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**IT MARKET GROWTH CENTERS IN RUSSIA:  
MOSCOW, ST. PETERSBURG AND NOVOSIBIRSK**

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**Abbreviations**

CEO	Chief Executive Officer
CIS	Commowealth of Independenp States
ERP	Enterprise Resource Planning
FDI	Foreign Direct Investment
G2B	Government to Business
GDP	Gross Domestic Product
GRP	Gross Regional Product
HW	Hardware
ICT	Information and Communication Technology
IP	Internet Protocol
IS	Information System
IT	Information Technology
LAN	Local Area Network
PC	Personal Computer
PDA	Personal Digital Assistant
R&D	Research and Development
SMEs	Small- and Medium Size Enterprises
SW	Software
Telecom	Telecommunication(s)
WAN	Wide Area Network

## Foreword

The Northern Dimension Research Centre (NORDI) is a research institute run by Lappeenranta University of Technology (LUT). NORDI was established in the spring of 2003 in order to co-ordinate research into Russia.

NORDI's mission is to conduct research into Russia and issues related to Russia's relations with the European Union (EU) with the aim of providing up-to-date information on different fields of technology and economics. NORDI's core research areas are Russian business and economy, energy and the environment, the forest cluster, the ICT sector as well as Russia's logistics and transport infrastructure. The most outstanding characteristic of NORDI's research activities is the way in which it integrates technology and economics.

LUT has a long tradition in performing research and educating students in the field of communist and post-communist economies. From this perspective, LUT is ideally located in the East of Finland near the border between the EU and Russia.

This volume describes Russia's IT market growth centers: Moscow, St. Petersburg and Novosibirsk. This research is a part of the project *Competition and Co-operation between Finnish and Russian Companies* which is run by Lappeenranta University of Technology. The project is also part of the Finnish Academy's research program *Russia in Flux*, and is financed by the National Technology Agency, TEKES.

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## 1 Introduction

The sharp devaluation of the national currency in Russia in 1998 delivered a stronger than expected boost to the Russian economy. The gross domestic product (GDP) that had continuously fallen since 1990 started to rise in 1999. High world oil prices have also helped to sustain this recovery. These trends, along with a renewed government effort to advance structural reforms, have bolstered business and investor confidence in Russia's economic prospects. It is unlikely that oil prices will fall in the immediate future, which means that economic stability in Russia should not suffer. However, the current export structure (the exports of oil and natural resources make up 80 % of all exports) is rather dangerous because Russia's economy is now more dependent than before on the international commodities markets. It is necessary for Russia to develop other sectors of its economy to increase the competitiveness of the country. Therefore, the growing information and communications technologies (ICT) sector will play an increasingly important role in the future of Russia's economy.

During the last few years economic growth in the country has increased the domestic demand for the products and services of Russian companies. In order to be more competitive Russian companies need to improve their daily operations, management as well as the quality of their products. The public sector is also involved in improving its functionality, performance and infrastructure. Moreover, the country's manufacturing base has declined and must be modernized in order for Russia to achieve stable economic growth. Modern information and communications technologies can help organizations perform routine tasks and unique operations, and the demand for ICT grows every day.

The ICT market is rather broad and consists of various segments. This volume focuses only on one segment known as information technology (IT). It includes software (SW) development and intellectual services (integration, consultancy and outsourcing). The IT segment is the focus of the interest because it is less studied than, for example, telecommunications. In addition, the demand for IT products and services has recently started to increase in Russia. This is a good sign because when an economy recovers, organizations consume basic ICT products such as hardware (HW) and office equipment. As businesses become more developed, advanced products and services attract their attention. Such products and services lead companies to the next stage of development. Using these products and services, organizations can improve their business processes, diversify their activities, control resource flows and, hence, increase their competitive advantage.

Chapter 2 discusses the current trends in the Russian ICT industry and highlights the economical and political conditions that brought the ICT market to its current position.

Chapter 2 also focuses on the main markets and customers of the ICT products in Russia, the private and public sectors, as well as on actions that have been taken by the Russian government to further development of the ICT market.

Chapter 3 defines the structure of the ICT market by concentrating on the characteristics of the main market segment. As this report is devoted mainly to the IT sector of the market; its main sectors, which are software development and intellectual services, are reviewed in detail.

Chapter 4 looks at the development of the IT sector in various regions of Russia by studying the country's three biggest cities, Moscow, St. Petersburg and Novosibirsk. Historically, these cities have been centers of research and development and the homes to large numbers of scientific institutions. Nowadays, these same cities have become the most developed in Russia in terms of the number of IT companies based in them. Chapter 4 summarizes the interview of a representative of an IT company from St. Petersburg. This company was selected because it is a typical example of a growing and developing company in the Russian IT market.

The conclusion section summarizes all observations made in this paper as well as the main characteristics of the IT market in Russia's regions.

## 2 Current Situation in Russian ICT Industry

### 2.1 Economic Environment

#### General overview<sup>1</sup>

Several factors influence the development of the ICT market: the political environment, the economical situation and the needs and expectation of the market itself as well as innovations and new technologies that might be offered. The political situation and economical conditions define the development perspectives in all economy sectors.

Two main events have influenced the development of the Russian economy during the last several years: the devaluation of the national currency (the Russian Ruble) and high world oil prices. From the 1998 financial crisis to the end of 2004, the Russian economy grew at an average annual rate of 6.5 % (Table 1). Although high world oil prices have been important drivers of this economic rebound, from 2000 onwards investment and consumer-driven demand have played an ever more noticeably important role. Russia has also improved its international financial position since the 1998 financial crisis, with its foreign debt declining from 90 % to around 28 % of the country's GDP.

**Table 1. The main macroeconomic indicators of Russia**

	1999	2000	2001	2002	2003	2004	2005*
<b>GDP, USD billion (real)</b>	195.9	256.7	306.6	345.1	430.1	582.4	725.0
<b>GDP, annual change, %</b>	6.4	10.0	5.1	4.7	7.3	7.1	5.0
<b>Average exchange rate RUR/USD</b>	24.6	28.1	29.1	31.3	30.5	28.8	28.0
<b>Gross fixed capital formation, USD billion (real)</b>	28.8	43.7	57.9	61.8	78.7	104.0	N/A
<b>Gross fixed capital formation, annual change, %</b>	6.4	18.1	10.2	2.8	12.8	10.8	8.0

Source: Wiiw 2005 (\* forecasted)

In the turn of the century there was an essential turnaround in Russian economy. In the first year after the strong depreciation of the Ruble, Russian economy started to recover: in 1999, GDP increased by respectable 6.4 % (Table 1). The overall growth accelerated to no less than 10 % in 2000, mainly due to a strong improvement of world oil price. In 2001 and 2002, Russian GDP growth decelerated somewhat, but in both years the annual GDP increase was close to 5 %, a very healthy figure. In the following two years, 2003 and 2004, Russian GDP growth rate exceeded 7 % a year. Thus, the Russian boom in the early years of the 21<sup>st</sup> century has gained the momentum.

<sup>1</sup> This section was written with a help of Professor Tauno Tiusanen, Director of Northern Dimension Research Center.

The most important single detail in the Russian growth scene is the positive development of investment in the post-crisis (1998) period. In the year of the Ruble depreciation, investment declined by over 12 % in real terms. The post-crisis exchange rate of ruble gave a clearly positive incentive to invest in import-substituting branches. The oil price hike in 2000 improved the Russian investment climate considerably via 60 % increase in export income. Investment grew by more than 18 % in 2000. In the following year, 2001, investment in real terms still showed a very sound increase of over 10 %, but decelerating to less than 3 % in 2002. Obviously, there is an urgent need in Russia to have long-term dynamism in the investment scene. Russia's manufacturing base is dilapidated and must be replaced or modernized for the country to achieve broad-based economic growth. A big part of the buildings is dilapidated as well and need fundamental restoration. In 2003, investment activity in Russia was back to fast-growth lane showing an annual increase of almost 13 %. Also in 2004, investment in real terms achieved a double digit growth figure of about 11 % (Table 1).

The most important external fact in the Russian economy, the world market price of oil (which also affects the export price of natural gas), has shown extraordinary dynamism lately. The barrel price of oil grew from about 12 USD in 1998 to about 44 USD in 2004. The demand and supply situation in the global oil market favors strongly suppliers, and thus, oil price on the global market has reached new record highs, affecting Russian export income positively (Table 2). It is highly likely that amid this oil price boom, Russian economy will remain on the path of strong economic growth for several years to come. Strong oil export earnings have allowed Russia to increase its foreign reserves from only USD 12 billion to some USD 124 billion.

**Table 2. Average world oil prices**

	1998	1999	2000	2001	2002	2003	2004	2005*
<b>Average world oil price, USD per barrel</b>	12.1	26.0	25.3	26.0	25.9	29.5	43.5	57.0

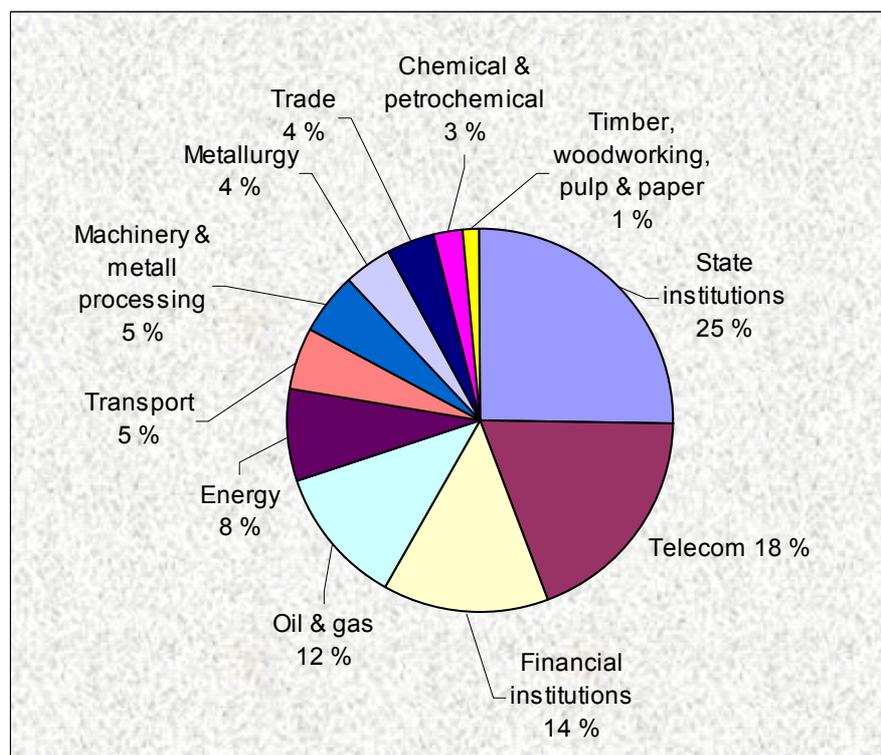
Source: Minfin.ru 2005 (\* forecasted)

In the post-crisis years, the Russian federal budget has been in surplus every year. External debt has been serviced properly: even some extra shortening in the foreign debt has taken place in the term of the century. The state has earned supplementary income of oil exports; even through the big bulk of oil companies are private. The state improves export tax on oil deliveries to the global market. Part of this public sector oil income is diverted into a special fund, which can help to oven out business cycles if needed. The idea of this reserve fund is to boost local demand if oil price on the world market suddenly will go down. Altogether, the

public sector<sup>2</sup> in Russia is relatively modest in comparison to Scandinavian welfare states: in the high tax Nordic countries, the public sector is close to 50 % of the local GDP, while the equivalent figure in Russia is estimated to about 25 %.

The majority of ICT products and services are consumed by the public sector (Figure 1). The government intends to computerize all state institutions in accordance with certain standards, and has purchased ICT products and services intensively. Telecommunications, financial institutions, the oil and gas industry, energy and transport have shown stable demand for ICT products and services as well. In most cases, the companies in these sectors use considerably outdated equipment and suffer from a rather poor IT infrastructure; they, therefore, need to improve the performance of their equipment. Thus, organizations in the public sector feel the need to ameliorate their infrastructure and develop IT services, which means long-term demand.

**Figure 1. The demand for ICT products and services in 2004**



Source: Kraschenko 2005

<sup>2</sup> The public sector does not depend on ownership state, private or joint ownership can cover the key public and strategic spheres of the economy such as the agricultural sector, the fuel and energy complex, transport, telecommunications, the army and navy, research, public health, the social sector, space etc. The functioning of the public sector is regulated by the law and the norms of special units of the public administration and independent agencies. (Lingvo.ru 2005)

The Russian government remains the most generous investor, providing the biggest portion of the demand for ICT. Between 2001 and 2003 the government spent USD 3 billion, and it is expected that its expenditure will reach USD 5 billion between 2004 and 2007.

The Russian economy overcame the devaluation of the Ruble rather quickly. A real investment boom followed in 2000, but this was closely related to the high prices of oil and natural resources prices as mentioned above. Economic growth in the country gives businesses the opportunity to develop by raising domestic demand. It is for this reason that companies in Russia are interested in optimizing their business processes and functionality as well as in improving management and quality. By increasing their expenditure on ICT, Russian companies are attempting to conquer larger markets and become more competitive. According to CNews (2005) about 54 companies out of 100 buy software, 70 of them use various IT services and 60 are customers of the telecommunications sector.

A renewed effort by the government to implement structural reforms, have raised business and investor confidence in Russia's economic prospects. Nevertheless, some issues have yet to be resolved. Oil, natural gas, metals, and timber account for more than 80% of Russia's exports, leaving the country vulnerable to swings in world prices. Therefore, the growing ICT sector and IT services exports, in particular, will play an ever-increasing role in the future of the Russian economy. (Russoft.ru)

### **ICT market**

The size of the market shows a stable increasing trend for the last four years (Table 3). In 2000, Russian ICT companies produced goods and services worth USD 6 billion; three years later, in 2003, the corresponding volume had risen to USD 16.5 billion – more than 2.5 times the value for 2000. There are no official statistics on the size of the Russian ICT market in 2004, but certain assumptions – that it has reached a value of USD 19.6 billion – were made based on four years of stable growth. (Cnews.ru 2005)

**Table 3. The size of the Russian ICT market**

	<b>2000, USD billion</b>	<b>2003, USD billion</b>	<b>2004, USD billion</b>
<b>Size of the ICT market</b>	6.0	16.5	19.6

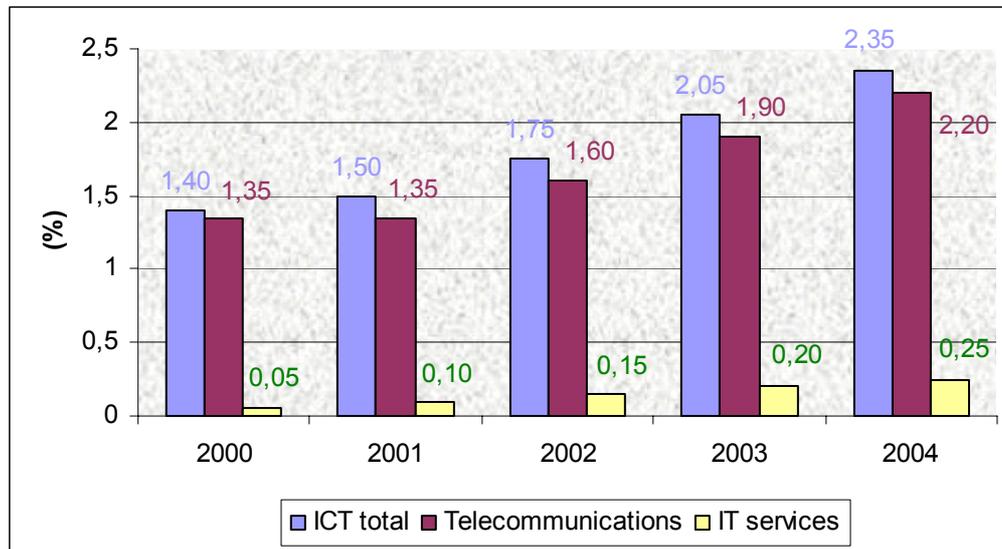
Source: CNews.ru 2005

Telecommunication services play a dominant role in the Russian ICT market (Figure 2 and Table 4<sup>3</sup>). Even though the development of the ICT market has shown remarkable success, the structure of the Russian ICT sector has remained quite primitive. In Western countries the IT

<sup>3</sup> The data does not include the sales of Russian software and hardware distributors.

services<sup>4</sup> a more important role than in the economy than do telecommunications. In Russia, the complete opposite can be observed.

**Figure 2. The share of ICT in the GDP of Russia**



Source: CNews.ru 2005

The gap between telecommunications and IT services is quite substantial. The Russian ICT market is young and emerging but is on a path of firm growth. The Russian economy itself has overcome crises and become more attractive for business operations and investment. There is more demand for the services offered by the telecommunications sector in that case because these services are general in nature and satisfy the basic needs of businesses. It is obvious that more advanced companies realize the feasibility of using more advanced services such as those offered by the IT sector.

**Table 4. The share of ICT in the GDP of Russia**

	2000, USD billion	2001, USD billion	2002, USD billion	2003, USD billion	2004, USD billion
<b>Telecom</b>	3.5	4.1	5.5	8.2	12.7
<b>IT services</b>	0.1	0.3	0.5	0.8	1.4
<b>ICT total</b>	3.6	4.6	6.0	8.8	13.6

Source: CNews.ru 2005

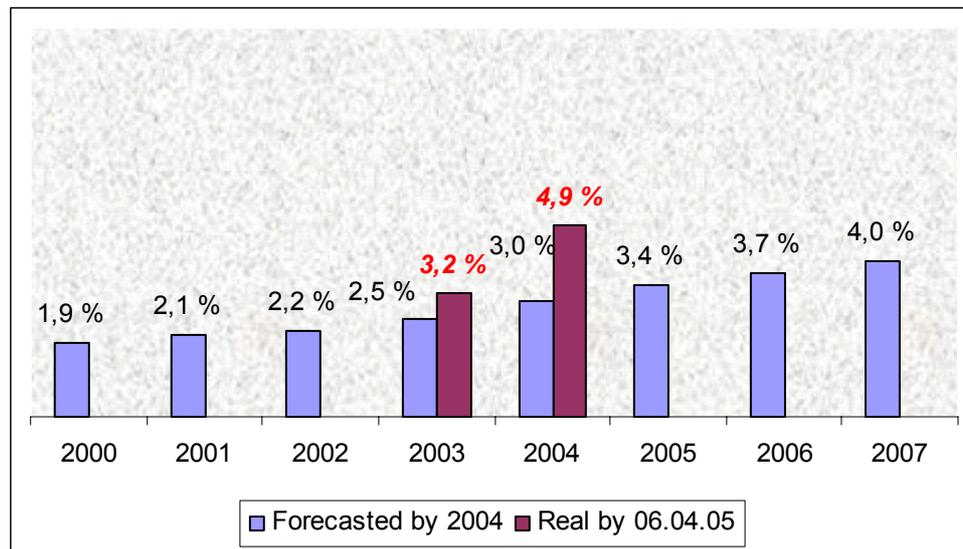
Nevertheless, the growth of the ICT industry is faster than that of Russia's GDP. Market saturation is typical in the global ICT industry but has not been observed in Russia where the adoption of ICT technology in society is taking place rapidly. The Russian ICT sector is a very good illustration of the industry in the early stages of its development. Moreover, in

<sup>4</sup> IT services include software and information system development, integration, consultancy and outsourcing.

August 2004 the ministry of information and communication technologies announced results that differed from the forecasts for the ICT sector's proportion of the Russian GDP.

It was forecasted that ICT production would contribute 2.2 % of the Russian GDP in 2002, 2.5 % in 2003 and 3 % in 2004. These figures were published in a document entitled "Forecast of development of ICT sector in the Russian Federation up to 2007" which was submitted for review to the government in the third quarter of 2004. Meanwhile, in April 2005 at the All-Russian meeting devoted to the achievements of the ICT industry the minister of information and communication technologies declared that ICT sector's proportion of the country's GDP had grown from 3.2 % in 2003 to 4.9 % in 2004 (Table 4 and Figure 3). (Minsvyaz.ru)

**Figure 3. The share of ICT in the GDP of Russia**



Source: Minsvyaz.ru 2005

Leonid Reiman, the minister of information and communication technologies of the Russian Federation, claims that if the actions declared in the state policy are realized, the size of the IT market will reach USD 40 billion by 2010 (Plitman 2005). However, industry analysts, such as CNews<sup>5</sup>, as well as experts are more skeptical about these figures. Moreover, Liuhto (2005) claims that it is practically impossible to transit from a resource-based economy to a postindustrial economy without building up an information society. The structure of Russia's exports has not changed since the Soviet era; even though the volume of Russia's exports has grown threefold, more than two thirds of all exports consist of various natural resources like oil and gas. It is unlikely that oil prices will go down in the immediate future, which means that Russia's economic stability should not suffer. However, such an export structure is rather

<sup>5</sup> CNews Analytics is a Russian research group specialized in information technology and telecommunications in Russia.

dangerous. British Petroleum experts forecast that Russian oil deposits will be sufficient for 25 years and gas deposits for 85 years at the current rate of extraction (Bp.com 2004). In other words, if Russia does not increase its competitiveness in other sectors, it may encounter serious problems in the second half of this century – the standard of living will fall. The ICT sector is a reasonable platform for building up the country's competitiveness.

## **2.2 Political Environment**

Political stability is vital prerequisite for favorable macroeconomic development and investments. Over the past years, political situation in Russia has been rather stable, which positively reflects on the development of the ICT sector. The Russian government places a lot of emphasis on strategic planning and is capable of evaluating the role of ICT in public administration and society. High-level authorities have recognized the necessity of economy transition and the development of the high-tech sector.

Long after 2001, the Russian government approved a program called Electronic Russia (2002-2010); the program was financed with USD 2.6 billion and focuses on four dimensions: (1) legislation and regulations; (2) the Internet infrastructure; (3) e-government; (4) e-education. The aims of the program are to increase efficiency in the public and private domains through the use of IT, to improve the quality of IT education, to develop new independent mass media that uses the Internet and to broaden distance-learning courses. Moreover, the program assumes that most governmental institutions will operate on-line in the near future. (Liuhto 2005) Electronic Russia has its advantages and disadvantages. One of its undoubted advantages is that the program itself has changed the attitude of the authorities towards IT. Even though Electronic Russia is important, it has certain bottlenecks. The budget is quite small for a project of its scale and has even been cut. The planned foreign involvement is not sufficient for the Russian IT industry to benefit.

The next substantial milestone is that issues related to the stimulation of the ICT sector were brought up at the state level; the interest shown towards the ICT sector by the government has finally started to increase a more rapid pace. The Russian authorities have prepared and approved a set of strategies for the development of the ICT sector: “The Conception of the development of the information technology markets in the Russian Federation by 2010”<sup>6</sup> as well as “The Conception of the development of the telecommunications markets in the Russian Federation by 2010”, “The Conception of the development of mobile communication in the Russian Federation by 2010”, “The Conception of the development of postal services in the Russian Federation by 2010”. Electronic Russia and all conceptions are interconnected.

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<sup>6</sup>This document will be referred to later on as the Conception. This report primarily is oriented towards the IT sector of the ICT industry; thus this Conception is particularly relevant to the paper.

However, the Conception covers the domain of IT only, whereas Electronic Russia encompasses the whole ICT industry.

The Conception offers several dimensions for development: (1) legislation; (2) the domestic market; (3) the growth of exports; (4) institutional issues:

1. *Legislative regulations* in the IT sector should itemize legal principles and procedures that provide an embodiment of the constitutional norms in the IT domain. Several federal laws were stipulated for the ICT sector more than 10 years ago: “On Information, Informatics and Information Security”, “On Participation in International Information Exchange” and “On Mass Media”. Since then, it has become necessary to attempt to bring the existing laws up to date with the rapid development of IT as well as with issues related to the protection of property rights. (Apkit.ru 2003).
2. *The development of the domestic market* is mainly hampered by the low level of private demand for IT because of low income levels. In the public sector, the demand for IT is restricted by a lack of financing for large-scale state programs and IT projects as well as by a shortage of qualified and educated users, i.e. IT specialists. Long periods of investment amortization and the complexity of the accelerated amortization of hardware in publicly owned organizations are the most significant impediments to the modernization of the existing hardware in these organizations.
3. *The development of exports in the IT sector* is also important. Current legislation requires that almost 20 different documents be prepared to meet the customs formalities for the export of IT products, which leads to delays in export declaration and high administrative costs for local companies. Many high-tech companies that develop software for foreign industrial and household equipment need to import prototype hardware for development purposes. Problems caused by the legislation on temporary imports impede the development of the exports of IT services. At the same time, these problems stimulate the transfer of export operations abroad, for instance, through the establishment of offices in other countries. (Ivanova et al. 2005)
4. *Institutional issues* include the development of the general infrastructure, through, for example, the establishment of technology parks, the provision of high-level IT education and the effective protection of intellectual property rights.

Farish (2003) and Liuhto et al. (2004) consider corruption as a factor that is hindering the development of ICT in Russia. In 2004 Russia was ranked 90th out of 149 countries in a global corruption comparison. Only four other European countries ranked lower than Russia, Serbia and Montenegro, Albania, Moldavia and Ukraine (Transparency.org 2004).

### 3 The Russian ICT Market

#### 3.1 Characteristics of the Russian ICT Market

##### General market segmentation

The ICT sector develops quite rapidly, consists of several segments and is rather heterogeneous. Hence, it is difficult to define a concrete structure for it; moreover, there is no integrated approach to ICT market classification. This paper employs an approach that divides goods into tangibles (equipment) and intangibles (intellectual goods/software). Most experts (IBusiness.ru 2003) believe that this market classification best reflects the structure of the industry from the perspective of goods and services turnover.

In Figure 4 tangible assets are divided into telecommunications equipment and hardware. Figure 4 includes the manufacturing and distribution of equipment. The second large segment belongs to the intangible or intellectual domain. The Internet segment consists of (1) content services, the means of communication, the author's content; (2) design, e-commerce technologies and business; (3) the Electronic Government solution; and (4) advertising and marketing. The telecommunications segment combines telecommunication services. These four market segment exceed the bounds of the research and are mentioned only as a considerable part of the ICT market.

This paper focuses primarily on software development (infrastructure/system SW<sup>7</sup>, middleware<sup>8</sup>, groupware<sup>9</sup>) and intellectual services in the Russian ICT market: (1) consultancy in business, IT and information security; (2) integration (development, network integration and distribution); (3) operation (SW and PC maintenance, IT outsourcing, education and training). Generally, these segments belong to the IT sector. Thus, the term IT market will be used further on in this report to refer to software development and intellectual services only.

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<sup>7</sup> System SW – operating systems, SW and applications for SW development, testing and maintenance.

<sup>8</sup> Middleware - general term for any programming that serves to "glue together" or mediate between two separate and often already existing programs. A common application of middleware is to allow programs written in order to access a particular database to access other databases (Whatis.com).

<sup>9</sup> Groupware - a class of software that helps groups of colleagues (workgroups) attached to a local-area network organize their activities (Webopedia.com).

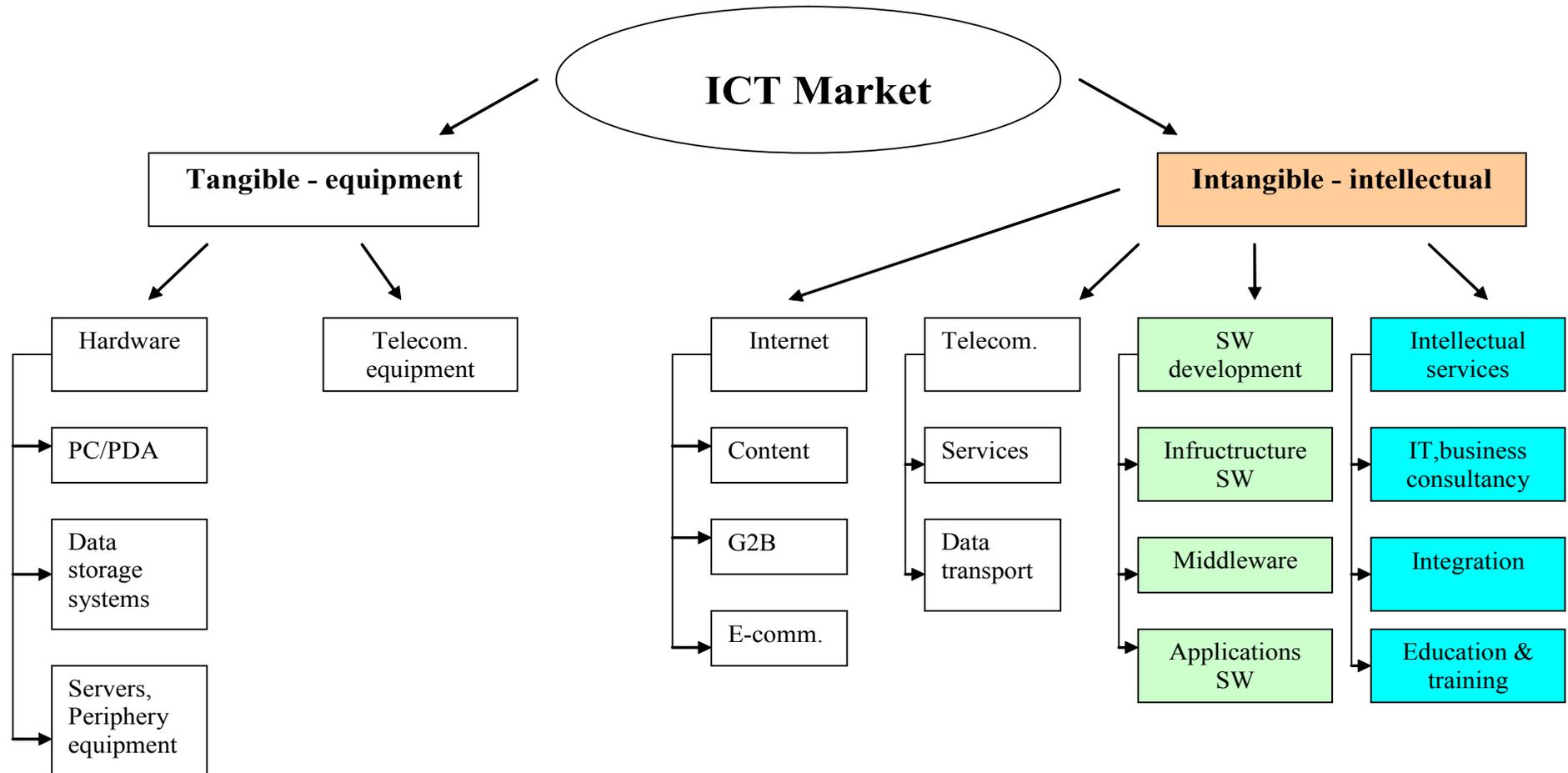


Figure 4. The structure of the Russian ICT market

### Dependence on the state

The state policy towards and influence on the IT sector has developed both positively and negatively. This view is supported by the CEOs of the biggest Russian companies, Alexander Kalinin, the president of National Computer Corporation and Anatoliy Karachinsky, the president of IBS. Heavy dependency on the state is rather dangerous because any failures lead to negative tendencies in the IT market. Karachinsky and Kalinin (2005) claim that in 2004 the development of the IT market and the adoption of IT in state institutions were hampered by administrative reforms, the completion of which the whole market waited. Kraschenko (2005) argues that the consequences of the reform undermined the business of many companies and altered the market. When faced with uncertain state orders, companies postponed expensive high-tech projects and switched to a different market segment – IT equipment distribution. Table 5 shows that the sales made by companies of equipment supply in integrations projects and the permanent demand on hardware is much higher than in services and SW development activities; moreover, the proportion of SW development projects between 2003 and 2004 fell. For example, in 2004 National Computer Corporation (the biggest Russian IT holding company) announced distribution as its core activity. The main reason behind this decision was the reorganization of the integration and equipment manufacturing units of the company that perfectly match the overall situation in the market. Thus, sometimes dependence on the state turns IT companies from high-tech product developers and service providers into equipment distributors.

**Table 5. Sales of the Russian IT Industry**

	<b>2002, USD billion</b>	<b>2003, USD billion</b>	<b>2004, USD billion</b>	<b>Growth in 2003-04, %</b>
<b>PC</b>	1.7	1.8	2.1	16.0
<b>Other hardware</b>	1.3	1.5	1.8	18.0
<b>System integration</b>	0.8	1.1	1.4	30.0
<b>SW product development</b>	0.5	1.0	1.4	42.0
<b>Tailored SW development</b>	0.2	0.3	0.3	27.0
<b>Total</b>	4.7	5.8	7.2	24.0

Source: Cnews.ru 2003

The state also actively influences software development – it continues to invest in its own information infrastructure, which stimulates the growth of domestic SW development companies. Nowadays, most large-scale projects are financed by state institutions. On one hand, this situation looks promising for the future success of Russian companies; on the other, such a situation can become rather dangerous if the government terminate investment in such projects. Nevertheless, Russian IT companies are prepared for such a possibility. Companies analyze the main market trends and develop mass products, find new niches in the market,

develop tailored SW and produce new revolutionary high-tech products. Every year the number of such solutions grows.

### **Mergers into holding companies**

Regardless of the overall trend of IT business simplification, several common tendencies can be identified. One of the most popular actions was the consolidation of corporations. The 10 leading Russian IT companies are holding companies. Usually mergers have one goal – to increase the scale of the holding company in order to work up a market (Kraschenko 2005). An alternative approach to merging is differentiation in order to achieve a substantial concentration of managerial, marketing and development resources which leads to high-quality solutions

Table 6 contains a list of the biggest Russian ICT companies. The top positions are held by holdings and large system integrators; these companies are engines of the IT market, and the gap between them and the other market participants is remarkable. More than half of their sales consist of distribution. The majority of the sales of system integrators are related to the supply of hardware in integration products. The lowest positions are held by software development and consultancy companies. Their turnover originates fully from the sales of IT services. An analysis of the main tendencies shows that the transition from distribution to the high-level IT market has become the leitmotif of the whole market. The market structure is moving towards the IT services segment but slowly. The process of initial IT adoption in Russia, which has been characterized by mass hardware acquisition, is coming to the end. During the business revival in Russia, companies in the traditional sectors of the economy actively began to buy standard SW and order services in order to automate their activities.

**Table 6. The top Russian IT companies in 2004<sup>10</sup>**

<b>Company</b>	<b>Major</b>	<b>City</b>	<b>Sales in 2003, USD million</b>	<b>Sales in 2004, USD million</b>	<b>Staff</b>	<b>Growth of sales %</b>
<b>National Computer Corporation</b>	Holding, distribution – 63 %	Moscow	470.5	612.7	1,485	22.9
<b>IBS</b>	Holding, distribution – 56.5 %	Moscow	417.5	595.2	3,419	19.1
<b>R-Style</b>	Holding, distribution – 61.3 %	Moscow	330.7	441.0	2,150	25.8
<b>LANIT</b>	System	Moscow	285.0	395.2	1,600	44.5

<sup>10</sup> The companies in the table were selected from “Top 100 Russian ICT companies” prepared by CNews analytics and Dengi magazine.

	integration					
<b>Verysell</b>	Distribution 41.6 %, system integration	Moscow	260.9	369.6	550	33.6
<b>Krok</b>	System integration	Moscow	184.5	238.2	595	21.7
<b>IC</b>	Software development	Moscow	65.2	100.2	515	45.0
<b>BCC</b>	System integration	St Petersburg	51.6	87.4	520	59.5
<b>Nienschants</b>	System integration	St Petersburg	31.4	77.3	310	131.8
<b>NETA</b>	System integration	Novosibirsk	50.7	72.1	866	34.0
<b>EPAM systems</b>	Offshore development	Moscow	14.7	31.1	1,100	99.7
<b>Center of Financial Technologies</b>	Software development and integration	Novosibirsk	21.3	29.3	572	29.7
<b>Yunikon</b>	Consultancy	Moscow	12.8	17.9	300	31.3

CNews 2005, Dengi 2005

In addition, a number of foreign ICT companies operate in the Russian market. They are basically branches of large international corporations. The list and expert domains of these companies is shown in Table 7.

**Table 7. The biggest foreign companies in the Russian IT market**

<b>Company</b>	<b>Activities</b>	<b>World sales, USD billion</b>	<b>Staff in Russia</b>	<b>Growth of sales, 2004 %</b>
<b>Hewlett- Packard</b>	SW development; system integration, outsourcing; printing equipment	80.0	500	9.4
<b>Oracle</b>	Software supply	10.2	200	8.5
<b>SAP AG</b>	31.4 % - SW development and sales; 37.6 % - technical support; 26.2 % - consultancy; 4 % - certification and training	9.8	182	16.7
<b>Sun Microsystems</b>	52.3 % - equipment manufacturing; 13.4 % - SW development; 34.2 % - IT services	11.2	65	-1.8
<b>Lexmark</b>	Manufacturing of printers	5.3	30	10.4
<b>3Com</b>	79 % - LAN solutions; 7 % - WAN solutions; 1 % - IP telephony; 3 % - networks security solutions; 7 % - wireless solutions	0.7	18	N/A
<b>IBM</b>	46.2 % - IT services; 32.3 % - development and sales of HW; 15.6 % - SW development;	96.5	N/A	8.3

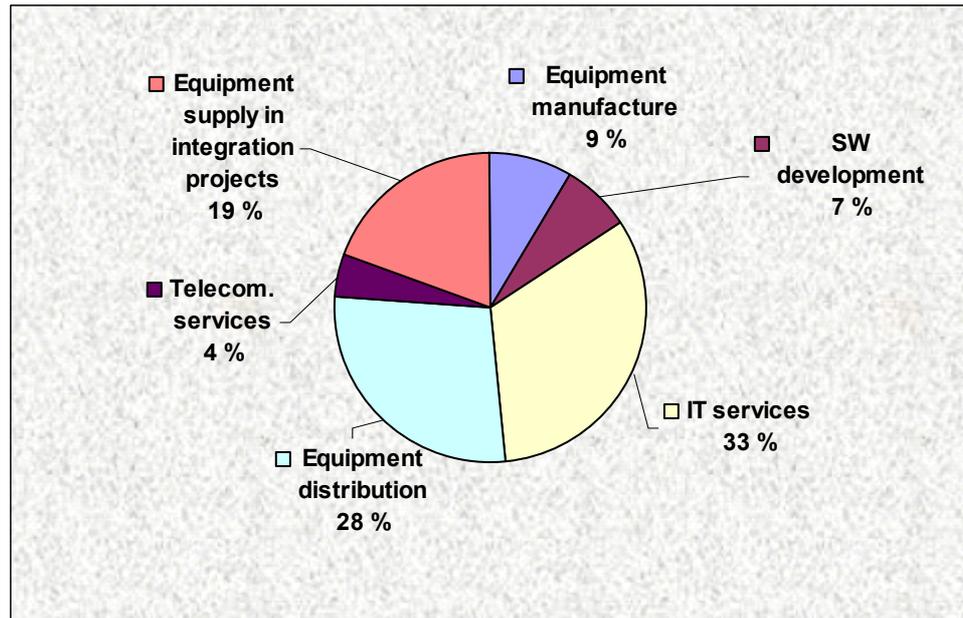
Source: Expert.ru 2005

### 3.2 Software Development Market Segment

The SW development segment is shown rather generally in Figure 4. The SW development segment can also be viewed more extensively. It is divided into two main categories: software product development and offshore development.

Figure 5 shows that in 2004 SW development, including both offshore and SW product development, made up 7.1 % of the sales of the largest Russian companies.

**Figure 5. The structure of the sales of the largest Russian ICT companies in 2004**



Source: Kraschenko 2005

#### Software product development

Software product development is characterized by multiple iterations of design-build-test cycles and the usage of frequent product builds. Developers also tend to interact with users throughout the development process. In the case of software product development, the unprofitable phase at the beginning is considerably shorter than in other research-based businesses. The process is still characterized by the accumulation of expenses at the front-end when the success of the product is still uncertain. (Ivanova et al. 2005) The advantages of this model are that a company accumulates intellectual capital and generates higher revenues. In such situations, the rights to the outcome belong to the vendor and the product can be replicated and sold several times. However, the product development process is complicated, in addition to which more effort is required for marketing and sales (Ekonomika i zhizn' 2005).

One branch of software product development is known as *project SW development*. Normally, businesses buy ready-to-use software solutions from developers in the early stages of their functionality. As the company grows it becomes more interested in obtaining complex individual solutions that increase its competitiveness due to, for example, unique business processes or more specific local adaptation. Project SW development is a difficult and expensive process, although the demand for it is growing rapidly – in most cases, it is more profitable for businesses to order domestic SW instead of customizing foreign software applications. The president of Galaktika Corporation, Nikolai Krasilov (Grishankov, Kraschenko 2003), claims that the influence of foreign technology is very heavy nowadays but that its wild duplication is unacceptable for Russian companies. The foreign approach does not consider the local business conditions.

Table 8 shows the leading Russian SW development companies.

**Table 8. The top Russian software development companies in 2004<sup>11</sup>**

<b>Company</b>	<b>Sales in 2004, USD million</b>
<b>GBOSS</b>	95.9
<b>TELMA</b>	18.3
<b>R-Style</b>	13.8
<b>EPAM</b>	13.5
<b>Galaktika</b>	12.4
<b>Diasoft</b>	12.2
<b>Labaratoriya Kaspekskogo</b>	11.5
<b>Cognitive technologies</b>	N/A
<b>Wested development</b>	N/A

Source: Expert.ru 2005

### **Offshore software development**

There are several names for offshore software development – outsourcing SW development, export SW development, offshore outsourcing and offshoring. Offshore software development is targeted especially towards foreign markets, as there is little demand for outsourcing in the domestic market. Basically, offshoring involves the sale of work hours and the outcome belongs to the customer. Thus, the profitability of such an arrangement is limited. The advantages of this model are that the production process is easier and the sale is more straightforward. However, one disadvantage is that the vendor company does not gain much intellectual capital and has difficulty in moving to higher-value work.

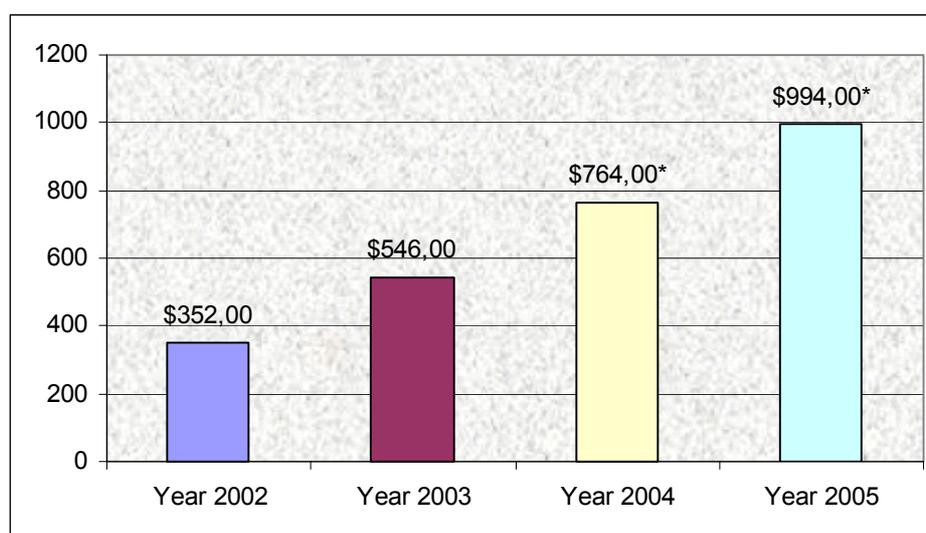
In 2004 CNews Analytics and Russoft, a non-profit organization, carried out an extensive research into the Russian offshore outsourcing market and made certain forecasts about the

<sup>11</sup> The table includes companies that operate in the sectors of SW product development, project SW development and offshore development.

development of this sector (Figure 6). They examined and analyzed over 300 small, medium and large companies that develop export SW. The research showed that determined that the value of SW exports in 2003 was USD 546 million and the forecasted value for 2004 and 2005 USD 764 million and USD 994 million, respectively.

Russian software offshore companies have attracted a growing amount of attention in Western countries over the past few years. At the same time, several Russian software product development companies have successfully gained recognition and sold their products globally. These products have been developed for various applications, such as antivirus protection, recognition systems, cryptography, biometrics and multimedia.

**Figure 6. Russian SW exports**



Source: CNews Analytics, Russoft, 2004 (\* forecasted)

### 3.3 Integration, Consultancy and Outsourcing Market Segment

IT consultancy, outsourcing, integration, education and training are the main elements of intellectual IT services and are significantly interrelated.

**Table 9. The top Russian IT service providers in 2004**

Company	Sales in 2004, USD million
Verysell	217.1
LANIT	177.0
Otkritie Tekhnologii – 98	116.6
R-Style	109.4
IBS	76.7
KROK	76.5
Ai-teko	76.0
Mikrotrest	69.8
BCC	61.4

Source: Expert.ru 2005

Table 9 shows the leading Russian IT service providers. It is not correct to separate their activities, and many companies offer several services in one package. Nevertheless, distinguishing features do exist at the general and company level.

### **Integration**

Integration is a complex activity which covers consultancy, information system development, SW installation, hardware supply, training services, support services and maintenance, but not all companies necessarily offer this set of services. For many years, professionals have debated on whether it is more beneficial to install massive ERP systems and update them or combine different interrelated applications. Most companies have opted to adapt ERP systems that allow different dedicated applications to be integrated into one another. Thus, all their business processes and sub-divisions are connected into one system. Corporate information systems have, in this way, become integrated informational platforms for the management of these companies. Moreover, document flow management, customer relationship management and banking systems are lucrative business sectors nowadays

In 2004 the integration of information systems dominated the intellectual IT services segment, with a market share of more than 50 % (CNews.ru 2005). The growth of the integration services sector will remain a dominant trend and the importance of hardware supply will decrease. This is a result of the market saturation by hardware and the growth in interest towards intellectual services.

Russian companies have maintained leading positions in their home market, but the entry of large foreign integrators will be a determining factor in the evolution of the market. Currently, foreign companies do not play a significant role in the Russian market (Ananiev 2005). At the same time, Kraschenko (2005) states that 54 out of 80 Russian integrators are specialized in the installation of foreign information systems rather than in their own or locally developed systems. Large serious foreign integration companies have been in the market for a long time; these companies are usually branches of HP, Siemens, and Accenture which are all leading global companies that normally work with big clients. Another group of foreign companies produces SW and SW platforms for information systems, although almost all their projects are supervised by or involve Russian partners. According to Zuev and Myasnikova (2005), the deployment of IT systems is hampered by the peculiarities of Russian business and its conceptual discrepancies with foreign planning and management procedures. Undoubtedly, foreign companies have secured their own niche but are unable to implement all the solutions required by the Russian market, which offers domestic companies rather broad prospects.

## **Consultancy**

Consultancy usually plays a significant role in integration processes; it is related to many activities within information system development, although some companies also view consultancy as an individual business. This is the second largest segment of the intellectual IT services market. Vinokurov (2005) proposes an approach which is general but provides suitable classification. The Russian consultancy market is in the making and must follow one of three main paths of development: (1) management consultancy, which refers to methodology development services, business model definition, business process engineering and strategy planning; (2) application development consultancy – ERP systems, front and back offices; (3) conventional IT consultancy, which combines the majority of the services related to the design, installation, running and support of IT infrastructures. IT consultancy also covers issues related to IT strategy formulation, IT systems auditing, the development of corporate standards in IT and project documentation expertise.

According to Kataev (2005), the main trend in the consultancy market is its simultaneous growth with the IT market. Vinokurov (2005) claims that the idea of “best practices” will become more significant. Bigger customers are interested in investing in successful projects that have already been implemented elsewhere. These customers are oriented towards solutions that have been proven successful and that have produced positive results for business processes in their particular industry.

## **Outsourcing**

The content of services is becoming more complicated. In the Russian context, the term IT outsourcing is used in two ways: (1) offshore programming services for foreign clients; (2) the support of IT system elements and the transfer of certain functions to a third organization, an arrangement in which one company provides another company services that could also or usually have been provided in-house. (Whatis.com 2005) This paper employs the second definition and distinguishes between outsourcing and offshore programming, which is often referred to as offshore outsourcing.

Thus, outsourcing is a complex process that is related to optimal resource management. It allows cost management to be improved, which is attractive to large companies. Outsourcing services can be obtained by any company on several bases, individual service contracts or long-term partnerships.

There are several barriers to the successful development of outsourcing services in Russia. Traditionally, Russian companies have been quite closed and unwilling to pass any corporate information to external partners. In addition, Russian companies lack the experience and methodology required in optimizing IT spending. Nevertheless, in Russia there are companies

that provide IT outsourcing services. Even though IT outsourcing has become more popular, only basic services, such as technical support for hardware or corporate network management are in demand nowadays.

### **Development trends in the of integration, consultancy and outsourcing segment**

According to Expert.ru (2005), the intellectual services segment of the IT sector - integration, consultancy and outsourcing - appears to be the most developed and promising in the current Russian IT market (Figure 5) with a market share of 32.7 %, even though experts have different opinions as to the evaluation of the activities of this segment. Foreign analysts have estimated the growth of this market at 30 %, while CNews analysts at 50 % in 2004. Thus, the market shows strong growth trends, in addition to which it has certain distinguishing features (Cnews.ru 2005):

1. *The segment growth.* In 2005 Russia has kept the price of oil and gas rather high, which has maintained a continuous inflow of foreign currency into the country. This, for its part, has led to the gradual growth of solvent demand for intellectual IT services. Until recently, only major companies were ready to install up-to-date world-class complex information systems. Today, the trend is for small- and medium-sized enterprises (SMEs) to take an interest and become involvement in this process. At the same time, the companies that have already installed IT systems are interested in continuous consultancy services. The growth rate of intellectual IT services depends on the growth of Russian market as a whole; the more companies emerge and develop, the more consultancy and auditing are needed.
2. *Development of investment activities.* This trend is viewed as a consequence of the first one. Most Russian IT companies are strong enough in terms of their domestic market, but not strong enough to enter the international market. To increase the competitiveness of this sector of the Russian economy, large investments are needed. However, there is no evidence of constant flows of investment into the IT business. Investment is necessary now, because the IT boom has passed and now companies require additional financial resources.
3. *Intensification of competition.* The appearance of new market players and the enhancement of the services offered by vendors and system integrators is the result of the increase in the use of intellectual IT services by SMEs. The competition is intensive at the beginning, because IT service providers do not require major initial capital. Later on, the level of competition might fall, because the IT market depends heavily on reputation; however, young companies are not ready to make major investments in their brand recognition. Thus, when new competitors enter the IT

market, they will encounter a situation in which there are large numbers of players offering intellectual IT services of different standards of quality for different prices. As a result, customers will search for an optimal balance, good quality for a reasonable price.

### **The view of experts on the situation in the integration, consultancy and outsourcing segment**

The aforementioned characteristics of the intellectual IT services segment are rather general and viewed from “how” perspective, which means that the market is developing in several dimensions. However, there is also a “why” approach that defines the more specific features of the development from the companies’ point of view. These trends have been widely observed by the managers of leading Russian IT corporations (NCC, Borlas, and Krok):

1. *Companies increase their IT budgets.* Increasingly, more companies are aiming at outsourcing activities that do not directly belong to their manufacturing or business processes as well as in order to minimize risks and to optimize costs for IT. In most cases, it turns out to be more profitable and effective to buy such services from external organizations instead of increasing the company’s explicit costs by hiring expensive professionals internally. Thus, Russian companies have become ever more competent in IT.
2. *Companies have a better understanding of their own needs.* This is appropriate not only for IT professionals but also for the personnel of functional departments and management. The approach of selecting the right IT product or service is more rational today. Many clients understand their needs and can provide formulated requirements for desired system or service (Ivanov 2005).
3. *SMEs are becoming more interested in intellectual IT services.* The competitive situation between SMEs is rather high. A successful business requires that business effectiveness and management be analyzed and evaluated. SMEs are seeking cost effectiveness, business process optimization and competitiveness, which require the broad implementation of IT and consultancy. Usually, ready-to-use non-bulky solutions are appropriate for SMEs. The integration of complex information systems and their further maintenance is much more expensive but more future-oriented (Tabakov 2005). The trend of installing complex solutions is becoming common in SMEs, although in any case these companies prefer to buy semi-ready solutions (Gorbunov 2005).
4. *Competition between foreign and domestic ERP systems providers.* In 2004 the demand for ERP systems increased drastically with the appearance of domestic and

foreign companies. According to Yakobson (2005), foreign ERP systems play an important role in the market, but are not ready to compete with domestic solutions since none of the foreign solutions is fully adapted to the local business environment. At the same time, the presence of foreign competitors has influenced the quality of the work done by Russian companies by stimulating the interest towards complex ERP systems, which has led to improvements in the functionality of domestic products.

## 4 Regions in the Russian IT Sector

### 4.1 Russia: Basic Facts, Regional Division

The Russian Federation or Russia is a country that stretches over a vast expanse of Europe and Asia. With a surface area of 17,075,400 km<sup>2</sup> (6,595,600 mi<sup>2</sup>), it is the largest country in the world, covering almost twice the territory of the next-largest nation, Canada. It ranks seventh in the world in population after China, India, USA, Indonesia, Brazil and Pakistan.

**Figure 7. Map of Russia**



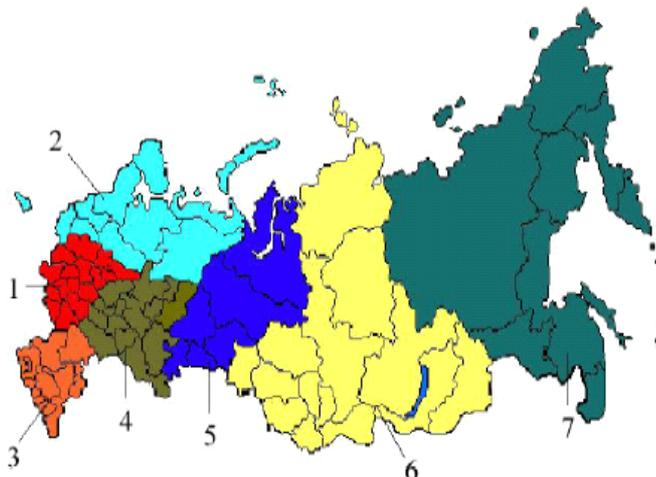
Source: Wikipedia.org. 2005

The Russian Federation consists of 89 administrative regions - federal subjects. These subjects are not equal in status. The 89 subjects consist of 21 autonomous republics, six provinces, 49 regions, two cities of federal status, one autonomous region and ten autonomous districts. The autonomous republics, autonomous districts and autonomous region are ethnically defined, while the provinces and regions are defined on territorial bases.

A republic is an administrative unit formed by a notably large ethnic group, but in many republics ethnic Russians are the majority. A province is a vast administrative unit often situated in the sparsely inhabited Eastern or Southern parts of the Russian Federation. A region is a relatively homogenous and self-supporting; it is usually named after the centre of the region; one example of a region is Novosibirsk. The autonomous region and the districts are lower-level administrative areas that, to some extent, function as part of a bigger federal subject. The autonomous region and the districts are usually remote, backward and sparsely populated territories. The federal cities are the country's two biggest cities, Moscow and St. Petersburg that have distinct federal status.

The 89 Russian regions form seven larger administrative areas called federal districts. These are the 1) Central, 2) North-Western, 3) Southern, 4) Volga, 5) Ural, 6) Siberian and 7) Far Eastern federal districts (Figure 8). The main geographical figures are shown in Table 10.

**Figure 8. The Russian Federal Districts**



Source: Wikipedia.Org 2005

**Table 10. The area and population of the Russian federal districts**

	Population, million	% of total	Area (1000 sq.km.)	% of total	Population density, person/sq.km	Share of urban population. %
<b>Central</b>	38.0	26.2	651	3.8	58.3	79.9
<b>Volga</b>	31.2	21.4	1,038	6.1	30.0	70.8
<b>Southern</b>	22.1	15.8	589	3.4	38.9	57.5
<b>Siberian</b>	20.1	13.8	5,115	30.0	3.9	71.1
<b>North-Western</b>	14.0	9.6	1,678	9.8	8.3	82.3
<b>Ural</b>	12.4	8.5	1,789	10.5	6.9	80.7
<b>Far Eastern</b>	6.7	4.6	6,216	36.4	1.1	75.9

Source: Goskomstat 2004

This report primarily concentrates on Moscow, St. Petersburg and Novosibirsk which are situated in the Central, North-Western and Siberian federal districts, respectively. The following is a detailed discussion of these districts. Table 11 contains information on the overall situation in all the districts.

The Central federal district, which also includes the capital of Russia, Moscow, is the centre of the country from the economical perspective. This district does not cover a very large area; it is the second smallest in the country. However, the Central federal district is the most populated with the highest population density and proportion of urban inhabitants. Its GRP in

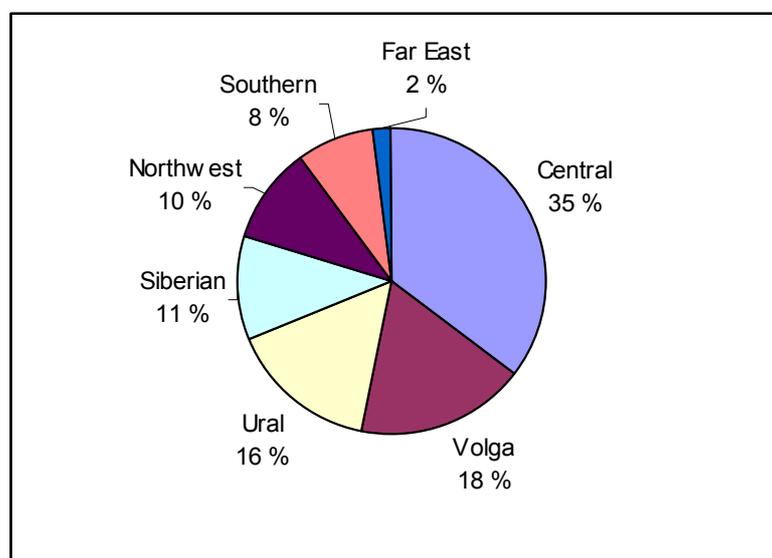
2002 was 35 % of Russia's GRP and totaled USD 102.9 billion. In 2003, the Central federal district attracted foreign direct investments worth of USD 15.6 billion, and the rate of unemployment (5.4 %) is the lowest among the federal districts. As most companies are located there, it is obvious that the cost of ICT products and services are also the highest just as are the number of organizations using these products and services. The Central federal district is the leader in terms of the number of universities, and statistics (Goskomstat 2004) show that there were 349 universities at the beginning of the academic year 2003.

**Table 11. Several key indicators of the Russian federal districts**

	GRP, USD billion, 2002	FDI, USD billion, 2003	Rate of unemp., 2003, %	Number of org. uses ICT, 2003	Expenditure on ICT, USD billion, 2003	Number of companies 2003	Number of univ., 2003
<b>Central</b>	102.9	15.6	5.4	27,088	3,472.5	1,596,789	349
<b>Volga</b>	51.9	0.9	7.6	22,192	1,243.2	624,778	171
<b>Ural</b>	45.3	5.5	7.5	9,018	822.0	310,923	74
<b>Siberian</b>	32.8	2.1	11.7	14,368	389.5	460,020	115
<b>Northwest</b>	29.8	1.8	7.0	11,507	436.7	517,255	132
<b>Southern</b>	23.7	0.6	15.3	11,627	316.6	472,866	152
<b>Far East</b>	15.4	2.8	8.4	6,937	245.7	167,184	51

Source: Goskomstat 2004

**Figure 9. The proportion of each federal district of the Russian GDP**



In 2002, the GRP of the North-Western federal district totaled USD 29.8 billion. The federal city, St. Petersburg is located in this federal district. The unemployment rate of the North-Western federal district is the second lowest in the country (7 %) which is due to the number of organizations located there as well as to the proportion of the urban population. Even

though the overall population is only 14 million, the third lowest of all districts, the same status applies to its area. Nevertheless, the number of universities there is 132. The North-Western federal district attracted USD 1.87 billion of FDI in 2003. The number of organizations using ICT as well as the level of expenditure on ICT is quite large in relation to the small territory of this federal district.

The Siberian federal district is the second largest in terms of its surface area and third largest in terms of its population (20.1 million people); however its population density is very low, which can be explained by the level of urban concentration. The rate of unemployment in this federal district is the second highest in the country (11.7 %). Siberia attracted USD 2.13 billion of FDI which can be explained by the abundance of natural resources in this district. Its GRP in 2003 totaled USD 32.8 billion. Even though there are fewer companies in the Siberian federal district than in the North-Western federal district, more of them used ICT, but the amount they spent on ICT was less.

#### 4.2 Development of the IT sector in the Russian regions

The most remarkable example of the development of the market is the expansion of companies from Moscow, the capital, to the other Russian regions. Recently, IT companies have not been able to grow much in the regions due to a lack of demand for their products and services. Nowadays, the economy in the regions is undergoing rapid development, which has led to an increase in the demand for IT services and products (Table 12). The number of organizations using ICT, including personal computers, LAN, electronic mail, global information systems and the Internet has increased in all the three districts as well as in the country as a whole. In addition, expenditure on ICT has also grown.

**Table 12. The demand of organizations for ICT<sup>12</sup>**

	<b>Expenditure on ICT, 2002, USD million</b>	<b>Expenditure on ICT, 2003, USD million</b>	<b>Number of org. uses ICT, 2002</b>	<b>Number of org. uses ICT, 2003</b>
<b>Central</b>	2,160.9	3,472.5	25,602	27,088
<b>North-Western</b>	272.9	436.7	10,731	11,507
<b>Siberian</b>	247.5	389.5	13,166	14,368

Source: Goskomstat 2004

The value of IT products and services sold, as well as the number of organizations using these products and services in the Central federal district, is more than twice that in either of the two other federal districts. Table 13 shows the structure of ICT expenditure in 2003.

<sup>12</sup> Statistics available only for the whole ICT industry, not for IT.

**Table 13. The structure of the expenditure on ICT**

	<b>HW</b>	<b>Services</b>	<b>SW</b>	<b>Training</b>
<b>Central</b>	2,153.5	362.5	182.1	13.0
<b>North-Western</b>	173.7	58.4	66.4	3.5
<b>Siberian</b>	152.9	23.8	24.6	3.3

Source: Goskomstat 2004

In 2003, most of the expenditure went into hardware purchases in all the three districts, although there is a positive trend: SW purchases grew tremendously. For example in the Northwest the expenditure on software increased by 60 % in comparison with that in 2002 and totaled USD 66.4 million. In the other regions, the sales of SW and services also increased but not as significantly.

In summary, a positive trend can be seen. The adoption of IT in Russia is progressing rapidly. In 2003, companies and organizations in Russia and in the Central, North-Western and Siberian federal districts, in particular, intended to use more ICT services and products by far than in 2002. Furthermore, it can be observed that there was an increase in the sales of SW and services which can qualitatively change the market by improving organizational functionality, quality and guaranteeing further business development.

#### **IT market development in the regions**

The globalization trend in the IT market within Russia is quite typical. Regional boundaries have broken down - the process of unification of the national IT markets has begun. For many companies from the capital and big cities, expansion to the other regions means new developmental perspectives. Regional companies, for their part, attempt to gain a foothold in the capital and large cities as well because they are interested in enlargement and new clients. The number of new companies both in Moscow and the regions has grown (Table 14).

Previously, few companies from the capital entered the other regions because of regional peculiarities in business operations. Today, these problems can be eliminated through trust-based partnership with local partners. At the same time, in order to remain competitive local companies have to revise their business models and develop their core competences in a chosen specialization.

**Table 14. The number of IT companies**

	<b>Number of IT companies, 2001</b>	<b>Number of IT companies, 2003</b>
<b>Central</b>	10,267	12,986
<b>North-Western</b>	2,156	2,714
<b>Siberian</b>	1,615	1,985

Source: Goskomstat 2004

In order to succeed companies based in the capital follow different strategies from those followed by companies based outside the capital. Companies from the capital usually open subsidiaries in other regions in order to satisfy local customers but their main operations, such as product promotion, are handled in their head offices. Regionally based companies should follow totally different strategies when entering the global market. Several experts from regional IT companies have expressed their views on this matter.

Aleskei Tsapnikov, the president of Kami-Sever from Yaroslavl, supposes that any local company is able to enter the federal market; even the company that offers standard system integration services. The main requirement is offering high-quality services for a reasonable price, but this quality must be met. At the same time, the president of Microtrest, Yuri Igoshin, claims that classical market of integration is not the best option for geographical expansion, because according to Dmitry Chernov, the president of Sibkon, the technical expertise of regional companies is not their core competence. Thus, Pavel Yakovlev, the leader of DataKrat, concludes that a regional company should be able to offer any solutions in a specialized segment without using external human resources but such a solution should be unique, possessing the features required in the market. (Vainberg 2005)

Thus, there are two main trends in the Russian IT markets in the regions. Large companies from the capital are actively moving to the regions outside the capital by opening subsidiaries or buying up small local companies. At the same time, regional businesses are moving to neighboring regions or even big cities as well as to the capital. According to Plitman (2005), geographical expansion is the only way for a company to pass the boundaries of its own region where the size of the market is small. Several regional IT companies rank among the top 100 Russian IT companies (Table 15).

**Table 15. The top Russian IT companies by region**

<b>Company</b>	<b>Major</b>	<b>City</b>	<b>Federal district</b>	<b>Sales in 2004, USD million</b>	<b>Staff</b>	<b>Growth of sales %</b>
<b>BCC</b>	System integration	St. Petersburg	Northwest	87.4	520	59.0
<b>NETA</b>	System integration	Novosibirsk	Siberia	72.1	866	34.0
<b>Kami-Sever</b>	System integration	Yaroslavl	Central	23.5	381	26.8
<b>Fort Dialog</b>	System integration	Naberezhnie Chelni	Volga	21.4	300	29.7
<b>Berkut</b>	SW development	St. Petersburg	Northwest	20.2	189	77.4
<b>TELMA</b>	SW development	Nizhniy Novgorod	Volga	18.3	536	73.6

<b>Prognoz</b>	SW development	Perm	Volga	13.2	209	10.8
<b>Kontur</b>	System integration	Yekaterinburg	Ural	7.6	350	57.1
<b>Galeks</b>	System integration	Barnaul	Siberia	6.0	109	14.3
<b>Ronda Limited</b>	SW development	Vladivostok	Far East	4.6	180	79.1
<b>Digital Design</b>	SW development, integration	St. Petersburg	Northwest	0.4	160	N/A

Source: CNews.ru 2005

Table 15 shows that the most active companies are system integrators from regions outside the capital, which contradicts with the opinion of Yuri Igoshin that this form of specializing is not the best in the federal market. On the contrary, companies specializing in system integration show good growth, which means that the demand at the federal level helps maintain an optimal and continuous workload. In addition, it is obvious that companies have larger clients and more serious orders than at the regional level. The number of regional companies among the top Russian IT companies supports Tsapnikov's view that an outstanding product that is properly marketed and promoted can help a company enter the federal or sometimes even the international market. In terms of the development of the Russian IT market, it is positive to observe that companies from all Russian regions rank in the highest position of the top 100 list.

### 4.3 The Moscow IT market

#### The capital of Russia – Moscow

Moscow is the capital of the Russian Federation, the country's largest city as well as Russia's economic center. It is a federal city with a distinct federal status. Moscow is the wealthiest region by GRP per capita and its GPR grew by 8 % in 2003, which exceeded the growth of the Russian economy (7.1 %). Moscow is the top in terms of the average monthly income level and is followed by the regions that are rich in natural resources. The rate of unemployment in Moscow is the lowest in Russia and has remained at the same level for several years (Table 16). In addition, Moscow attracted more than half of all FDI made in Russia.

Thus, Moscow clearly has the highest standard of living. In addition to the facts mentioned above, the proportion of foodstuffs of the total retail volume is the lowest in Moscow, which indicates that the population there has more money to spend on other products than food (Zashev 2004).

**Table 16. The main socio-economic indicators of Moscow**

	2002	2003
<b>Population (million)</b>	10.38	10.39
<b>GRP (USD, billion)</b>	53.1*	63.7**
<b>Volume of industrial production (USD, billion)</b>	12.7	14.8
<b>Unemployment (%)</b>	1.4	1.3
<b>Average monthly salary (USD)</b>	203.7	281.6
<b>FDI (USD, billion)</b>	8.44	13.88

Source: Goskomstat 2004 (\* in 2001, \*\* in 2002)

Moscow's leading role in Russia's economic development can be seen from the higher than average density of home computers. In Moscow there are 30 computers per person whereas the Russian average is 10.

Several opinions exist as to Moscow's special economical status. Pozdnyakov (2004) claims that the situation in Moscow is abnormal. The city itself and the Moscow region swallow up a huge amount of financial and human resources while all the other Russian regions are far behind when assessed in terms of the main socio-economic indicators. It has also been observed that there is a tendency for capital to flow out of the Russian regions into Moscow. Thereby, the inequality between the capital and the other regions is increasing.

At the same time, the plenipotentiary of the president of the Central federal district Georgy Poltavchenko values the impact of Moscow on the development of the district (Interfaks.ru 2005). He referred to Moscow as the locomotive of the district's economy; it pulls the economy of all neighboring regions ahead. Moreover, the Russian capital is viewed as a source of investment because it allocates money not only in the high-tech, manufacturing and construction fields but also in agriculture and animal breeding. The Moscow stock market is huge. The development of all the regions in Central federal district would suffer without Moscow.

### **The use of IT products and services in Moscow**

The demand for IT products and services is on the rise in Moscow, because even though the number of organizations using these products and services in 2004 was less than that in 2003, the amounts spent increased (Table 17). There are more than one million organizations and companies in the traditional and high-tech sectors in Moscow, a quarter of the figure for the whole country. On one hand, the number of organizations using specialized software and computers fell, while on the other the expenditure on ICT and the number of organizations having Web pages grew. The distribution of the ICT expenditure in 2002 and 2003 is shown in Table 18.

Table 17. The ICT products and services in Moscow

	2002	2003
<b>Number of companies and organizations</b>	909,522	1,008,253
<b>Organizations using ICT</b>	5,293	5,192
<b>Expenditure on ICT (USD, million)</b>	1,354	1,476
<b>Number of organizations with WEB sites</b>	2,178	2,265
<b>Number of organization using specialized SW</b>	5,081	4,632
<b>Number of computers in organizations</b>	654,556	603,132

Source: Goskomstat 2004

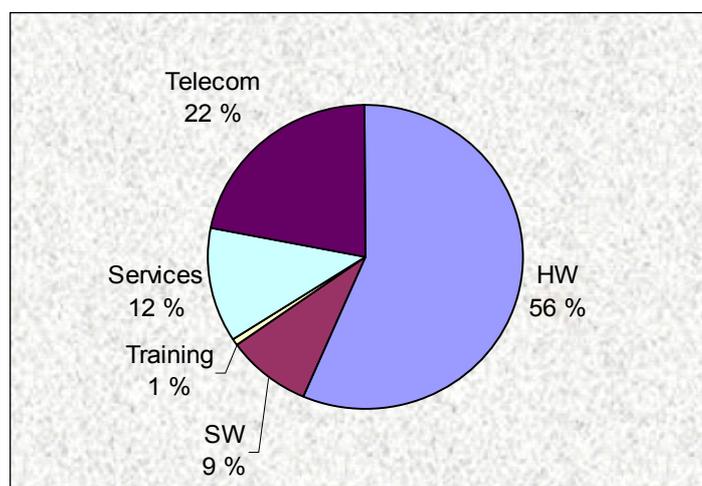
Table 18. The structure of the ICT expenditure in Moscow

	2002, USD million	2003, USD million
<b>HW</b>	714.0	678.8
<b>Telecommunications</b>	276.5	336.0
<b>SW</b>	110.0	113.9
<b>Services</b>	155.9	276.7
<b>Training</b>	10.1	6.7

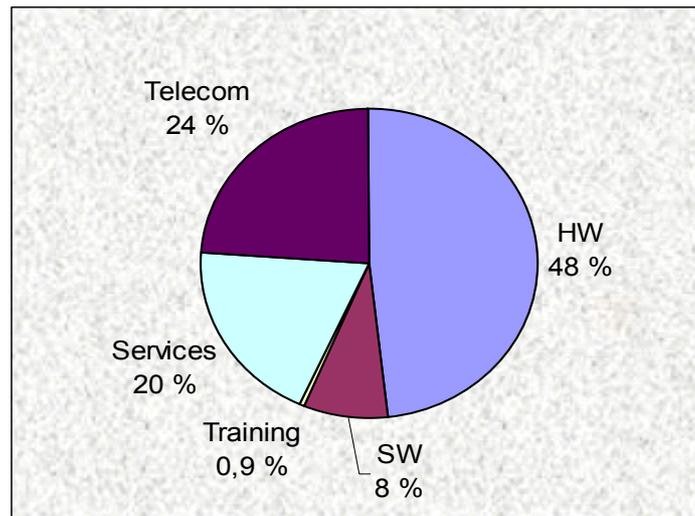
Source: Goskomstat 2004

An analysis of the above figures shows that the purchase of HW fell in 2003 which was a result of the saturation of the market. On the other hand, the value of SW sold in 2003 was higher than in 2002. This can be explained by the need for regular updates of SW and HW products which led to the growth of services. This indicator mostly doubled in numbers and percentage-wise (Figure 10 and Figure 11). Thus, the tendency to purchase more advanced IT services is typical for companies located in Moscow, which means that organizations first overcame the IT boom (which was characterized by a high demand for equipment) and then moved smoothly to intellectual services, such as consultancy and outsourcing which improve their customers' every day operations.

Figure 10. The distribution of ICT procurement in Moscow in 2002



Source: Goskomstat 2004

**Figure 11. The distribution of ICT procurement in Moscow in 2003**

Source: Goskomstat 2004

### **IT companies in Moscow**

Moscow is Russia's capital where governmental institutions and a large number of companies are situated. The companies in Moscow are more developed than in the regions outside Moscow, and therefore many organizations move towards complex IT solutions and are interested in the services of IT integrators and consultants because they possess the financial resources that are required for development. The budgets for IT products and services for companies in Moscow differ significantly from those of companies based in the regions outside Moscow. One good example is that of a large machinery plant the budget of which rarely exceeds USD 100 thousand; this is the budget of a medium-sized plant in Moscow (Crn.ru 2005). Thus, Moscow is the leading region in the country in terms of the number of IT companies based there and they sell their products and services to a wide variety of organizations. In addition, to Russian companies, many foreign companies have set up their head offices in Moscow.

A dominant trend in the Moscow IT market is for companies to merge into holding companies. The leading Russian IT holding companies have originated in Moscow (Table 19). There are several main reasons for companies to merge into holdings: the growth in competitiveness of all the associated partners because a bigger company is more attractive to customers and financial institutions as well as to the stock and labor markets. By working together smaller companies can effectively win over a greater market share. Furthermore, merging into a larger unit brings with it more financial stability – the larger unit has a broader business base and can manage its costs more optimally.

**Table 19. The leading Russian IT holding companies**

<b>Company</b>	<b>Major</b>	<b>City</b>	<b>Sales in 2003, USD, million</b>	<b>Sales in 2004, USD, million</b>	<b>Staff</b>	<b>Growth of sales %</b>
<b>National Computer Corporation</b>	Holding distribution – 63 %	Moscow	470.5	612.7	1,485	22.9
<b>IBS</b>	Holding, distribution – 56.5 %	Moscow	417.5	595.2	3,419	19.1
<b>R-Style</b>	Holding, distribution – 61.3 %	Moscow	330.7	441.0	2,150	25.8
<b>Ai-Ti</b>	Holding, distribution – 61.3 %	Moscow	55.2	74.7	985	27.5

Source: CNews.ru 2005

Holding companies are made up of companies each of which is specialized in a specific field. For example, the biggest Russian IT holding company, National Computer Corporation, consists of several companies that are specialized in different areas: the manufacturing of HW and servers; management consultancy and business integration; project sales and the sales of telecommunications and network equipment.

Table 19 shows that holding companies mainly specialize in the sales of equipment. Nevertheless, the president of Ai-Ti holding, Tagir Yapparov, cited the growth of his company for 2004 at 27.5 %. An IT infrastructure development project had significant impact on the company's growth. IT auditing and consultancy services, in particular information security, human resource management and automation, were other successful units of the holding company. In addition, the younger units of the holding company, such as technical process outsourcing and support of information systems, had promising prospects.

In general, even though holding companies attempt to change the income distribution in favor of intellectual IT services the distribution of IT equipment still remains the main revenue generator.

Moscow is also a place where some of the most successful software developers are based (Table 20). The presence of the biggest SW development companies in Moscow is not a surprise. These companies work actively with state institutions; for example, sales to the state account for about 72 % of Cognitive Technologies' and make up 69 % of Parus' business (Pichugin, Tsarevskaya 2005). The main customers for CBOSS operate in the telecommunications sector; this sector has grown tremendously over the last several years not only in terms of the number of subscribers and the network coverage but also in terms of the

number of services offered (mobile content services, mobile Internet). Apparently, the diffusion of advanced mobile and Internet services is greater in prosperous regions like Moscow, and so the demand for SW in the telecommunication sector in these regions has remained stable.

**Table 20. The leading SW developers in Russia**

<b>Company</b>	<b>Major</b>	<b>City</b>	<b>Sales in 2003, USD, million</b>	<b>Sales in 2004, USD, million</b>	<b>Staff</b>	<b>Growth of sales %</b>
<b>CBOSS</b>	Billing services; SMS services; network management; data processing	Moscow	80.2	146.7	2,100	72.5
<b>IC</b>	Complex IS systems, IS modules, home SW	Moscow	65.2	100.2	515	45.0
<b>Cognitive Technologies</b>	Optical recognition; document flow; Internet/Intranet technologies.	Moscow	51.7	73.1	525	33.6
<b>Parus</b>	Corporation solutions; solutions for SMEs; systems for state institutions	Moscow	28.6	32.9	1,276	8.2
<b>EPAM systems</b>	SW solutions and support for various sectors	Moscow	14.7	31.1	1,100	99.7

Source: CNews 2005

Since many SMEs and large IT companies are located in Moscow, human resources are an essential factor. Salaries are much higher in Moscow than in other Russian cities (Table 21).

**Table 21. The salaries in Russian companies located in Moscow and in the Moscow branches of foreign companies**

	<b>Salary in Russian companies in Mocsow, USD, gross, 2003</b>	<b>Salary in branches of foreign companies in Moscow, USD, gross, 2003</b>
<b>ERP specialist</b>	1,685	1,500-10,000
<b>Head of IT department</b>	1,644	1,800-2,500
<b>SW developer</b>	1,082	N/A
<b>Lead SW developer</b>	1,429	N/A
<b>IT manager</b>	1,372	1,500-2,500
<b>Programmer</b>	688	800-1,200
<b>IT specialist</b>	605	500-1,800
<b>System administrator</b>	590	800-2,000
<b>System analyst</b>	N/A	2,500-3,500

Source: Angesleva et al. 2004

In Moscow-based domestic companies and branches of foreign companies, technical specialists can count on participating in bigger and more interesting projects, and managers on more attractive career advancement options. There is a large number of universities in Moscow, 207 to be precise. These universities produce 2,000 IT graduates every year, which is 50 % of all the IT graduates in Russia.

#### 4.4 IT market of St. Petersburg

##### St. Petersburg, the centre of the North-Western federal district

St. Petersburg is the centre of the North-Western federal district. It has a high population density and business activity as well as educational and research institutions. The city is an undisputable leader in shipbuilding, energy technologies and machinery. St. Petersburg's most important competitive advantage is its close location to the European markets, an infrastructure that is almost the best in Russia, long industrial traditions, an advanced educational system and professional training. Its population is falling as a result of natural decline (a surplus of deaths over births) and has fallen by 6.4 % from that of 1989.

St. Petersburg's economy experienced stable growth in 2003 (Table 22). Industry is the city's main source of revenue and accounts for about a quarter of its GRP. Metallurgy, mechanical engineering, metal processing, food and catering underwent the highest rate of development in 2003. However, the growth in industrial production was only 5.8 %, which is lower than in Russia in general (7 %) and the North-Western federal district (11.1 %). The industry experienced stagnation because production cycles are commonplace in industrial production. For example, the production cycle in mechanical engineering or shipbuilding is one to three years, which leads to irregular development. There is another view to this matter, which is that statistics do not reflect the real situation. A research conducted by the St. Petersburg University of Economics and Finance (Vainberg 2005) discovered that the share of shadow economy in the city is 43 %. Almost half of St. Petersburg's industrial production is illegally hidden production manufactured by well recognized organizations, which means that it does not show up in official financial documents.

**Table 22. The main socio-economic indicators of St. Petersburg**

	2002	2003
<b>Population (million)</b>	4.66	4.62
<b>GRP (USD, billion)</b>	9.4*	11.73**
<b>Volume of industrial production (USD, billion)</b>	7.1	9.6
<b>Unemployment (%)</b>	3.4	4.1
<b>Average monthly salary (USD)</b>	173.3	211.5
<b>FDI (USD, million)</b>	881.0	702.8

Source: Goskomstat 2004 (\* in 2001, \*\* in 2002)

Nevertheless, St. Petersburg is the biggest industrial centre in Northwest Russia. Services make up a large proportion of St. Petersburg's GRP, which offers the possibility for the development of SMEs. Statistics show that investments increased 11 %; most of these investments went into ports, terminals and mobile telecommunications. Unfortunately, in 2003 FDI into St. Petersburg fell by 21 % and totaled USD 702 million, but St. Petersburg has still benefited from the fact that it offers companies lower operational costs.

St. Petersburg is one of the leading educational and research centers in Russia. The city is home to 3.2 % of Russia's population, while 15 % of the research organizations are located there and employ 7 % of the city's inhabitants. In addition, there are 90 universities in St. Petersburg and 763 university students for each 10 thousand inhabitants.

### **The climate for the development of the IT sector in St. Petersburg**

IT development in the North-Western federal district is distinguished by high density – its only agglomeration is virtually limited to the territory of St. Petersburg in which over 60 % of all the IT services in the North-Western federal district are located. At present, the IT sector in St. Petersburg is undergoing active expansion and a process of restructuring. The basis for this process is the high and continuously expanding demand for IT products and services as well as the presence of a well-developed educational system. New businesses are continually emerging in the market, while existing players change their strategies. (Dudarev et al. 2004) The adoption of IT in traditional industries and other sectors has been taking place for a short period of time. Basically, clients prefer to use domestic SW products because they are better suited to the Russian manufacturing structure and management style. The biggest users of IT products and services are the St. Petersburg government as well as the shipbuilding, metallurgy, mechanical engineering and food industries.

**Table 23. The ICT products and services in St. Petersburg**

	2002	2003
<b>Number of companies and organizations</b>	275,381	305,145
<b>Organizations using ICT</b>	3,304	3,313
<b>Expenditure on ICT (USD, million)</b>	144.0	268.6

Source: Goskomstat 2004

The number of companies in St. Petersburg is much smaller than in Moscow but is growing all the time (Table 23). The expenditure on ICT products and services are on the rise and are worth a total of USD 286.6 million. Table 24 shows the structure of expenditure on ICT products and services in St. Petersburg.

**Table 24. The structure of the ICT expenditure in St. Petersburg**

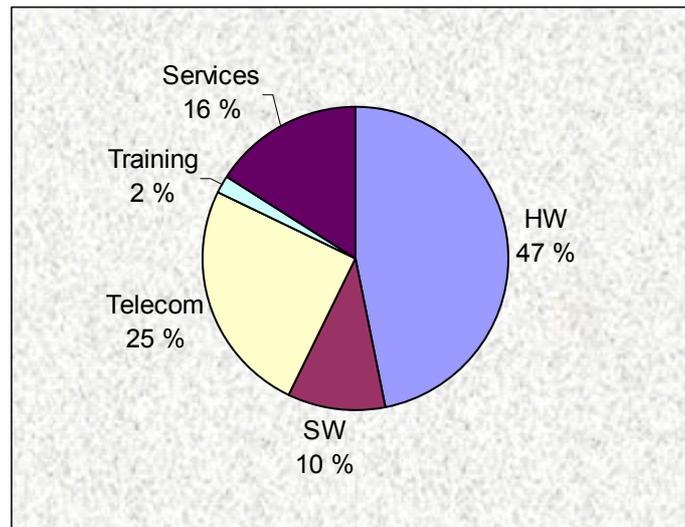
	2002, USD million	2003, USD million
<b>HW</b>	60.6	109.1
<b>Telecommunications</b>	32.3	59.0
<b>Services</b>	20.5	31.5
<b>SW</b>	13.3	46.1
<b>Training</b>	2.4	2.1

Source: Goskomstat 2004

HW expenditure increased tremendously, by almost on 40 %, but their share of the total expenditures of ICT products and services fell by 7 % (Figure 12, Figure 13). SW expenditures tripled in 2003, while their share of the expenditures of ICT products and services doubled. The importance of training segment fell. The expenditure on services increased, but the importance of services diminished in the overall ICT expenditures. Telecommunications has remained a highly developed segment of the ICT sector; expenditures on telecommunications almost doubled but remained at 24 % of the total ICT expenditures. Obviously, structure of the expenditures on ICT products and services has shifted in favor of SW, which is a very promising trend for IT companies.

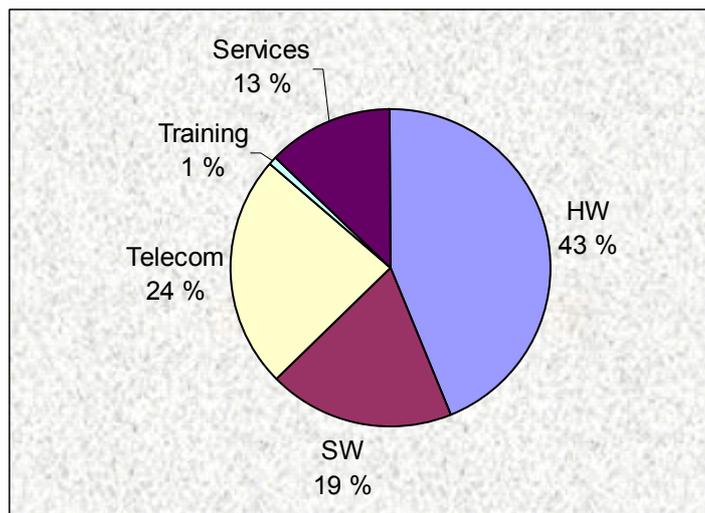
Thus, demand for IT products and services is increasing. The climate for the development of the IT sector in St. Petersburg is even improving. From January 2006 onwards the government will introduce tax remissions for IT companies, which means that during the next three years IT companies will be eligible for special profit tax reductions (from 24 % to 20 %). In addition, there are plans to establish a special economic zone in the city by 2010. In this way, the tax burden on IT companies will be reduced in the near future. St. Petersburg was selected to be a development centre for the IT industry because of its favorable geographical position (very active cross-boarder cooperation with Finland, the Scandinavian countries and the Baltic States), intellectual potential, regional legislation and IT associations. The headquarters of the IT association Russoft are located in St. Petersburg. 70 SW development companies from different regions of Russia and the CIS, or approximately 6 thousand high-level professionals, are members of Russoft.

**Figure 12. The structure of ICT procurement in St. Petersburg in 2002**



Source: Goskomstat 2004

**Figure 13. The structure of ICT procurement in St. Petersburg in 2003**



Source: Goskomstat 2004

### **IT companies in St. Petersburg**

There are historical reasons for why St. Petersburg has become the home to a large number of IT companies. Averin and Dudarev (2003) claim that in the 1960s leading Soviet mathematicians succeeded in bringing the field of cybernetics into favor with Soviet leaders. This was facilitated by the fact that the development of information technology was necessary for the military industry which had strong roots in St. Petersburg and played a crucial role in the Soviet Union. The software development industry, backed by the traditionally strong Russian school of mathematics, succeeded in attaining a world-class level of technological know-how. The availability of qualified personnel and know-how in the IT sector resulted in

the emergence of large numbers of SW developers in early 90s many of whom introduced extremely competitive products to the market. Nowadays, St. Petersburg has already become one of the leading centers for SW development in Russia.

In order to take advantage of the excellent educational and research potential in the city, many companies were established on the basis of the university departments. For this reason, most St. Petersburg companies are small- and medium-size companies. Despite their size, two companies from St. Petersburg ranked at the top among the fastest growing IT companies in Russia (Table 25).

**Table 25. The fastest growing Russian IT companies**

<b>Company</b>	<b>Major</b>	<b>City</b>	<b>Sales in 2003, USD million</b>	<b>Sales in 2004, USD million</b>	<b>Staff</b>	<b>Growth of sales %</b>
<b>OTP</b>	System integration	Moscow	3.45	14.1	143	287.8
<b>Nienschants</b>	<b>System integration</b>	<b>St. Petersburg</b>	<b>31.4</b>	<b>77.3</b>	<b>310</b>	<b>131.8</b>
<b>INEK</b>	Consultancy	Moscow	3.8	8.5	140	114.6
<b>Berkut</b>	<b>SW development</b>	<b>St. Petersburg</b>	<b>10.3</b>	<b>19.3</b>	<b>189</b>	<b>77.4</b>

Source: CNews.ru 2005

Whereas Moscow is characterized by holding companies, St. Petersburg's trademark is SMEs that are specialized in offshore outsourcing services, i.e. in the export of SW. According to CNews (2004), St. Petersburg accounts 19 % of all the exports of SW development. St. Petersburg's software exports were worth USD 90 million, which was 18 % of Russia's total SW exports. In 2004 Russoft calculated that about 3,000 people were employed in companies in St. Petersburg and several hundred in foreign companies, such as Motorola, Sun Microsystems, Intel, Borland etc. These numbers are rising rapidly. Several experts pointed out that the IT market in St. Petersburg is more competitive than that in the capital, as there are fewer lobbying opportunities and companies are involved in open competition. Even though Moscow generates a greater share of Russia's offshore outsourcing exports (32 %), Moscow will probably remain the main location for companies that are geared towards serving domestic customers because of the opportunities and advantages offered by its location in terms of the market concentration and size; this is due to the fact that the largest private and business clients for IT products and services in Russia are concentrated in the capital (Dudarev et al. 2004).

The leading offshore outsourcing companies in St. Petersburg offer their product and services on foreign markets (Table 26).

**Table 26. The leading offshore outsourcing companies from St. Petersburg**

<b>Company</b>	<b>Sales in 2004, USD million</b>	<b>Staff</b>	<b>Foreign partners</b>
<b>StarSoft Development Labs</b>	8.0	250	Denmark, Germany, USA, Sweden
<b>Reksoft</b>	5.0	200	Germany, Denmark, USA, Czech republic, Finland
<b>Digital Design</b>	3.7	160	USA, Finland, Sweden, UK
<b>Lanit-Terkom</b>	N/A	330	USA, Italy, Germany, Denmark

It is hard to calculate the precise number of companies that provide offshore development services, because in many companies this is not the only area of specialization.

According to Aleksander Egorov, the CEO of Reksoft, St. Petersburg has a favorable geographical position. For example, it is reasonable to have foreign partners from Scandinavia where 20-30 % of the European market of export SW development is located. Andrei Konev, the director of Digital Design, claims that several Swedish companies, for example Volvo and TetraPak, have been their partners for several years. Some companies have representative offices in Scandinavia; for example, Arcadia has an office in Finland. In general, companies from St. Petersburg have more cooperation with customers from Northern Europe but also work with business clients from Germany, Italy and USA. (Crn.ru 2005)

St. Petersburg companies are primarily small- and medium-size companies, as mentioned above. The owners of these companies do not want to enlarge their companies because they feel it is risky to attract external financial resources. They see their business as being self-sufficient - they reinvest their profits and double them almost yearly. This business model is called the service business model, which means that SW development is performed on request by customers and there is a linear dependence between the number of employees and the company's income (Melnik 2005). Most St. Petersburg companies operate in this way. However, even though salaries in St. Petersburg IT companies are 30-50 % lower than salaries in Moscow, they increase every year. St. Petersburg used to be considered a cheap location for export SW development but has started to lose this position. Thus, the problem of external investment is looming in the market. Nevertheless, there are several examples of successful mergers with bigger companies, in which companies obtained extra financing and progressed on with their products and services.

## **Digital Design of St. Petersburg**

This section is devoted to discuss a St. Petersburg-based company called Digital Design. Digital Design was selected because it is a good example of a successful Russian IT company, which was established from scratch and has achieved solid results today due to its strategic management, adaptation to the market, its vision and product diversification. Digital Design has found and secured a defined market niche, balancing between state and private customers. This section of the paper consists of a description of the company's profile and a summary of an interview carried out with Dmitry Livshits, the head of Digital Design's software solutions department. The full text of the interview can be found in the Appendix.

### Company profile

Digital Design is a medium-size software development company from St. Petersburg. It was founded in 1992 by computer enthusiasts and is listed among the top 100 Russian IT companies. In 2004 Digital Design's revenue was USD 3.7 million and its SW development business grew by 50 %. The company employs 160 people and has an office in Moscow. In addition, the company is a member of Russoft.

Digital Design is specialized in offshore SW development, IT consultancy, customer support services and the development of SW products. Its expertise covers several areas: (1) company application integration; (2) data warehousing and decision support; (3) mobile applications; (4) electronic document management; (5) information security and (6) Internet/Intranet and e-commerce solutions

Digital Design clients include leading European and American corporations. The company's total customer base includes about 60 companies from various industries and the following countries: Sweden, Finland, Germany, UK, USA, and Russia.

### Summary of the interview carried out with Dmitry Livshits, the Head of the Software Solutions Department

#### *Organizational structure*

Digital Design consists of several departments, the biggest of which is the software solutions department; this department is responsible for 50 % of the company's revenues. Digital Design is specialized in the development of tailored SW for large industrial projects. The company's second department is the department of business solutions which is specialized in the customization of the Digital Design's own product, DocsVision (document flow management system) and which accounts 25 % of the company's revenues. Digital Design's third department is the department of engineering solutions which is responsible for large complicated engineering projects, including outsourcing and brings in 25 % of the company's

revenues. Digital Design also has a subsidiary, the DocsVision company, which is specialized in the development of Digital Design's own SW product. Experts (CNews.ru 2005, Expert.ru 2005) claim that specialization in a narrow area is risky in the Russian IT market, because it may lead to losses if an unexpected situation occurs. By having three independent departments and a subsidiary, Digital Design has diversified its services and products and thus avoided concentrating heavily in one sector. At the same time, the company has defined its core competences: technology and tight market segmentation. Digital Design has specific solutions for the transportation industry, the telecommunications sector and the pulp and paper industry. The company has clearly positioned itself in the market in such a way that it can move horizontally and vertically in its core domains.

#### *International markets*

Digital Design operates in both the domestic and foreign markets. 70 % of its overall sales are to the domestic market and 30 % to the foreign market. Digital Design's management plans to increase the proportion of its foreign sales to 50 % of its overall sales in the future. Even though Digital Design already has several partners in Denmark, Sweden and Finland, the company considers Scandinavia as one of the most interesting regions for further international expansion. From January 2005, the company has been actively searching for new partners in the Northern Europe to offer services to end-users through cooperation with new and old partners. The main reason why Digital Design wants to increase its presence in the foreign market is the potential of the Western outsourcing market and the demand in this market for offshore SW development. In addition, Digital Design has a product designed especially for the American market - a filter for internet access. Nowadays this product is successful; it tops the list of the most famous applications for firewall programs that control user access to the Internet and block spam. This product is sold worldwide in cooperation with American partner.

#### *Russian market*

The company continues to work for the Russian IT market which is growing and developing rapidly. According to Dmitry Livshits, to be successful in the Russian market a company should be well defined and targeted. Today, a company should enter the market with a clear understanding of the market itself and the market segments. A development organization should not concentrate on all the segments of the Russian IT market. Clear solutions should be offered to satisfy actual demand. Digital Design follows this strategy. For example, the company has a product for ministries, a system for state institution management. This product has been used successfully in several ministries. Now, this same product is being considered

for installation in more state institutions. This product provides a complete solution to a concrete and understandable task with full capacity.

#### *Company's customers*

Digital Design is experiencing a current trend in the Russian IT market - it is dependent on state clients, but only partly. Many successful projects have been implemented for state institutions. 50 % of Digital Design's clients are state institutions and 50 % private corporations. Less than 50 % of the customers of the software development department are state customers. In any case, the loss of this segment is undesirable. Digital Design will be hurt by any stagnation in the state customer segment, even though the company is not directly dependent on state orders. Digital Design is attempting to go west and is securing new corporate clients in Russia in order to reduce any state influence.

Digital Design also has solutions for SMEs, which are ready to spend a certain amount to increase their competitiveness. More and more SMEs have taken an interest in consultancy services which means that they understand the importance of spending on IT and revised IT budgets. The number of more IT competent clients, who know about system features and what functionality they want, is growing. Dmitry Livshits explained that SMEs are interested in business processes re-engineering. For a long time, SMEs did not have enough financial resources for such improvements; now the situation has changed and companies are ready to invest. Thus, as the financial situation in SMEs improves, the SW development segment will become more attractive for them.

#### *Involvement in Electronic Russia*

Digital Design has had successful experiences with the program known as Electronic Russia. On one hand as a participant in the program, Digital Design was supported by the Russian government and has positive feedback about the effectiveness of the government's IT policy. On the other hand, the company was supported and won the tender for the development of a document flow management system for the Russian Railways due to its own strengths. Electronic Russia offered Digital Design a way to improve its competitive advantage through participation in the development of a SW system for a state organization.

#### *Human resources*

Digital Design has tried to overcome the negative market tendency of a deficit of skilled workers in the Russian IT market in various ways: through cooperation with universities and by organizing special training programs in order to train, certify and motivate its staff.

## 4.5 The Novosibirsk IT Market

### Novosibirsk - the center of the Siberian federal district

Novosibirsk is the center of the Siberian federal district, the third biggest city in Russia after Moscow and St. Petersburg and one of the most important commercial centers in the Asian part of the country. Table 27 shows the main socio-economic indicators for Novosibirsk and the Novosibirsk region.

The city has the highest level of agricultural production in Russia and has highly specialized mechanical engineering and metallurgy industries. Processing industries are responsible for 95 % of the total production volume. Most electronics, aviation and chemical plants are unique and the sole producers in their industries with specific high-technologies and highly skilled personnel. Unlike many other Siberian regions, Novosibirsk does not have significant mineral deposits except for oil and gas. The city is important because it serves as a processing and handling center for much of the resources from the surrounding regions. Novosibirsk is known for its manufacturing, research and development capabilities. (Zashev 2004)

**Table 27. The main socio-economic indicators of Novosibirsk and the Novosibirsk region<sup>13</sup>**

	2002	2003
<b>Population (million)</b>	1,425.5	1,413.0
<b>GRP (USD, billion)</b>	3.6*	4.1**
<b>Volume of industrial production (USD, billion)</b>	1.8	2.5
<b>Unemployment (%)</b>	11.4	11.0
<b>Average monthly salary (USD)</b>	152.5	197.7
<b>FDI (USD, million)</b>	82.1	111.1

Source: Goskomstat 2004 (\* in 2001, \*\* in 2002)

The main problem of Novosibirsk and the Siberian Federal District is that their economy is dependent on extractive and processing industries. Experts (Zarubin 2005) claim that in order to guarantee the constant growth of the Russian GDP, the Siberian economy must be developed. However, both state and private investment in geological surveys is low, even though the Western Siberia (where the city of Novosibirsk is located) is very rich in natural resources. However, Siberian resources are not highly valued in the world market because they are expensive, which is due to high transportation costs and an insufficient transport infrastructure. The rapid growth of the Siberian economy in the future is uncertain, and the government has sought to diversify it because Siberia, especially Novosibirsk, has a broad innovation potential – Siberian Academy of Science is situated there. There are 43 research

<sup>13</sup> Goskomstat provides only population and salary statistics for the Novosibirsk city. The remaining data is related to the whole Novosibirsk region.

institutes, more than 100 research and development centers and 23 universities in Novosibirsk. About 30 thousand people are involved in research and 5 thousand of these people have academic degrees.

### **IT market in Novosibirsk**

The Novosibirsk IT market differs from that of Moscow and St. Petersburg to some extent. The most significant difference is that SMEs are very interested in IT products and services. The main customers for IT products and services in Novosibirsk are in the oil and gas, chemical and mechanical engineering industries as well as in the energy sector, and their share of the total IT market is about 60 %. Large companies are more oriented towards large and advanced IT systems and solutions. Most of these companies are ready to buy HW but consider it risky to become involved in long-term integration projects because the return on these projects is possible only after a few years. Nevertheless, Haikin (2005) has observed that IT services – integration, outsourcing and consultancy – are a rapidly developing market segment. Table 28 shows that the number of organizations using ICT in 2003 almost doubled from that of the previous year and that the value of expenditure on ICT increased.

**Table 28. The ICT products and services in the Novosibirsk region**

	<b>2002</b>	<b>2003</b>
<b>Number of companies and organizations</b>	97,594	108,976
<b>Organizations using ICT</b>	1,169	2,243
<b>Expenditure on ICT (USD, million)</b>	38.4	63.8

Source: Goskomstat 2004

SW development has strong position in the market. The main types of SW products are corporate information, accounting and product automation systems. As mentioned above, not all companies are ready to buy complex solutions and instead obtain only basic information system modules. As a result of the adoption of IT and the growing level of computer literacy in Novosibirsk city, SMEs have slowly started purchasing accounting and small information system modules. The largest Russian software producers that are oriented towards the domestic market operate in Novosibirsk either through distributors or representative offices and branches established in the Russian regions. One of the features of the IT market in Novosibirsk is the tough competition between local companies and large competitors from Moscow. As for offshore SW development, local companies are the leaders in the Novosibirsk market.

### **IT companies in Novosibirsk**

Novosibirsk is the third largest offshore outsourcing centre in Russia. A number of local software companies are based in Akademgorodok (Academic town) in Novosibirsk which is

home to dozens of research institutes that belong to the Siberian Branch of the Russian Academy of Sciences and Novosibirsk State University. These institutions are tremendous sources of employment for local and foreign software companies (Mamanov 2001). The tough cooperation between the scientific and business community is a distinct feature of the Novosibirsk IT market. Most of the SW development in Novosibirsk takes place in commercial projects in the former laboratories of state institutes. This aspect resembles the situation in St. Petersburg to some extent. However, in Novosibirsk major executives join businesses from academic careers. The director of UniPro, Dmitry Petunin (Crn.ru 2005), supposes that the Novosibirsk school of programming is one of the best in the world.

The precise size of Novosibirsk's SW development market is unknown; companies themselves are not able to assess it. Expert rating agency (Expect.ru 2005) estimates that 100 companies in the Siberian federal district offer offshore development services and according to official statistics (Melnik 2005) about 150 small and medium-size companies are specialized in this segment, while some managers of leading companies recognize 20 as being the most developed. In addition, there are groups of people that work on offshore projects in small groups and that are not officially recognized. According to Rakhimov (Crn.ru 2005), the director of Bekap IT, the SW development segment employs about 3 thousand people of whom almost half are employed by offshore SW development companies. Usually, these companies are small and rarely employ more than 100 employees. Their management realizes that specialization in a narrow segment is the key to success. Companies from Novosibirsk work primarily with customers from the USA and Asia (Table 29).

**Table 29. Offshore SW developing companies in Novosibirsk**

<b>Company</b>	<b>Sales in 2003, USD million</b>	<b>Staff</b>	<b>Foreign partners</b>
<b>UniPro</b>	5.0	215	USA, Netherlands
<b>Softlab NSK company</b>	2.0	54	N/A
<b>DataEast LLC</b>	1.2	30	USA, Japan, Belgium
<b>Bacup IT</b>	N/A	40	USA, Germany

Source: Angesleva 2004

Even though Novosibirsk is well recognized for its offshore outsourcing companies, there are several large companies that rank among the 100 biggest Russian IT companies (Table 30).

**Table 30. The biggest Russian IT companies from Novosibirsk**

<b>Company</b>	<b>Major</b>	<b>Sales in 2003, USD million</b>	<b>Sales in 2004, USD million</b>	<b>Staff</b>	<b>Growth %</b>
<b>NETA</b>	System integration	50.7	72.1	866	34.0
<b>Center Finansovih Tekhnologii</b>	SW development and installation	22.6	29.3	572	29.7
<b>Nonolet</b>	System integration	9.9	11.3	90	7.8
<b>Utileks IT</b>	System integration	3.3	4.8	40	38.0

Source: CNews.ru 2005

These companies are serious players in the federal market and compete with the leading corporations from Moscow. Companies from Novosibirsk are able to expand into the federal market, even though this is a hard task. In addition, these companies are moving into the regional markets. For example, the director of Nonolet, Viktor Klikunov, assumes that the Tyumen region in the Ural federal district and the Perm region in the Volga federal district are promising markets (Belova 2005). There is demand in these regions for complex SW systems as well as the capital to pay for IT services and solutions but not enough professionals to develop the required systems.

## 5 Conclusions

In 1998 the falling prices of Russia's major commodities, oil and natural resources, delivered a powerful external shock to the Russian economy. A semi-fixed exchange rate was introduced in order to keep the situation stable, but this system did not succeed. The devaluation crisis of 1998 had a very positive effect on the Russian economy. The oil boom generated massive foreign currency inflows which helped to replenish Russia's foreign exchange reserves. Thus, investment activity experienced a remarkable revival. The Russian GDP grew in 1999 and still continues to grow. In addition, Russian companies took advantage of the gains in competitiveness brought about by the devaluation.

There are considerable doubts as to whether or not the Russian economy can produce higher growth rates on a sustainable basis, since much of the recent recovery was driven by high world prices for oil. Even though they helped to stabilize the economy and ensure the rapid recovery of the investment climate, Russia's economy is nowadays highly dependent on oil prices (Eiu.com 2005). If Russia's competitiveness does not increase in the other sectors of the economy, the country may encounter serious problems. The ICT sector is a reasonable platform for initiating and continuing this development. Nowadays, the growing ICT market will play an increasingly important role in the future of the Russian economy; in 2004 its value was USD 19.6 billion and IT products and services were exported for USD 764 million.

Substantial investments in technology and human resources are required for the development of the Russian ICT market. The amount of investment has been growing for several years but not enough for Russia to be the one of the leading countries in ICT development. However, Russian universities produce a large number of high-quality specialists every year. In order to make the Russian market more attractive for FDI, the government has placed heavy emphasis on the strategic allocation of resources and has recognized the role of ICT in the state and society. High-level authorities have seen the necessity of economic reform and the development of the high-tech sectors.

Researchers claim that it is practically impossible to shift from a resource-based to a postindustrial economy without building an information society. Therefore, the government intends to expand the adoption of IT in all state institutions, and these organizations purchase ICT products and services on a large scale. In addition, Russia's manufacturing base is dilapidated and must be replaced or modernized for the country to achieve broad-based economic growth; thus, the demand for ICT is practically unlimited. The government is the biggest consumer of IT products and services in Russia. Its influence is dangerous for companies that are overly dependent on state orders. At the same time, until recently only big

companies were ready to purchase IT solutions, whereas today SMEs actively use IT products and services.

The ICT market is rather heterogeneous as are its consumers. The sale of telecommunications and hardware continues to be the most intensively developing segments. However, companies in the IT sector have begun to conquer the market. When the economy was in the early stages of recovery, organizations consumed basic ICT products in order to build up their basic infrastructure. As businesses have become more developed, their attention has focused on advanced products and services. Customized software solutions, integration, consultancy and outsourcing usually bring IT companies to the next stage of development. With these services, an organization can improve its business processes, diversify its activities, control resource flows and increase its competitive advantage.

Russia is a big country that consists of seven federal districts, but globalization and consolidation in the domestic IT market are quite typical. The most noticeable trend in the Russian IT market is the expansion of companies from Moscow, the country's capital, to other Russian regions. Until recently, IT companies were not able to grow much outside Moscow and the other big cities in Russia because of poor demand. Nowadays, the economies of the regions outside Moscow are developing rapidly, and therefore the demand for IT services and products is increasing outside the capital as well. Regional boundaries have broken down; the process of the unification of the national IT market has begun. For many companies from the capital and big cities, expansion into the regions outside Moscow offers new perspectives for development. Regional companies are attempting to move into the capital and large cities as well because they are interested in expansion and gaining new clients. The number of new companies both in Moscow and the regions outside the capital is growing. In addition, a number of foreign IT companies operate in the Russian market. These companies are basically branches or representative offices of large international corporations.

Moscow, St. Petersburg and Novosibirsk are the fastest growing centers of the Russian IT market. Moscow is the capital, where governmental institutions (they purchased ICT products and services for approximately USD 3 billion between 2001 and 2003 and generated about 25 % of the overall sales) and a large number of companies are situated; these organizations are more developed and are interested in complex IT solutions and consultancy services. Thus, the leader in terms of the number of IT companies is Moscow, and Moscow companies sell their products and services to various organizations. The main trend in the Moscow IT market is to merge into holding companies, which provides extra maneuverability both financially and for development.

St. Petersburg is the centre of the North-Western federal districts. At present, the St. Petersburg's IT sector is undergoing a period of active expansion and restructuring. The basis for this process is the high and continuously growing demand for IT products and service, as well as the city's well-developed educational system. Many St. Petersburg companies were established on the basis of university departments in order to take advantage of the high-quality educational and research potential in the city. For this reason, most St. Petersburg companies are small and medium-sized. SMEs specialized in offshore outsourcing services are the trademark of St. Petersburg. These companies work with the Western markets, mainly in Scandinavia, Germany and the USA, and are looking for new fruitful partnerships.

Novosibirsk is the center of the Siberian federal districts and the third biggest Russian city after Moscow and St. Petersburg. The main problem in Novosibirsk and the Siberian federal district is that its economy is dependent on the extractive and processing industries. The rapid growth of the Siberian economy in the future is uncertain, and so the government is trying to diversify the economy there because Novosibirsk has a lot of potential for innovation – the Siberian Academy of Science is situated there as are many research institutes. One of the features of the Novosibirsk IT market is the high level of competition between local companies and large companies from Moscow. However, local companies are the leaders in offshore SW development.

Nowadays, Russia has very positive growth potential, since the price of its main export commodity, oil, is very high. However, the current situation cannot last forever. Russia must increase the competitiveness of the other sectors of its economy. The IT sector is a good example of such a sector that has succeeded. Furthermore, the well educated specialists and scientific institutes which form the basis for many Russian IT companies offer an excellent potential for development. However, the Russian government should stimulate and motivate it to develop due to the lack of internal financial resources in Russian IT companies.

## Appendix

### **The interview with the head of Digital Design's department of software solutions, Dmitry Livshits**

**Question:** What was the main idea behind the birth of Digital Design? How did the company grow and develop?

**Dmitry Livshits:** “Founded in 1992 by a bunch of computer software enthusiasts in St Petersburg Russia, Digital Design established its international presence and enhanced its distribution network. If we talk about the company's evolution – the first client was Russian Railways, at that time the Ministry of Communications. Everything started from small projects for October Railways and then expanded to a large infrastructure project that covered the development of an electronic postal system for the whole Ministry of Communications. This is the biggest branch project and the biggest electronic postal system in Russia. This system helped the company to grow. At first, there were small SW development projects, and today there are hundreds of successful projects in the fields of SW development, integration and infrastructure. The list of completed projects is very long. In addition, today the company has developed its own SW product, “DocsVision”, an efficient tool for performing a variety of tasks in business process and document management. This system is used by more than 30 clients in Russia. Thus, our company has combined product development and project management. Moreover, because product development is growing rapidly, a strategically important split took place in the company, and Digital Design itself is the project unit, while the DocsVision Company is the product development unit.”

**Question:** What is Digital Design today?

**Dmitry Livshits:** “The key aspect I would like to start with is the qualification of our personnel, because in our business it is impossible to implement high-tech projects without trained staff. Our company is the market leader. On one hand, nowadays our company employs a maximum number of Microsoft certified specialists, developers and engineers. On the other hand, the company's management is certified according to various MBA and project management programs. The company employs certified project management professionals. We employ 160 staff members.”

**Question:** How do you solve the problem of the lack of professionals that is endemic of the Russian market?

**Dmitry Livshits:** “Now this is very serious problem because many IT companies appear in St. Petersburg. We set up a training unit of our own, which means that every developer and

analyst is assigned a trainee. Trainees are former students whom we educate. We provide them with basic training that they can use in the future while working on projects. Then we employ the most talented and motivated. Most of the developers who enter the company studied with us as trainees. There is a special unit for internal projects and research in the software development department and its manager is responsible for all our training programs. I am talking about developers and analysts. We work actively with universities to train our engineers. We have a manager in the company who is responsible for contacts with universities, such as the State University, the Politech [the State Technical University]. Some of our employees, like me, for example, lecture at Universities and we select the brightest students for further cooperation in the future; for example, this is the case in the State Technical University. We collaborate with professors, assist departments, and we also cooperate with advanced high schools and help them.”

**Question:** How do you keep your personnel? For example, Sun Corporation entered St. Petersburg and attracted personnel.

**Dmitry Livshits:** “The problem of the migration of personnel to other companies has been quite a serious issue in St. Petersburg, even before Sun arrived. I can give many examples of problems we encountered last year. At first, we have an individual program for working with staff. In our department [the department of software solutions], we have a career advancement system; our employees can clearly see how they can develop themselves, which gives them a vision not only for today but also motivates them for the future. It is nice to work today with a vision you have for the future that you have been given by your company. This is just a working process that exists in the company. Secondly, we work individually with the most valuable people in order to keep them in the company.”

**Question:** What kinds of salaries does your company pay?

**Dmitry Livshits:** “In terms of wages we offer average salaries. Not everything depends on wages. For example, Microsoft’s salaries are not so high for developers, but their qualifications are world-known. Therefore, the question of salaries cannot be vital.”

**Question:** What is your position in the current IT market in St. Petersburg? What are your main strengths in comparison with those of your competitors?

**Dmitry Livshits:** “Your question is very broad, and I am afraid I cannot cover everything in several minutes, but rather in a few words. To be very brief, the key aspects are: the quality of our product; its functions; modern architecture; our installation, maintenance and support services and, very importantly, feedback from customers that use our system independently. And again, the question is abstract, but if we talk about document management, about our product, we have a strict market focus here.”

**Question:** How easily can this product be integrated with other products; for example, if a company has some automated systems, how easy is it to integrate your product with them?

**Dmitry Livshits:** “In the framework of the product’s lifecycle, we develop different gateways for integration with external SW products. For example, in April 2005 we performed a gateway for integration with Axapta. In October we planned to release a gateway that integrates our products with a Microsoft-based solution, Microsoft Share Point portal. In a year, we plan have projects for integration with other systems. In other words, the product allows for easy integration with external SW by means of Web services and XML scenarios. The architecture of the product is designed for easy integration with any corporative IS.”

**Question:** Why should I address you as a customer to buy your IS and consultancy services?

**Dmitry Livshits:** “The key aspect is our large experience in SW development projects, if we talk about such projects, because here we can talk about infrastructure and installation projects as well. Once again, we have highly qualified personnel which are involved in these projects. The success of any project is linked to the experience of the team. In addition, there is our technology. It is a fact that we were the first software company in Russia to receive the ISO certificate, the first to be certified at CMMI level 3 by Gartner and the first to receive the National Quality Award from the Russian government. We have a clear and transparent process for our customers. By the way, I would like to point out the importance of these kinds of processes not only in the offshore market but in the Russian market as well. Russian companies as well as offshore companies request clear processes.”

**Question:** What are the perspectives for growth and further work in the Russian IT market?

**Dmitry Livshits:** “The market is growing and developing rapidly. In my opinion, to be successful in Russia a company should be well defined and focused. It is not possible to appear in the market saying that we are ready to automate any unique business process: if a company has something, we will automate it. That would not work. Today, a company should enter the market with a clear understanding of the market itself and the market segments. One developer should not concentrate on all the segments of the Russian market. Clear, demanding solutions should be introduced to the market. For example, if we talk about our company, we offer the state sector a product; this is our system for state institution management. This product has been successfully used in several ministries. Now its installation in more state institutions is being discussed. This product solves concrete and understandable tasks. If we talk about figures, in the spring of 2005 this system helped the Ministry of Economic Development and Trade to remain debt-free. This Ministry was the only one.”

**Question:** Your first client was the Ministry of Communication. Did this have anything to do with the fact that the Ministry of Economic Development and Trade became your client as well?

**Dmitry Livshits:** “In reality our experience with the Russian railways played a positive role. However, the fact that we gained the Ministry of Economic Development and Trade as our client had nothing to do with the Russian railways project. It was a tender in a framework of the program Electronic Russia. Now, we use our involvement in Electronic Russia. The state market did not help us enter the Russian corporate market. Today, we have precisely defined our core competences: technology and tight market segments. We have specific solutions for the transportation sector, others for the telecommunications sector and still others for the pulp and paper industry. On one hand, we are vertically oriented, while on the other we are horizontally rotated as in the case of the integration of data and applications, solutions for search systems and assured data delivery. Here, one should understand that we have a clear position in our market, which allows us to move vertically and horizontally.”

**Question:** Why are the company’s head quarters situated in St. Petersburg? Does the company have regional and international offices and where?

**Dmitry Livshits:** “The office is located in St. Petersburg for historical reasons; the company was born here. Anyway, in addition to that office, we have an office in Moscow, where we do not have sales only, but also technical staff for developing and managing large scale projects for our Moscow clients. With respect to the Russian market in general, we have a number of partners in the country. We have partners in foreign countries; in Scandinavia, for example, they are located in Denmark, Sweden and Finland. During August 2005 we signed two new partnership agreements with Finnish companies: Cymbol Consultancy and M&N Konsulting. In the USA, we have our own sales representative. Moreover, we have a product designed especially for the American market. The story of that product began with a small product for an American company, BURSTechnology; the cost of the project was about USD 10 million. We developed a filter for internet access. Nowadays this product is very successful and is among the most famous applications for farewell programs, for controlling user access to the Internet, spam blocking and building reports on the performance of servers. Our cooperation with this American company exceeds USD 500 thousand. The product is being distributed worldwide by BURSTechnology and we are selling the product together with BURSTechnology in Russia.”

**Question:** What are the perspectives of your company’s development in the Western market? Is Digital Design interested in such a scenario? What is your region of interest? How serious are you intentions about the European market?

**Dmitry Livshits:** “The key aspect for us is to be identified in the foreign market. At present, our business is distributed according to a 70/30 ratio, 70 % of it is in Russia and 30 % from abroad, but we would like to change it to 50/50. Scandinavia is the most interesting region; I am not telling this to you because you are from Finland but because this is true. Starting from January 2005 we will search actively for partners in Scandinavia to offer services to end-user with the help of middlemen or partners. If you have visited our web pages you may see that the leitmotif of digdes.com is a partnership program for the Scandinavian region.

**Question:** What amount of revenue do you earn in the Western market? Do you expect the situation to remain the same in the future?

**Dmitry Livshits:** “As I mentioned earlier, our revenue is distributed according to a ratio of 70/30 %, but our return is about the same. Yes, this course is successful because the market is growing and we do not want to depend only on particular segments of this market in Russia.”

**Question:** What risks do you face in Russia? Why do you want to go west? Do you see that the company outgrowing the Russian market and that it is the right time to move abroad for to a certain extent?

**Dmitry Livshits:** “I could not say that we are going west, because we feel that in Russia there is no future and oil prices will suddenly go down. We see that the Western SW development market is growing significantly from the outsourcing point of view. We do understand that we have a word to say in that market based on our qualification and experience. We understand that outsourcing today is highly dependent on offshore development but not in Russia with its interest for installing ready-made solutions. So, once again, we are ready for the Western market, and the qualification of our personnel and that market need to meet each other.”

**Question:** What product/service are you developing for the Western market? What is your outlook?

**Dmitry Livshits:** “We perform outsourcing and offshore development. As for segments, we are focusing on product development for IT companies that develop their own solutions and need several functions to be performed externally, offshore. This is not offshore as people normally understand it when a customer gives developer specifications. We create the product, the specification and the requirements mutually. After all, we make common decisions about the release of the product.”

**Question:** What prospects do you see for your product in the Western market?

**Dmitry Livshits:** “We are thinking about move in this direction, but for our unit, for the department of software solutions, this is less prioritized because ready-made solutions are less complex and less interesting.”

**Question:** What is the attitude of foreign clients towards SW “made in Russia”? What about trust?

**Dmitry Livshits:** “The attitude is different depending on the reasons for which foreigners buy Russian solutions.”

**Question:** If we talk about standard offshoring and the client just wants to save money? Why should they select your company? Why the Russian and not the Indian market?

**Dmitry Livshits:** “Offshoring is not always about cutting costs, in some cases offshoring is not saving money, but following the style adopted in the company. Why the Russian market and not the Indian, Ukrainian or Belorussian markets that are much cheaper? I do not want to answer the question why Russian the market because it is very general. Talk about Digital Design in the sense of how we formulated our competitive advantages. What I specially would like to mention is our uniqueness in experience with Microsoft-oriented SW; we have been nominated Microsoft gold partners five times in Russia. We are the only company with that many nominations and such a level of partnership. We have very strong experience in Microsoft technologies and cooperation with Microsoft. The customer adaptation of our technology process is also worth mentioning as our company’s advantage. We certainly have standards according to which we perform development, but in every particular project we are flexible in terms of our customer-developer interaction. We follow standards required by our customers; in some cases it is the Rational Unified Process and in others the Microsoft Solution Framework. We are a user-friendly and user-driven organization.”

**Question:** Have you declined requests from customers due to a lack of resources?

**Dmitry Livshits:** “Yes, of course. We have received such requests. It is clear that we offer our qualifications only when we are able to complete a task; we will not to go and search for an extra 50 programmers only because we cannot support the required quality. This process should be evolutionary which is why we turn down some orders. Sometimes we do not have enough experience in some technologies. However, experience is a matter of practice and we are not afraid of taking the initiative. As I told you, we are a Microsoft oriented company, but sometimes we use different technologies and develop products successfully. I can give many such examples.”

**Question:** To what extent has the program Electronic Russia and the state policy towards IT influenced Digital Design?

**Dmitry Livshits:** “In the framework of the program Electronic Russia, we produced a document management system for the Ministry of Economic Development and Trade. This was the biggest project, but we implemented several small ones. There is a big question as to

the effectiveness of Electronic Russia. For Digital Design, the program proved to be sufficient because we had solutions for the state sector that could be replicated to other departments. Financially, we were also very interested and the project was profitable for us. The state policy toward IT is a very necessary step. The question is how deeply it will be lost in bureaucracy procedures. Everything is defined not only by policy but also by practical issues. We see these steps and can feel them ourselves. For example, many tasks for state institutions require standardization. Due to our participation in Electronic Russia we developed certain standards within the framework of the document management system which will be in use in Russia in state institutions. Moreover, the standards have a solid basis; we use the best global practices that have been collected in this domain.”

**Question:** What is the ratio of state and private clients in Digital Design in Russia? Do you feel dependent on state clients?

**Dmitry Livshits:** “In Russia, 50 % of our clients are state institutions and 50 % private corporations. In the case of the software development department, state customers make up less than 50 % of our client base. In any case, the loss of that segment is undesirable. If any stagnation in the segment of state customers occurs, it will hurt the company even though we are not directly dependent upon state orders. We are attempting to move west and win new corporate clients in Russia in order to reduce the influence of the state.”

**Question:** Who are your clients, large or small companies? How is the proportion of small clients changing; what is the trend?

**Dmitry Livshits:** “We have large companies among our clients, mostly large businesses. We have small clients, especially in the Western market. For example, BURSTechnology that I mentioned above consists of 2 people, but our mutual volume of business is more than USD 500 thousand for 5 years of partnership. In many cases, the size of company is not a key factor. The situation with small companies is different in the Russian market from that in the foreign markets. In the Russian market, small companies are served not by our department, but the department of ready solutions. Its main task is the installation of ready solutions based on ready-made products – DocsVision and Microsoft Axapta. These projects are cheaper. The number of clients and market itself is growing. Not long ago, we created a sales mechanism to work at full capacity. Last year we had only individual sales. Small companies do not have money for large and individually designed systems; in any case, they do not need such systems. The department of software solutions handles the majority of major clients. In the Western market, the situation differs. There are some product development companies that have a limited number of staff and that sell their own product in various market segments – purely IT (administrative features) or the telecom sector. We see ourselves as partners for

these companies; we develop their SW on an offshore basis. In addition, we have big Western clients that order SW from Russian companies. We had some rather big contracts with StoraEnso, a big production range for a Finnish mobile operator, Cubio Communications, and TetraPak, to mention Scandinavia.”

**Question:** What are the main departments in Digital Design?

**Dmitry Livshits:** “The biggest department is that of software solutions; I represent it, and its share is about 50 % of the company’s structure. Its major task is the development of customized SW within the frameworks of large projects. We have a department of business solutions that is specialized in the customization of DocsVision and Axapta, and it is about 25 % of the company’s structure. The third department is the department of engineering solutions that is responsible for big and complicated engineering projects and is 25 % of the company’s structure. We have a subsidiary, the DocsVision Company that is specialized in the development of that SW.”

**Question:** What kind of activity do you see as the most prospective in the future and why?

**Dmitry Livshits:** “My opinion is that the three aforementioned types of activities are in balance in the company, each of them with its own priority and development perspectives. Naturally, as I am in charge of the department of software solutions, I can say that this unit is very promising, because of the growing demand for customized solutions and we do specialize in big projects. We develop large turn-key projects and perform offshore programming for western clients. I think it is not reasonable to make a division between onshore and offshore development because we use almost the same technologies. I would like to emphasize several paths: the development of purely customized projects that start from scratch; the development of customized projects based on standard solutions when the question of integration should be solved – the integration of standard products into the united IS of a client; the migration of systems based on old technology into systems based on new technology. I am talking about both the Russian and foreign markets.”

**Question:** What are the advantages of your own product, DocsVision?

**Dmitry Livshits:** “The strongest feature of Docs Vision is its orientation towards concrete tasks in the area of document flow management. We are not saying that DocsVision is able to solve any problem. It has its own well defined market segment. In addition, DocsVision is a technically advanced product; the system is based on new promising technologies and its platform is Microsoft.NET, a technology for web services, which offers an opportunity for integration with up-to-date SW. Moreover, we provide support services for DocsVision on a really high level. It is really hard to promote the product without good support.”

**Question:** Do you offer outsourcing services? What are your competencies? What is the geography of outsourcing?

**Dmitry Livshits:** “This is mostly the task of the department of engineering solutions that I told about earlier on. There is a concrete project example. The electronic postal system of Russian Railways is outsourced in terms of support and services in our company. Usually, the products developed by Digital Design are supported by us in the framework of outsourcing. We provide support after the guarantee period ends in accordance with mutual contracts with our partners. This service is quite common for us; we offer it for a long time. This type of activity is successful because it is profitable for both sides. The geography of projects is quite wide; for example, we did a project for the Administration of the Astrakhan region. We are open for any Russian region. It is important to calculate the overhead charges; it may not be so reasonable to outsource from Novosibirsk to St. Petersburg. More examples are Sever Stal in Cherepovets and a system for the mobile operator Megafon in Moscow that has been distributed to all its subsidiaries around the country. We do provide support for the IT functions of that system.”

**Question:** What IT consultancy services does your company offer? Which of them are the most popular?

**Dmitry Livshits:** “The most interesting services among those that we offer are support systems for quality management. This is a very hot topic on the market at both the state and corporate level. These projects cover the building of quality management systems, ISO and CMMI certification projects. We have a wide range of services to offer in framework of our current projects: preparation for ISO and pre-assessment for CMMI. Sometimes, we offer these services separately; sometimes we have common projects, sometimes one project leads to these services, which means that consultancy leads to development project and vice versa. In addition, we have several projects related to the formalization of our customer’s business processes, domain description, transfer from as-is processes to to-be processes, the development of an IS architecture for to-be processes. We offer consultancy for different types of businesses, not only for IT companies. Quality management systems are popular mostly in non-IT companies; the pre-assessment for CMMI is for IT companies. In the case of information security services, the situation is the following: to work with state institutions, a company should possess all the necessary licenses. Digital Design has all the licenses except the license for working with State secrets. We do certain jobs in that market as well, but we skipped the State secret part.”

**Question:** Does Digital Design prefer complex ERP systems or light compatible systems? What technology is in use?

**Dmitry Livshits:** “Everything depends not on the ERP system itself but on the way the system is installed in the company. In one area, we may find very successful ERP systems and total failures. Good results are based on the client’s understanding of their business processes and desire for a successful installation. The order in the company matters a lot because the involvement of an ERP system as a management tool does not help; the business processes should be organized first. We should talk not about the heavy or light versions of ERP systems; many customized systems are not light. Everything is defined by the business processes. There are a number of clients with unique processes. One example of a unique process in Russia is the process of issuing patents by the only authorized organization, the Russian Patent Office. In that case, a customized solution was necessary. We can find many examples in the corporate market as well. Equilibrium must be found between standard ERP and customized solutions and this equilibrium must be maintained while working in every particular case. Microsoft has light solutions for SMEs. It depends on how deeply company is interested in an ERP system for everyday functioning. Microsoft solutions are not so easy to adapt to the Russian market but we have positive experience with Axapta, for example. This task is solvable.”

**Question:** Do you use services of offshore developers yourselves?

**Dmitry Livshits:** “We prefer different strategies for different projects. Sometimes, we hire sub-contactors. The use of an external cheap labor force from the CIS, Ukraine or Byelorussia is profitable, so we have certain partnership agreements. Sometimes we use our own workforce. We are ready to work on projects ourselves when we feel we have the competence.”

**Question:** In what areas are you experts?

**Dmitry Livshits:** “Data and application integration, document management systems, data archiving, systems for the mobile telecommunications market (billing and applications for mobile devices) and the automation of unique business processes.”

## References

**Aberdeen Group report 2003.** Software development Russia: a buyer's guide to the Russian software development and services export industry

**Aleksandyan B. 2005.** В условиях консолидации рынка возрастает роль интеграции ПО в единую ИС предприятия (In conditions of market consolidation the role of SW integration into united information systems grows). [www document] <<http://www.cnews.ru/reviews/free/2004/int/borlas3/>>

**Ananiev A. 2005.** Активизация западных интеграторов на российском рынке будет определяющим фактором дальнейшей эволюции (Energization of foreign integrators will be the leading factor in the further evolution of the Russian market). [www document] <<http://www.cnews.ru/reviews/free/2004/int/technoserv/>>

**Ängeslevä. J. 2004.** Siberia SW development market overview. [www document] <<http://www.finpro.fi>>

**Ängeslevä. J. 2004.** SW business and statistics from Russia and CIS for strategy planning.

**Apkit.ru. 2003.** Встреча с Председателем Совета Федерации С. Мироновым (Meeting with the President of the Federatal Council S.Mironov). [www document] <<http://www.apkit.ru/default.asp?artID=5081>>

**Averin A., Dudarev. G. 2003.** Busy lines, hectic programming: a competitive analysis of the Northwest Russian ICT Cluster. ELTA report. Taloustiedto Oy, Helsinki.

**Belova S. 2005.** В сибирскрй столице все спокойно (Everything is stable in the Siberian capital). [www document] <<http://www.crn.ru/?ID=494918>>

**Birger. P. 2005.** И в долгий путь (The long way). [www document] <<http://www.expert.ru/expert/special/oblasti/piter04/invest.htm>>

**Bobrovikov B. 2005.** Западные компании вряд ли будут играть существенную роль на российском рынке интеграции (Foreign companies will hardly play a substatial role in the Russian integration market). [www document] <<http://www.cnews.ru/reviews/free/2004/int/croc/>>

**Bp.com. 2004.** Statistical review of world energy. [www document] <<http://www.bp.com/subsection.do?categoryId=95&contentId=2006480>>

**CNews analytics, Russoft 2004.** Software outsourcing market in Russia. Analytical report. Moscow, St. Petersburg.

**CNews.ru 2004.** Российский рынок ИКТ (The Russian ICT market). [www document] <<https://www.cnews.ru/2004/part2/rus.html>>

**CNews.ru 2005.** ИТ-рынок верит Рейману (The IT market believes Reiman). [www document] <<http://www.cnews.ru/newtop/index.shtml?2004/11/25/168867>>

**Cnews.ru 2005.** Крупнейшие ИТ компании России (The biggest Russian IT companies). [www document] <<https://www.cnews.ru/free/2004/part1/cnews1000.shtml>>

**Cnews.ru 2005.** Самые быстрорастущие ИТ компании России (The fastest growing Russian IT companies). [www document] <<https://www.cnews.ru/free/2004/part1/fast.shtml>>

**CNews.ru 2005.** Экспортная разработка ПО (Software development for export). [www document] <<http://cnews.ru/reviews/free/2004/part5/export.shtml>>

**Crn.ru. 2005.** Как управлять ИТ отраслью региона (How to manage the IT segment of the region). [www document] <<http://www.crn.ru/?ID=309068>>

**Dobrovolskaya N., Saluena A. 2004.** Development of Russian mobile communications. NORDI publication 9. Lappeenranta University of Technology.

**Dudarev G., Boltramovich S., Filippov P., Hernesniemi H. 2004.** Advantage Northwest Russia: the new growth center in Europe? SITRA. Helsinki.

**Eiu.com 2005.** Country profile: Russia 2005. [www document] <<http://www.eiu.com>>

**Eremin K. 2005.** Спрос на услуги интеллектуального строительства распределен среди отраслей, располагающих свободными средствами (The demand for intellectual construction is distributed among industrial sectors possessing available resources). [www document] <<http://www.cnews.ru/reviews/free/2004/int/cherus/>>

**Erkola E. 2004.** Российский рынок оффшорного программирования (The Russian offshore development market). [www document] <<http://www.cnews.ru/hardnsoft/offshore/russia.shtml>>

**E-Rus.ru 2005.** E-portal of Federal program “Electronic Russia”. [www document] <<http://e-rus.ru/>>

**Expert.ru 2005.** Десятка лидеров в сегменте услуги в области ИТ (Ten leading companies in the IT services segment). [www document] <<http://www.expert.ru/expert/raitings/itcomp/04-26-40i/reyt-t14.htm>>

**Farish R. 2003.** ИТ-рынок России: между политикой и экономикой (The Russian IT market – political and economics aspects). [www document] <<http://www.crn.ru/?ID=461854>>

**Fincom.spb.ru 2005.** Социально-экономическая ситуация в Санкт-Петербурге в 2003 году и начале 2004 года (The socio-economic situation in St. Petersburg in 2003 and in the beginning of 2004). [www document] <[http://www.fincom.spb.ru/pres/bd\\_2004/booklet/rus/1.htm](http://www.fincom.spb.ru/pres/bd_2004/booklet/rus/1.htm) >

**Gorbunov V. 2005.** Целью внедрения ERP системы является не удобство работы, а улучшение финансовых показателей компании (The goal of ERP system installation is not convenience, but improvement of a company's financial indicators). [www document] <<http://www.cnews.ru/reviews/free/2004/int/borlas2/>>

**Goretkina E. 2005.** Системные интеграторы идут! (System integrators are coming) [www document] <<http://ww.crn.ru/?ID=460192>>

**Grishankov D., Kraschenko L. 2003.** Виртуальная область (The virtual industry). [www document] <http://www.expert.ru/expert/ratings/itcomp/03/it-rat.htm>

**IBusiness.ru. 2003.** Анализ тенденций развития ИКТ и их применение в социально-экономической сфере (Analysis of the developments of ICT trends and their socio-economic adaptation). [www document] <<http://www.ibusiness.ru/analytics>>

**Interfask.ru 2005.** Полпред президента РФ Полтавченко называет Москву локомотивом экономики ЦФО (The plenipotentiary of the President of the Central federal district Georgy Poltavchenko referred to Moscow as the locomotive of the economy in the district)

**Itu.int. 2004.** International telecommunication union (ITU) digital access index. [www document] <<http://www.itu.int>>

**Ivanov A. 2005.** Бесшовное внедрение и развитие системы – ключевой вопрос для российских заказчиков (Smooth system integration and development is the key question for Russian clients). [www document] <http://www.cnews.ru/reviews/free/2004/int/ik>

**Ivanova O., Kyrki A., Selioukova Y., Vääänen J. 2005.** Case study on software development company – opportunities and challenges of Russian high-tech start-up. NORDI publication 15. Lappeenranta University of Technology.

**Kalinin A. 2005.** Консолидация рынка соответствует его зрелости (Market consolidation shows the best correlation with its maturity). [www document ] <<http://www.cnews.ru/reviews/free/2004/int/ncc/>>

**Karacharovsky V., Agabekov S. 2005.** ИТ-консалтинг в России: старт 2005 (IT consultancy in Russia: the beginning of 2005). [www document] <<http://www.cnews.ru/reviews/free/2004/part5/ruscons.shtml>>

- Karacharovsky V., Agabekov S. 2005.** Российский рынок аудита и консалтинга (The Russian auditing and consultancy market). [www document] <<http://www.cnews.ru/reviews/free/2004/perts5/rusaudit.shtml>>
- Kataev V. 2005.** Проблема вытеснения с отечественного рынка зарубежного ПО в первую очередь лежит в области маркетинга и менеджмента (The problem of ousting foreign SW from the market is concentrated in marketing and management). [www document] <<http://www.cnews.ru/reviews/free/2004/int/i-teco/>>
- Khaikin M. 2005.** Новый рывок (The new break through). [www document] <<http://www.expert.ru/expert/raitings/itcomp/04-26-40i/25-01.htm>>
- Khaikin M. 2005.** Полный вперед (Full speed ahead). [www document] <<http://www.expert.ru/expert/raitings/itcomp/04-13-27i/i23-01.htm>>
- Klimova E. 2005.** На пути к ИТ рынку без границ (On the way to an unrestricted IT market). [www document] <<http://www.crn.ru/?ID=494899>>
- Kraschenko L. 2005.** Грозовой фронт (Thunder front). [www document] <<http://www.expert.ru/expert/raitings/itcomp/05/19/66/19/it.htm>>
- Kuzeev A., Makedonsky S. 2004.** ИТ-аутсорсинг: все дело в балансе (IT outsourcing: balance matters). [www document] <<http://www.crn.ru/?ID=461828>>
- Liuhto K. 2005.** Россия на пути к информационному обществу? (Is Russia on its way to becoming an information society?). Вопросы экономики (Voprosi ekonomiki) # 4.
- Liuhto K., Pelto. E., Lipponen K. 2004.** Where to do business in Russia. [www document] <<http://www.tukkk.fi/pei/e>>
- Lyskov A. 2005.** Рынок бизнес-приложений в России вырос за 2004 год почти вдвое (The market of business applications doubled in 2004). [www document] <<http://www.cnews.ru/reviews/free/2004/int/columbus/>>
- Mamanov A. 2002.** ICT market overview for Novosibirsk region, Russia. [www document] <<http://www.bisnis.doc.gov/bisnis/isa/020131novoit.htm>>
- Maunuksela, A. 2003.** Product Development Practices and Their Organisational Information requirements. Acta Wasaensia, No. III, Industrial Management 5. Universitatis Wasaensis, Vaasa. 252 p.
- Melnik O. 2005.** В зеркале ROSS 2005 (ROSS 2005). [www document] <<http://www.crn.ru/?ID=495002>>

**Melnik O. 2005.** ИТ отрасль Сибири в ожидании судьбоносных решений (The Siberian IT market waits for significant decisions). [www document] <<http://www.crn.ru/?ID=494901>>

**Melnik O. 2005.** Уходящая натура (Leaving nature). [www document] <<http://www.crn.ru/?ID=460202>>

**Minfin.ru. 2004.** Interview of A.Kudrin to Reiter agency. [www document] <[http://www.minfin.ru/off\\_inf/int270103\\_.htm](http://www.minfin.ru/off_inf/int270103_.htm)>

**Minsvyaz.ru 2005.** Концепция развития рынка информационных технологий в Российской Федерации до 2010 года (The Conception of the development of the information technology markets in the Russian Federation by 2010). [www document] <<http://www.minsvyaz.ru>>

**Mos.ru. 2005.** The official server of the government of Moscow

**Muzalev D. 2005.** Корпоративное ПО: заказ или тираж? (Corporate SW: tailored or packaged?). [www document] <<http://www.cnews.ru/>>

**Nekrasova E. 2003.** Хождение в народ (For the public). [www document] <<http://www.offline.cio-world.ru>>

**Nisse.ru 2005.** Основные итоги социально-экономического развития Санкт-Петербурга в 2003 году (The main results of the socio-economic development of St. Petersburg in 2003). [www document] <<http://www.nisse.ru/analilics.html> >

**Nisse.ru 2005.** Прогноз социально-экономического развития Санкт-Петербурга на 2004 год и период до 2006 (A forecast of the socio-economic development of St. Petersburg from 2004 to 2006). [www document] <<http://www.nisse.ru/analilics.html> >

**On-line dictionary** <<http://whatis.com>>

**On-line dictionary** <<http://www.webopedia.com>>

**On-line dictionary** <<http://www.yandex.ligvo.ru>>

**Outsourcing-Russia.com 2004.** The Russian offshore software development survey. [www document] <<http://www.outsourcing-russia.com>>

**Pekkarinen O. 2005.** Northwest Russian transport logistics cluster: Finnish perspective. NORDI publication 14. Lappeenranta University of Technology.

**Plitman A. 2005.** IT-Summit 2005. Встреча лидеров ИТ-индустрии (Meeting of IT industry leaders). [www document] <<http://www.crn.ru/?ID=480325>>

**Plitman A. 2005.** Все в регионы! (Let us go to the regions!). [www document] <<http://ww.crn.ru/?ID=309072>>

**Plitman A. 2005.** Меньше бизнеса, больше воли (Less business, more freedom). [www document] <<http://ww.crn.ru>>

**Plitman A. 2005.** Слагаемые и сумма (Items and sum) [www document] <<http://ww.crn.ru/?ID=494920>>

**Pozdnyakov A. 2004.** Административные «химеры» исчезнут в процессе децентрализации (Administrative “chimeral” disappear in decentralization). [www document] <<http://gov.cap.ru/list2/view/>>

**Russoft 2005.** Outsourcing Destination: Russia. [www document] <<http://russoft.ru>>

**Shablygin E. 2005.** Через три года в России, наконец, возникнет настоящий рынок интеграции (Russia will have a real integration market in three years). [www document] <<http://www.cnews.ru/reviews/free/2004/int/jet/>>

**Spbit.ru 2005.** На три года Питер станет лучшим местом для получения ИТ-прибыли (In the next three years St. Petersburg will become the best place for IT profit generation). [www document] <<http://www.spbit.ru/news/n5437>>

**Sulgin S. 2005.** 2004 год характеризуется подъемом среднего рынка (2004 is characterized by the development of the market). [www document] <<http://www.cnews.ru/reviews/free/2004/int/gmcs/>>

**Tabakov V. 2005.** Темпы роста отечественного рынка ИТ-консалтинга увеличились до 70 % (The growth rate of the domestic IT consultancy market increased by up to 70 %). [www document] <<http://www.cnews.ru/reviews/free/2004/int/ikt/>>

**Tidd, J., Bessant, J., Pavitt, K. 2001.** Managing Innovation: Integrating Technological, Market and Organizational Change. John Wiley & Sons, England

**Tiusanen T. 2003.** Development of the Russian rouble – the crisis of 1998 and its aftermath. NORDI publication 3. Lappeenranta University of Technology.

**Transparency.org 2005.** Transparency International’s Corruption Perceptions Index 2004. [www document] <<http://www.transparency.org/cpi/2004/cpi2004.en.html#cpi2004>>

**Väättänen J., Ivanova O., Kyrki A., Lingquist J. 2005.** Case study on Russian offshore software development – strategy in the making. NORDI publication 12. Lappeenranta University of Technology.

**Vainberg D. 2005.** Дорога на Москву (The way to Moscow). [www document] <<http://www.crn.ru/?ID=309062>>

- Vainberg D. 2005.** Кто хочет быть «поближе к центру» (Who wants to be “closer to the center”). [www document] <<http://www.crn.ru/?ID=460204>>
- Vinokurov L. 2005.** Длина отношений между заказчиком и исполнителем является интегральным и объективным показателем качества ИТ-услуг (The relationship between the customer and developer is an integral and objective indicator of IT service quality). [www document] <<http://www.cnews.ru/reviews/free/2004/int/technoserv2/>>
- Vorykhalov A. 2005.** Сумеречная зона (The twilight zone). [www document] <<http://www.expertsibir.ru/jornal/read/1318.htm>>
- Voskanyan M. 2005.** Любое дело по плечу (Everything is possible). [www document] <<http://www.crn.ru/?ID=460189>>
- Voskanyan M. 2005.** Регионы – источник кадров для Москвы (The regions are the source of human resources for Moscow). [www document] <<http://www.crn.ru/?ID=460190>>
- Wikipedia.org 2005.** <<http://wikipedia.org>>
- Wiii research report. 2005.** Accelerating GDP growth, improved prospects for European integration. Special issue on economic prospects for Central, East and Southeast Europe. Volume 314.
- Yakobson I. 2005.** В 2004 виртуальный спрос на ERP превратился в реальный (In 2004 the virtual demand for ERP systems became real). [www document] <<http://www.cnews.ru/reviews/free/2004/int/compas/>>
- Yapparov T. 2005.** Стратегия ведущих игроков смещается в сторону развития высовомаржинальных сервисов (The strategy of the leading players shifts to the development of highly profitable services). [www document] <<http://www.cnews.ru/reviews/free/2004/int/it/>>
- Zarubin S. 2005.** Как уйти от сырьевой экономики (The way to skip a resource-based economy). [www document] <<http://www.crn.ru/?ID=494919>>
- Zarubin S. 2005.** Малому бизнесу теплее в регионах (SMEs are feeling better in the regions). [www document] <<http://www.crn.ru/?ID=494673>>
- Zarubin S. 2005.** От Москвы не далеко, но Европа ближе (It is not far from Moscow, but Europe is closer). [www document] <<http://www.crn.ru>>
- Zashev P. 2004.** The Russian million cities – business opportunities and strategies fro Finnish small and medium size companies. [www document] <<http://www.tukkk.fi/pei/e>>

**Zuev A., Myasnikova L. 2005.** Кризис информационной революции (The crisis of the information revolution). *Мировая экономика и международные отношения* (World economics and international relations). No. 3, 2005. p. 24-27

**Деньги (Dengi). 2005.** За железным занавесом (Behind the iron curtain). No. 15. p. 129

**Экономика и жизнь (Ekonomika i zhizn'). 2005.** Ставка на интеллект (A stake on intellect). No. 9.3.2005. p. 38