2008 were taken into account.

In the forecasting period high rates of the growth of the population money income will retain. This positive dynamics is characteristic of St. Petersburg in the recent years. According to the preliminary evaluation the amount of the city population money income will increase up to 921 710.5 bln ROUBLES by 2008. The substantial growth of money income will be mostly associated with the growth of labour remuneration of wage workers which will be promoted by the policy of drawing the minimal salary near the minimum cost of living and the reduction of rates of the Consolidated social tax.

Social transfers will also substantially increase due to the growth of the average retirement pension caused by the currently implemented reform of the retirement insurance, indexation of basic and insured parts of the labour pension, as well as monetization of privileges.

Further increase of money income is predicted in the real terms with the retention of the growth rates of this index at the rate of 6.7% and 8.2% in 2007-2008 according to the 1st and the 2nd variants correspondingly.

The gain of the retail goods turnover will reach in 2007 as predicted 106.5% in the case of the 1st variant and 107.9% in the case of the 2nd variant, in 2008 – 106.8% and 107.8% correspondingly, due to the network growth, the change of its structure, opening big new-format commercial enterprises.

The range of paid services for the population is predicted on the basis of increasing consumer prices on paid services, increase of the range of services according to the scenario conditions, outrunning rates of the gain of communication services (not less than 11-19% higher – annually). The index of consumer (...) as estimated will make in percent correlation of 2007 to 2006 – 107.2%, 2008 to 2007 – 105.6%.

8.7 Summary

The analysis conducted shows that administrative impacts made mostly on the basis of a particular branch resulted in certain disproportions in the development of separate components of the logistics complex in the limits of St. Petersburg territory. In the conditions of international trade extension the development of St. Petersburg transport-logistics complex is a very important factor for the provision of the city economy competitiveness and the population employment.

But it's obvious that all extensive factors of this branch development are depleted on the territory of St. Petersburg. Further accretion of the cargo turnover of the port, railway and motor transport is impossible without the realization of measures aimed at the creation of conditions for applying optimal traffic patterns mediated by progressive ways of interaction between different participants of goods distribution.
It should be stated that the solution of the problem of forming the well-balanced transport-logistics complex harmonically developing in the limits of this territory demands forming close horizontal connections in the limits of the territories.
Therefore, the prominent task of the city transport policy is not only forming reliable and affordable international and Russian routes in the connections between main markets of production and goods consuming, but also providing conditions for the development of logistics, building terminal-warehouse complexes, meeting modern demands, application of information systems and new technologies of cargo flow administration. The development of transport infrastructure, including roads and terminal complexes, must have a great influence on providing favourable conditions for the realization of effective transport-logistics patterns.

In this respect it seems possible to formulate the following objectives and tasks of the transport-logistics complex further development:
1. Objectives:
- Final formation of St. Petersburg transport transit complex;
- Growth of transport role in economy, social sphere and budget income of the city;
- Provision of growth conditions for international trade transportation through the territory of St. Petersburg;
- Forming favourable competitive environment for Russian carriers;
2. Tasks:
- Forming conditions for well-balanced development of separate components of the transport-transit complex;
- Promoting integration of different kinds of transport in the process of cargo transportation;
- Forming an optimal structure and territorial distribution of cargo flows in the international, interregional and regional communication;
- setting priorities and roles of particular means of transport and transport junctions;

- forming a reasonable pattern of allocation of units on the city territory (terminal complexes, communication, road and transport junctions);
- organised support of forming a single information area for the state bodies and participants of the transportation process, as well as different means of transport and other components of the transport complex infrastructure;
- optimising the interaction and quality improvement of service for all participants of the transportation process;

- stimulating quality improvement of service for consumers of transport and transport-logistics services;
- promoting introduction of new progressive technologies in the processes of transportation and transport-logistics maintenance of cargos and service for passengers;
- promoting safety improvement of cargo and passenger transportation through the territory of the city;
- providing ecological safety for the city population in the part of the transport component;
- legal, scientific and organizational support of the development, allocation and functioning of the complex;
- promoting the development of the education field in the branch of transport-logistics activity.

9 LOGON BALTIC INITIATIVES

9.1 Regional LogOn Baltic initiatives

In the Transport and Logistics Complex (TLC) Strategy adopted by Saint Petersburg Government in 2007 the main target is defined as follows :

- promoting the enhancement of economic and investment potential of Saint Petersburg and growth of competitiveness of city's enterprises by securing reliable and good quality transportation and logistics services, reduction of their share in the net cost of end products, increase of population mobility and creation of multiplicative effect due to TLC development in allied industries.

The topmost problems of Saint Petersburg Transport and Logistics Complex development the solving whereof will enable to attain the set goal are as follows:

- development of transport infrastructure;
- support of development of the Great port as the center of interregional cluster development;
- orientation of Saint Petersburg TLC towards work with most economically sound and environmentally friendly cargoes (container, refrigerator cargoes, and Ro-Ro cargoes);
- formation of a network of transport and logistics centers and "terminal villages" for initiating the generation of additional income in allied industries, rendering logistic, warehousing, informational and distribution services;
- formation in Saint Petersburg of a distribution center for the European part of Russia;
- enhancement of TLC operation efficiency due to increase of its handling capacity, optimization of transport communications, reduction of logistics costs, reduction of time of cargo delivery to the consumers, enhancement of transportation services quality, implementation of innovation technologies and state-of-the-art multimodal transportation management systems and related services;
- uniting the efforts of the governmental authorities, business and scientific and experts community for promotion of Saint Petersburg as a nationwide transport-logistics and distribution center;

- enhancement of city inhabitants mobility, improvement of Saint Petersburg transport availability for inhabitants and cargoes of the other constituents of the Russian Federation and foreign states.

This Strategy describes the topical problems, which the Saint Petersburg Transport Complex has to face, main directions of their solution, as well as action plan and mechanisms for attainment of set targets.

The research conducted within the frames of LOG on Baltic project enable to specify a number of problems and to formulate the proposals on development of specific trends.

Sea transportation

In order to increase the handling capacity of the Great port of Saint Petersburg, to enhance its competitiveness, to redirect to operations with high-tech cargoes, it is necessary to use new instruments of enhancement of investment activities.

The prospects of Saint Petersburg Great port development to a great extent depend on the dynamics of international container transportation and the possibility to service the container flow, including performance of multimodal transportation, providing warehousing and logistic services. Taking into account the development trends of world commerce and the Russian Federation economy, it is forecasted that by 2010 cargo turnover in Great port will increase by 25%, and by year 2025 is will double in comparison with 2005. The container freight traffic will have the highest growth rate. It is forecasted that the container freight traffic of Saint Petersburg Great port will increase four times during the nearest 20 years up to 4.8 mln TEU. In order to satisfy the forecast demand for container reloading in Saint Petersburg Great Port it will be required:

- to increase the port facilities for transshipment of container cargoes;
- to enhance the handling capacity of seaway canals, railway and motorway access;
- to increase the volume of railway transportation of container cargoes;
- to reduce the stay time of cargoes up to 1-3 days;
- to implement the operating mode “24 hours a day/ 7 days a week / 365 days a year” for all organizations providing port’s operations and inbound and outbound cargo on its territory;
- implementation of electronic flow of documents, state-of-the-art technologies and container cargo inspection equipment;
- to form rear terminals for processing container cargoes (“dry ports”).

The demand has considerably increased for transportation of cargoes connected with the modernization of Russian enterprises production

facilities, as well as with consumer cargoes, which will grow with increase of personal income. The demand for Ro-Ro transportation which is actively developing between the Baltic sea ports, will also increase.

The potential capacity of serviced consumer market for logistic companies of the city will increase 2.7 times, it is also forecasted that by 2025 the volume of transshipment of perishable cargoes will double, the volume of other package cargoes, including Ro-Ro cargoes will increase 2.4 times.

Simultaneously the limitation of existing port territory in the central part of Saint Petersburg, and exhaustion of street and road network capacity, formation of new port facilities and increase of handling capacity require reasonable approach to the use of existing port area and search for new sites for placement of mooring facilities and terminals.

In this connection the creation of a special economic zone in Great port of Saint Petersburg seems to be an important tool enabling to facilitate the increase of handling capacity of port terminals, primarily, for hi-tech cargoes, providing highest income for private companies and tax revenue to the budgets of all levels.

Creation of a special economic port zone will have favorable impact on the increase of competitiveness Saint Petersburg Great port in respect of foreign ports and new ports of the Leningrad Region, first of all, due to construction of state-of-the-art port facilities. Without using the tools of special economic port zone the probability of formation of new port facilities in Saint Petersburg for processing of hi-tech cargoes is very low due to high cost of construction works, including those connected with logistics and engineering support.

According to general plan of Saint Petersburg, the development of new cargo areas of the Great port is scheduled in the districts Bronka – Lomonosov, Kronshtadt town and p. Gorskaya. In the forecast for year 2010 the input of terminals located near the complex of protection structures (area of p. Gorskaya, Kronshtadt town, Lomonosov town, area of Bronka railway station, etc.) will make 8% – 11%, and by year 2025 – from 21% to 35% of cargo turnover, and this zone is the main source of growth of Great port cargo turnover.

One of prospective areas is Bronka – Lomonosov, which will be able to handle sea vessels and “river-sea” vessels, specialize in processing of container and Ro-Ro cargoes, provided that a new navigable canal will be laid. Not only a sea port, but also logistic terminals and assembly may be placed here.

Considerable capital investments are required for development of new territories for preparation of sites and creation of port infrastructure, as well as for construction of seaway canals, approach roads and railways. Without governmental support the private business will not invest in development of port facilities because of impossibility to pay back the investments within reasonable period and assume all risks related to project implementation.

The creation of Special economic zone in Great port of Saint Petersburg is one of tools securing the development of transport and logistics complex of the city proportional to the growth of demand for its services enabling to redirect Great port of Saint Petersburg for transshipment of hi-tech cargoes, to attract the required state funds and private investments for development of port terminals, seaway and land access to them, to create conditions for development of added value services, which include transportation, warehousing, distribution and management of logistic chains, i.e. full range of services with considerable added value. The creation of Special economic zone will enable to attract considerable investments for modernization and development of Saint Petersburg Great port areas in order to redirect it towards hi-tech cargoes, purchase of new cranes and equipment, construction and reconstruction of seaway canals, railway and land access, creation of logistics centers. Port SEZ will facilitate economic development of the territory on which it will be located, due to activating of foreign trade and innovation activities, increase of cargo handling volume, creation of additional jobs, boosting the development of competitive science-intensive technologies and industrial production, increase of tax revenues of different level budgets.

In connection with the above stated the proposal of the following seems to be expedient:

1. To analyze the efficiency of placement of infrastructure facilities on the territory of Great port of Saint Petersburg, to zone the port territory with consideration the specialization of the territory in transshipment of different cargoes;
1. To elaborate the concept of development of special economic zone on the territory of Great port of Saint Petersburg.

Motor transport

Petersburg trucking companies play the leading role in securing international motor transportation in North-Western Russia.

Over 10% of the total volume of international cargoes brought to the Russian Federation by motor transport, is brought to Saint Petersburg,

half of them is brought by Russian haulers, and the other half by foreign haulers. Over 5% of the total volume of international cargoes taken out of the Russian Federation by motor transport, is taken from Saint Petersburg, approximately 40% by Russian haulers, and 60% by foreign haulers.

And the Petersburg trucking companies operate under the conditions of tough tariffs competition with other types of transport and with foreign haulers. Even insignificant increase of net cost, and as a consequence the transportation tariffs, may bring the Petersburg haulers to face the reduction of their market share. At the North-Western market of international motor transportation the main competitors of the Russian haulers are haulers from Finland, Baltic states and Byelorussia.

The main reasons having adverse effect on strengthening of the position of Russian haulers at the international market of motor transportation services, as well as the quality of transport control are as follows:

- lack of well-developed and thought-out system of service maintenance of motor vehicles when approaching Saint Petersburg and within the city – poor technical state of Russian vehicles failing to comply with requirements of current European standards, and impossibility of their use for international transportation, unequal tax and customs (in comparison with foreign haulers) conditions for purchase of foreign made motor vehicles;

o Considerable idle time of motor transport upon entry to the border checkpoints while waiting for customs control and examination;

o Traffic delays on city highways.

It should be also noted that the opportunities for growth of motor transport use efficiency through increase of average road speed, carrying capacity of rolling stock has certain restrictions. The increase of motor transport efficiency by increase of carrying capacity is suppressed by the necessity to obtain a special permit for passage of heavy vehicles having total weight of 38-44 tons, and oversized vehicles having length up to 24 m and height up to 4.2 m within the city limits.

Among positive examples we can mention the implementation of joint Russian-Finnish project “Green Corridor” at Vyborgskaya customs house, based on transfer of electronic information on cargoes arriving to the checkpoints. Upon arrangement of “green corridors” the elements of logistic support with the use of computer technologies were applied. However, other controlling services do not participate in

the named logistic support system, which is possible only in case of creation of single information space for controlling authorities.

A computer system has been elaborated for recording of truck transport arriving to the city and for transfer of information on the possibility to arrive to Great port of Saint Petersburg.

In connection with the above stated, and taking into account the necessity to provide the support of regional level problems on the basis of interaction between the federal and regional authorities, the following may be proposed for solving the problems of development of international motor transportation within Saint Petersburg:

1. Elaboration of drafts of inter-departmental agreements between regional structural divisions of federal executive authorities and Saint Petersburg Government as regards promotion of logistics development and development of informational interaction between the participants of transportation process.
2. Conducting comparative analysis of permissible parameters of heavy vehicles for city and international highways available in EEC states and Russia with the purpose of their unification, and elaboration of requirements to structural elements of E class motor highways for securing their integrity upon passage of heavy vehicles meeting EC requirements.
3. Elaboration of program control over traffic of large-scale and heavy vehicles within the city and on motor roads when approaching Saint Petersburg (with showing the information on traffic routes, technical parameters of roads and characteristics of their service state, location of bridges, their carrying capacity, limitations of load and overall dimensions, location of road signs, etc.). With facilitating wide access to informational resources of the program, including through Internet providers.
4. Elaboration of the layout of parking places and service centers for truck transport within the city limits.

Terminal complexes

Considering the necessity of comprehensive development of all elements of transport and logistics complex, and the necessity to prepare informational, human resources and scientific potential for its functioning, the following may be also proposed:

1. Research into the optimization of placement of terminal complexes and distribution centers within the city area, defining their optimal sizes for different city districts;

2. Extension of training base for training and retraining of warehousing logistics specialists, including through holding international training workshops on this activity.

Informational potential

1. Extension of areas for implementation of information technologies in transportation industry, considering the necessity to arrange interaction between transportation companies operating different types of transport;
2. Research into and development of recommendations on automation of process of monitoring of road surface quality and the state of roads within the city;
3. Research on extension of system of statistical factors characterizing the development of transport and logistics complex with the purpose of monitoring of its state and development.

Human resources potential

1. Elaboration of forecast of the need for different profile specialists for transport and logistics complex

9.2 Links to the LogOn Baltic project

LogOn Baltic project was developed using official materials reflecting the problems and development prospects of different spheres of activities and industries within Saint Petersburg, published in official sources, official statistical data. Taking into account the estimations and opinions on the issues under consideration, which were contained in the developments of leading scientific teams of Saint Petersburg engaged in development of transportation activities, such as “LenmorNIIproject” OJSC, Research and design institute of Territorial development of transport infrastructure, Railway Transport Academy, Engineering and Economics Academy and others.
Within the frames of LogOn Baltic projects the efficiency of implementation of informational support of logistics process at industrial enterprises and transportation companies of Saint Petersburg with application of computer systems have been studied. For this purpose the working groups formed for the project implementation

have conducted a number of polls and studies on logistics and informational technologies. The practical experience in implementation of major intra-corporate and inter-corporate systems has been analyzed. It resulted in detection of most vexed problems of this domain, highlighting of certain issues and elaboration of a number of proposals described in section 9.