

**RUSSIAN SOFTWARE  
DEVELOPING INDUSTRY  
AND SOFTWARE EXPORTS**

**5th annual survey**







With support from  
The Ministry of Telecommunications  
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### Dear friends,

Let me share with you the results of the 5th annual Survey of the Russian software export industry prepared by RUSSOFT Association, the major and the most authoritative amalgamation of software development companies from Russia as well as a number of leading companies from Belarus and Ukraine.

The full-scale in-depth survey of the software export industry has been done for the fifth consecutive year. The consistency of results obtained from this survey with the actual state of affairs in the industry is ensured by the continuity of analytical methodology as well as by the use of rather big samples from the most comprehensive database on export-oriented software development companies, which already includes over 1,200 software companies.

The survey is based on the polling of software development company managers (C level), which has been carried out in January-March 2008 by the RUSSOFT analytical department with the support of a professional call-center. Furthermore, the results of the research were completed with personal interviews of several company directors and analyzed by RUSSOFT experts with participation of Mr. Dmitry Zhelvitsky, analyst from the Computer World Publishing House.

The report contains 44 pages of text with 52 diagrams and tables representing the current situation in the Russian software development industry from different aspects. It covers both actual data on the state and growth of software exports as well as their evaluation by main market players, including representatives of service providers and software products producers.

The results of the survey reflect important system changes which have been taking place in the Russian software development industry as well as in IT industry in general in the last two years:

- the Russian market is becoming more and more attractive for software developers shifting their resources, wholly or partially, to service provision or product development and sales in Russia;
- there has emerged a leading group of cutting-edge IT service providers expanding the range of their services via system integration and integrated solutions. This group of companies has rapidly entered the international elite of high-tech IT service providers and is now successfully coping with competition on the global market, at the

same time occupying a niche of major service providers on the Russian market;

- the success of the Russian service industry is primarily determined by a high level of staff education, ability to deal with non-standard issues in case of uncertainty, and availability of specialists able to work in related areas of expertise;

- growing salaries force major companies to find cheaper resources for routine development first in the neighboring countries and deep Russia and then far abroad. Middle and small companies have either to specialize in technological or vertical niches or create their individual solutions, develop service-oriented products based on them or align their business with the product model;

- the development of technological parks and special economic zones as well as venture capital fund networks inevitably leads to the further growth of business activity in the software development and products segment that is already prevailing over the service segment by export volumes;

- it is expected that both these areas (services and products) would grow in parallel, complementing each other and establishing partnerships for joint promotion on the global market.

The report is intended to give insight in the Russian software export industry, current trends, opportunities and challenges a foreign partner may face while selecting a provider of technology and solutions or investment projects in Russia.

We express sincere gratitude to those who have participated in the survey and thus provided a comprehensive, reliable and trustful source of information on the situation and development prospects of the Russian software export industry.

**Editor-in-chief of the 5th edition,**

**President of RUSSOFT Association  
Valentin Makarov**

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## METHODOLOGY

This research involved several sources of information. Traditionally, it started with the annual poll of companies representing the software development industry, conducted by RUSSOFT Association. We mainly accept answers from companies that are to this or that extent involved in exports of software products and services from Russia. This year for the collection of completed questionnaires we attracted a professional call-center specializing in similar surveys. Questionnaires were sent out to companies in the Association's contact database covering more than 1,200 companies currently involved in exports of software products and software development services.

Throughout all previous years the polling results were the main source of information for the survey. However, in the course of time the significance of other sources has increased. In addition to the poll, we are conducting in-depth interviews with managers of around ten Russian leading software developers, which allows to better understand current industry and market changes.

Moreover, we applied the ratings of authoritative analytical agencies, reports of research companies, data of foreign associations of software developers, publications in Russian and international Mass Media as well as last year results officially announced by major Russian software companies. All these can now be considered the main source for the survey.

This year the number of companies participating in the poll has increased. At the same time the quality of completed questionnaires has not only maintained, but even improved. Companies are becoming more open and willing to answer questions related to disclosure of information sometimes considered confidential. We received 96 properly completed questionnaires (10 more than last year). There are more than 90 answers to the majority of questions. Therefore, the sampling covers about 10% of export market players, which is quite sufficient for an adequate reflection of trends and the situation in the industry.

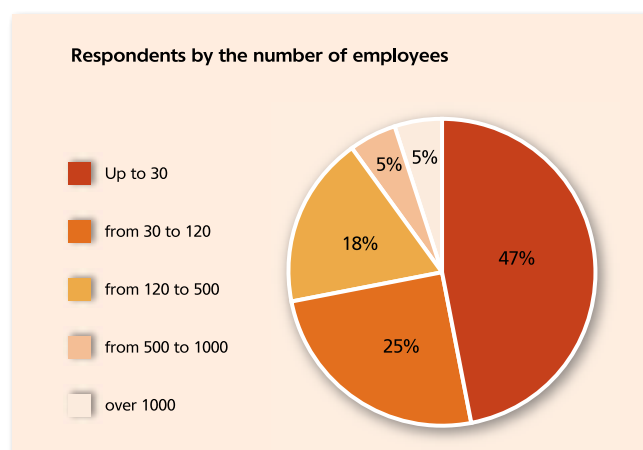
Compared with the last year the questionnaire remains basically unchanged. The only change concerned the expansion of a set of questions related to the evaluation of the role of the neighboring markets – Belarus and Ukraine – in Russian companies operations (primarily, the importance of these markets for Russian exporters in terms of sales and human resources involvement).

In the previous survey we enlarged the sections concerning personnel supply and training. It enabled to add to the report important information on the situation in the labor market and solutions of human resources issues. Meanwhile, there is no need to further expand the questionnaire.

The invariability of the majority of questions in the questionnaires allows revealing existing trends

in the industry. Certain difficulties (in comparing the results of different years' surveys) were caused by a new approach to companies' classification by their turnover. These changes resulted from a fast turnover growth and staff increase. If previously companies with the turnover over 4 MUSD were classified as the largest, in the last 2-3 years their number has considerably increased, and more often than not these companies adopt different business models. Thus, an additional division was made: instead of a single category "with turnover over 4 MUSD" two categories were introduced – "from 4 to 10 MUSD" and "over 10 MUSD".

Similar changes hold true for the distribution of companies by the number of employees. For example, there appeared a new category "over 1,000 employees", whereas in the past surveys companies with more than 120 employees were considered the biggest.

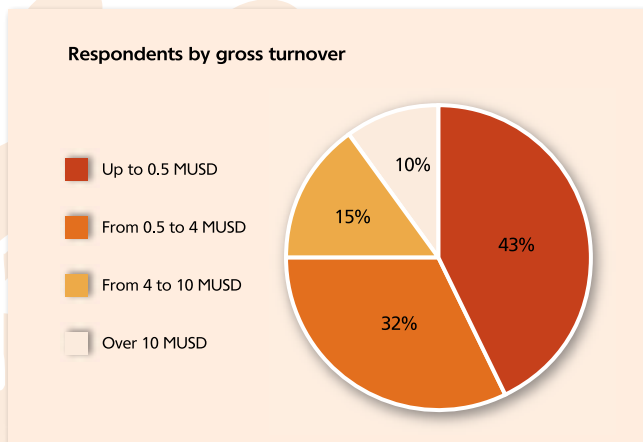


Nevertheless, certain categories remain unchanged, and answers of representatives of different company groups can be sometimes summed up. Moreover, as a rule, it is essential to see what answers are given by big and small companies, irrespective of criteria of their attribution to different groups. Therefore, it was not too difficult to compare the results of 2008 survey with those obtained in the previous year.

More serious problems were caused by a significantly modified respondents' structure. There is a good reason to believe that in the past year the structure of the total population of all Russian software exporters has changed.

A group of companies working in the framework of the product model has significantly increased. We have observed a significant change in business orientation of service companies from the international market to service provision to foreign companies entering the rapidly growing Russian market. By the same token a share of services provided by Russian exporters to Russian customers has also increased.

A lot of small companies could not withstand competition and ceased to exist losing their employees in the rivalry with bigger companies. Others still do function, but failed to retain a considerable part of their staff.



At the same time, for the first time in recent years we are witnessing the growing number of start-ups. Furthermore, a number of small companies have promoted to the "middle" category.

It is impossible to accurately estimate the scale of these changes. A couple of years will be needed to actually see the new structure of the Russian software development industry.

The structure of respondents has largely changed according to the above trends confirming good representation by certain sampling parameters. For instance, the share of companies with the turnover over 4 MUSD grew from 21% to 25%.

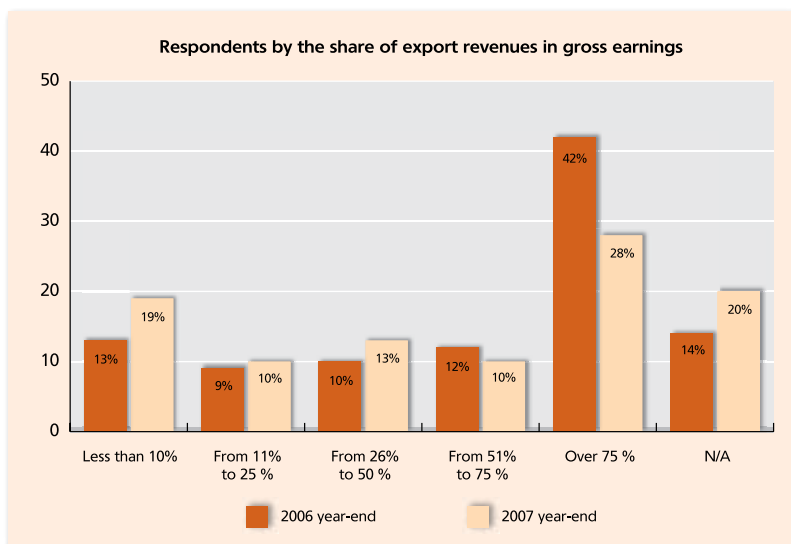
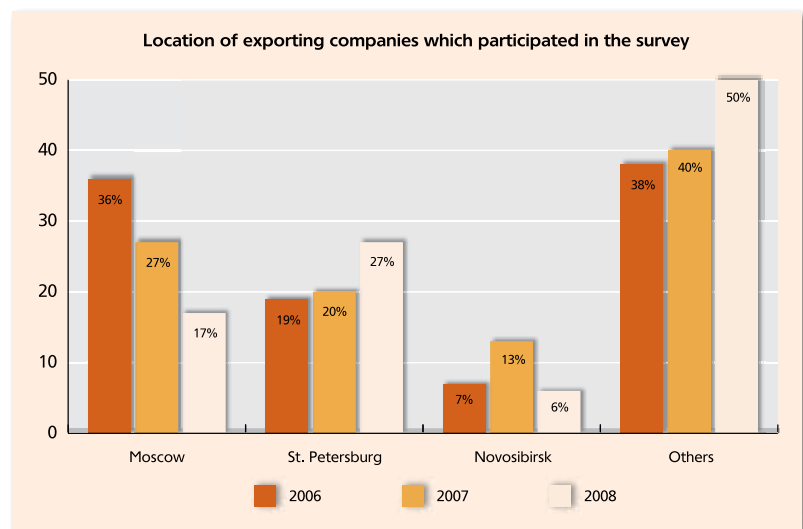
The reduced share of companies deriving a major part of their profit from export of services and products is also quite logical. Small companies that previously could obtain foreign orders owing to the difference in programmers' salaries have to re-orient to the Russian market or cut down export revenues due

to the fast growth of labor costs. Moreover, a lot of them lost their key employees. The larger a Russian service company is, the more competitive it will be on the global software development market.

There is a marked inconsistency of total population when the grouping is performed by company location. This can only be explained by the activity of participation in the poll of companies from different cities year-on-year. Despite the on-going consolidation within the industry the share of Moscow companies could not have reduced that drastically (from 36% in 2006 to 17% in 2008). Such decrease can most likely be explained by a more willing participation of other companies in the poll. However, geographic redistribution of respondents does not seriously influence most of the conclusions made.

If we consider changes in respondents' structure, verify the trends revealed with the support of experts and other sources of information, in

most cases the effect of deviations would reduce to the acceptable value. If changes in polling results are too big and unexplainable, the report provides relevant explanations; however, such cases are very uncommon.





## CHAPTER 1. POSITION OF RUSSIA ON THE GLOBAL MARKET OF SOFTWARE DEVELOPMENT SERVICES. OVERVIEW OF ANALYTICAL STUDIES AND RATINGS.



In 2008 consolidation tendency of the software development market still remains strong. Three basic preconditions for that are: first of all – willingness to avoid company size difficulties while trying to get the biggest and most promising customers, second – reduce cost to support revenues in the conditions of unstable dollar rate and rapid growth of wages, third – necessity to have complimentary competences or new resource bases.

One of the brightest examples of this tendency is the merger of Artezio and Lanit-Tercom, two companies that have formed AT Software holding. There is no doubt that such tendency will be one of the leading tendencies in IT business, and AT Software will perform as one of consolidation centers.

**Leonid Belyaev**  
CEO, AT Software

The situation on the global market of software development services is rapidly changing. A year ago a significant part of similar research was devoted to dispelling the myth of Russian hi-tech sector of economy, whereas such explanations would now seem irrelevant.

Certainly, the acceptable correlation between the actual state of affairs and ideas concerning the Russian economy that prevail among foreign businessmen is still to be reached. For instance, 14% of 830 directors of major American, British, French and German corporations surveyed by the research company Datamonitor in 2007 considered vodka the main Russian export product. In fact, exports of software and development services ensure a much higher income (dozens of times) than this strong drink. Not to mention timber, metals, gas, oil and oil-products.

Nevertheless, it can be assumed that the majority of CEOs who have for several years seriously considered various options of software development outsourcing, are rather well informed about opportunities for successful cooperation with Russian software companies. According to ratings prepared by different quality editions, at least every second company from Western Europe or the USA places orders on software development in Russia. Several dozens of major western companies have set up their software development centers in Russia.

Therefore, to obtain primary data on Russia we would recommend to address other sources as well as previous reports on the subject available in public access on our web-site [www.russoft.org](http://www.russoft.org). Specifically, they state that the ideas of underdeveloped infrastructure, poor knowledge of English by Russian developers, widespread piracy and bad conditions

for business practices in the country previously predominant in the world are now largely outdated.

This does not mean these problems are altogether non-existent. They are apparent to a certain extent, but more often than not their influence is exaggerated. Moreover, each year is marked with progress in their resolution. For example, customers have already quite long ago stopped mentioning such difficulties when working with Russian companies as language barrier and poor quality of communication channels, and the talks about bad conditions for conducting business have absolutely nothing to do with Russia's top ratings by volume of foreign direct investment by contrast with other countries.

The report concentrates on changes that took place over the year. Primarily, we would like to note the increased mentioning in foreign Mass Media of India as one of the main competitors of Russia on the global market of software development services. Also, the press covered the achievements of separate companies from Russia.

Such reference is made both by the leading specialized editions (CIO, Computerworld, Screen Magazine, eWeek) and authoritative business media (BusinessWeek, Financial Times, The Wall Street Journal, BBC). It is noteworthy that the success of Russia on the global market of software development is also discussed on the pages of newspapers and magazines in competitor counties – The Hindu, Asia Times, India Times.

The aim of the present research was not that of world press monitoring, hence, it is impossible to confirm or refute the increased mentioning of Russia in Mass Media. Similar publications were issued in previous years, too. However, if we analyze a longer time

period, the changes would be obvious. For instance, 3 years ago Russian companies representatives would often complain of difficulties faced to promote their services on the world market despite successful implementation of a number of complex projects. At that time neither the country, nor individual companies have won authority on the global market of software development services. Since then the situation has radically changed: Russian CEOs acknowledge that it has become much easier to negotiate and build new business contacts with international partners. Many success stories of fruitful cooperation between western companies and Russian developers are described in newspapers, magazines and web-sites of research companies and rating agencies.

International conferences on software development outsourcing also prove Russia's attained prestige. Without Russian software industry representatives these conferences can not claim their highest status. In February 2008, Manila, the capital of Philippines hosted the participants of the annual conference (Global Outsourcing Centers of Excellence Conference) that earlier was considered an event for the Asian region per se. But the organizers decided to raise the status of the conference and unite all major players of the global market. Eventually, Eastern Europe was represented by Aleksey Sukharev, Head of Russian company Auriga.

Moreover, achievements of Russia are regularly discussed in all serious research on the global market of software development. In some cases Eastern Europe is named as an alternative to India. However, first and foremost it implies Russia as the major supplier of these services among Eastern European countries. In public conscience Russia ranks third after India and China on the global market of IT services. At the same time based on national associations' data on aggregate national income of these countries from software exports, the difference between Russia and China is not that big.

In the group of companies included in the leading ratings of service providers (IAOP, Global Services) Russia occupies the second rather than the third place next to India. This testifies certain conventionality of country ratings. As a rule while compiling a top-100 of the best IT service providers the company turnover is not considered as the main criterion. What is estimated is a huge number of qualitative and quantitative indices of company operations.

Russia gradually goes away from direct competition with India and China. By exports volume of software development services such competition does not make sense. Initially Russia has worse starting positions given better living standards and a much less population. Generally speaking, India and China managed to launch mass preparation of programmers whose level corresponds to minimum requirements to coding in a narrow field of programming based on ready-made specification in the framework of a strict quality management system. Owing to the number

of population and well-run system of personnel preparation no one would be able to compete with these countries by the volume of outsourcing services provided. If certainly the global market maintains the same growth rate. In the present situation India's export revenue 15 times exceeds the same indicator for Russia.

The rapid growth of export software revenue of Russia that over the last several years remains at the level of 40-50% by no means entails any major losses of India or China. The growth indicators of these countries are comparable with those of Russia, which denotes there is place for everyone on the market.

In-depth interviews with Russian outsourcing companies managers conducted in the framework of the annual research of RUSSOFT Association in addition to a questionnaire poll of 100 companies allows to conclude that the bigger the company the more often are the intersections with competitors from India during the participation of these companies in international tenders.

Therefore, India still remains the main competitor for major Russian outsourcing companies on the global market. However, companies from other countries are named as well. Eastern Europe was the most frequently mentioned; there are intersections with companies from Israel and Ireland. In many cases orders are transferred to Russia as a result of competition with companies from countries that are usually not regarded software development services providers on the global market. More often they are perceived as the main consumers of these services. These include the USA and Western Europe. Such countries as Philippines, Brazil and China are named as competitors of Russia more rarely.

Companies with several thousand developers in their staff are usually confronted with competitors of the same scale on the global market. Their affiliation with a certain country becomes secondary; especially that very often these companies have a geographically distributed structure covering several states.

Although India is the main Russia's competitor for the biggest companies of RUSSOFT Association but far from being the only one. Moreover, Russian developers calmly react to the loss of tender to Indian companies, if the customer is primarily oriented to the reduction of man-hour cost. Given the extremely fast growth of turnover these companies are free to choose more complex and, therefore, more profitable projects.

Medium and small Russian software enterprises not included in the top-100 of the best IT service providers in the world according to the words of their directors, as a rule compete in project manager assignment with companies from Eastern Europe (mostly from Ukraine, Belarus, Hungary, Czech Republic, Poland, Slovakia and Romania) apart from the competition with each other.

In recent years marketing efforts of individual companies and RUSSOFT Association have resulted in



the clear positioning of Russia on the global market of software development services. Russia's vested specialization is the implementation of complex science intensive projects requiring deep mathematical knowledge from the contractors. Mathematical education has long been at a very high level in Russia. The requirements of teachers of mathematics are much rigor in the ordinary Russian school than in schools of the developed countries.

Besides, a wider basic education without early concentration on specialized subjects (which is typically considered a disadvantage of specialists training in Russia) can be a significant advantage if programmers with broad outlook would learn to solve practical tasks. Russian outsourcing companies in contrast to companies from other countries manage to use the diverse education of their staff for the solution of complicated applied tasks presupposing the understanding of technological and business processes unrelated to programming.

General knowledge acquired by Russian programmers already in secondary school allows Russia to occupy a high-tech niche of software development on the global market. Here Russia has advantages against China, India and other countries where customized software development is actively thriving. Other fields usually do not attract Russian companies

Judging by analysts' reports, recent years have seen the segmentation of the world market of outsourcing services by various factors, and Russian companies have adequately reacted to this process. This right reaction should be noted since earlier weakness of marketing and incapability to communicate the information about the company to potential clients were regarded as drawbacks of Russian companies. From all developments it may be concluded that this field has significantly improved.

Apart from the ability to solve complex tasks Russia has other advantages against India and China, and namely geographical and cultural proximity to customers in the USA and Western Europe. An important factor when choosing the contractor is the time difference. In the European part of Russia, where the biggest national outsourcing companies are concentrated, this difference is insignificant (only a 2 hours advance), which is convenient for maintaining constant contact in working time for joint projects implementation.

We can judge the quality of education in Russia by successful participation of Russians in many most well-known international programming contests. In the recent decade Russian students and school children are claiming to prizes in every such tournament and in the majority of cases win them. It won't be an exaggeration to say that they dominate world championships on programming and computer science both in individual and team championships. We will provide more detailed information about Russian students and schoolchildren participation in various

tournaments in Chapter 6 devoted to developers training and situation on the Russian labor market.

A good level of staff training is one of the key factors of Russian software companies' achievements on the global market. Around 10 companies are regularly included in top ratings of world companies working in customized software development. Entering these ratings, as a rule, reflects the significance of projects implemented during the past year and level of customer satisfaction, turnover being of secondary importance.

If rating agencies were mainly guided by income gained by service providers, it is unlikely the representation of Russian companies would be that numerous. This once again proves the right approach to positioning of Russia and individual companies on the global market. Russian developers succeed owing to the quality of project implementation and ability to solve the most complicated issues rather than due to a great number of developers and relatively low salary.

It is for this reason that according to The 2008 Global Outsourcing, the top-100 of IT service providers included 6 RUSSOFT companies – Auriga, DataArt, EPAM Systems, IBA Group, Luxoft and Mera Networks. Not all of these companies can be called Russian, but all of them have their development centers in Russia and are members of RUSSOFT Association. The 2008 Global Outsourcing is the annual rating prepared by the International Association of Outsourcing Professionals (IAOP). In recent years the number of Russian companies maintains at the same level in this rating, although new names are entering this group. It follows that more than 7 companies of RUSSOFT Association are included in The 2008 Global Outsourcing 100 on the regular basis.

According to 2008 Global Services 100 (similar rating compiled by Global Services Magazine and NeoIT), the top-100 of the best world outsourcing companies includes 8 in this or that respect representing Russia, similarly to the previous year, and namely Auriga, DataArt, EPAM Systems, Exigen Services, IBA Group, Luxoft, Mera Networks and Reksoft, only the USA and India having the larger representation. It should be marked, that in 2005, Global Services 100 included only 3 companies from Russia and the CIS. This indicator has improved owing to the reduction of India representation.

The above 8 companies are mentioned in different categories of 2008 Global Services 100. All of them are among Top 10 of the Central and Eastern European region leaving only two places for other Eastern European companies. Moreover, EPAM Systems came first in the Emerging European Markets category and was among Top 10 in the Best Performing IT Services Providers category. Another company conventionally representing Russia – Exigen Services – was among Top 10 Leaders in the Human Capital Development category (company Exigen Services was established in the USA by USSR immigrants and mainly allocated its resources in Russia and the Baltic states. After the

acquisition of STARSoft Labs from St. Petersburg Exigen Services became a major IT service provider from Central and Eastern Europe).

The Guide to Sourcing in 2010 survey prepared by The Global Services in autumn 2007 suggests a forecast that by 2010 the India-China opposition would transform into a more complicated structure – India-China-Russia. At the same time, Russian exports would never reach the volume of IT services provided by Indian companies. Most likely it speaks of the recognition of the fast growing software industry in Russia and its high-tech niche on the market. Still many analytical reports name Eastern Europe or Russia as its biggest part as the main alternative to India. For example, already in October 2006, India's competitiveness as compared to Eastern Europe and Russia was one of the most widely discussed subjects at the conference held by the Indian association NASSCOM.

EPAM Systems was also included in 2007 Top 50 Best Managed Global Outsourcing Vendors prepared in the framework of the project The Black Book of Outsourcing by Brown-Wilson consulting group ([www.theblackbookofoutsourcing.com](http://www.theblackbookofoutsourcing.com)). This group estimates 50 best global outsourcing companies by the quality of management. Companies representing Russia owing to their fast growth over the past years succeeded to be included or strengthened their position in ratings oriented at financial indicators only. By this criterion EPAM Systems has remarkable achievements. This company is not merely included in top-500 of the major software companies in the world according to Software Magazine (Software 500), but it also went up 128 points, now occupying the 227 place. Russian company Mera Networks ranks 279 in this rating.

Russia's representation in Software 500 can grow in the near future not owing only to the rapid company growth, but also owing to disclosing income data to rating agencies. At the moment of completion of this research Software Magazine experts have not yet compiled a new rating of major software companies for 2007, but during that year the revenues of many major Russian enterprises specializing in software development grew more than 1.5 times.

Russian representation in EMEA Technology Fast 500 prepared by Deloitte&Touche could have been more convincing. This rating includes 500 high-tech companies (not only those working in the IT sector) of the EMEA region with the highest growth in the last 5 years. It involves only 6 Russian companies – ProgressTech LLC (225 place), Luxoft (327), Armada (350), Telma Soft (493) and Bercut (499). These 6 are worth to be included in EMEA Technology Fast 500, but there is a big number of Russian companies with equally good indicators (turnover, growth rate and popularity). The turnover increase of Russian developers of ready-made solutions and outsourcing companies by 50-100% per annum has become normal in recent years. Such growth is demonstrated by small companies as well as by quite big companies according to Russian standards

(with tens of millions dollars turnover). Based on 2007 results, several Russian software companies earned more than a hundred million dollars and considering their current growth they can turn into billions turnover corporations in the coming years.

Relatively small Russian companies with several hundred developers may not appear in the ratings, and yet do have recognized achievements in a certain field. Thus, Lanit-Tercom, member of LANIT group, in cooperation with French consulting agency INNO group participates in the research on the world market of embedded and control systems. The company was involved in the project because its specialists have necessary experience and expertise. After the merger of Lanit-Tercom with Moscow company Artezio and transformation into AT Software, this company can certainly enter the leading global ratings.

The fast growth of Russian software companies can be accounted for not only as the result of successful promotion of their services and developments on the world market, but more often owing to the rapidly expanding domestic market of Information and Communication Technologies (ICT). According to the data of the Ministry of Information Technologies and Communications of Russia, in the end of 2007, its volume amounted to RUB 1.5 trln (around USD 62 bn). This indicator increased by 27.6% as compared to 2006. The ICT to national GDP ratio has been constantly growing in recent years reaching 4.8% last year.

The bigger part in ICT market revenues is earned by communication enterprises, while the total revenue of IT companies amounted at around RUB 450 bn (USD 17.6 bn), which according to the Ministry data, exceeds by 24.5% the same indicator of 2006. The Russian software market is developing at a much faster pace. It has increased by 40% to RUB 80 bn (around USD 3.2 bn).

The research conducted by PMR and IDC brought similar results. According to the IDC data, the Russian IT market volume reached USD 16 bn at 18% growth rate, and according to the PMR data – USD 16.3 bn (18.1%). Possibly, the information provided by the Ministry is closer to the truth, despite officials tend to exaggerate indicators. The results of several leading IT companies on the market and their estimations presuppose their growth can reach even 30%. Probably, the absolute value of IT business turnover is higher than analysts' evaluations.

The indicators of sales growth in 2007 by separate products, services or companies are much higher than the Russian ICT market growth despite the choice of valuator.

The sales volume of smart phones, communicators and pocket computers in Russia increased by 55% (with 2.34 items sold in total).

According to the ITResearch analytical company data, notebook sales grew by 63.9%. In 2007, there were sold 9.4 mln computers in Russia, including 27% notebooks. According to the Ministry of Information Technologies and Communications, 30% of Russians

have home computers and by 2010 there will be 43 computers per 100 people.

The number of Internet users in Russia varies (depending on the information source) from 27 million people (24% of the population older than 18) to 35 million people (31%). There is a smaller difference in growth estimation – 40-50%. The Internet penetration level in Russia quickly attains other European countries. According to the Miniwatts Marketing Group as of March 10, 2008, this indicator makes 38.9% for the continent and 13.9% for the whole world. The absolute value of Internet users will forward Russia to the first place in Europe. Russia is still a bit inferior only to Germany.

Certainly, the lagging from a number of Western European countries is still great, especially considering the level of penetration and average connection speed. However, the number of broadband Internet users is also rapidly growing in Russia. According to the J'son & Partners estimation, at the end of the last year this indicator amounted to 4.8mln people, which is 50% more year-on-year.

Only a bit more than 50% of Russians from 15 to 40 years old are Internet users. In late 2007, owing to state budget financing all secondary schools in Russia were connected to the Internet.

The level of Internet penetration in Moscow can be already compared with the indicators of Western European states. Past years' experience shows that other cities are lagging behind the capital by 2-4 years.

If the number of Internet users continues to grow, the number of mobile communication users can not become much greater. More than 80% of population in Russia has a mobile phone. Therefore we are speaking not about the increase in the number of users, but rather about the increase in the volume of services provided.

The anti-piracy campaign has seen a significant progress in the past 2 years, which has positively influenced the Russian software market. According to 2006 results, Russia managed to withdraw from the rating of 20 countries with the highest piracy level. According to the International Intellectual Property Alliance (IIPA) data, in 2007, this indicator started decreasing in Russia in absolute terms.

The anti-piracy campaign was the most beneficial for Microsoft Corporation. The fiscal year (from July 1, 2006 to June 30, 2007) has become the most successful year in the 15 years history of work in Russia. The company turnover grew by 107% and amounted to around USD 560 mln.

The revenue of Kaspersky Laboratory, a world leader in antivirus programs development, from sales in Russia grew by 165% in 2007, with total company turnover amounting to more than USD 200 mln. Eset is even a more successful company on the Russian market – it grew by 350%.

The revenue of ASCON group of companies leading the Russian software market in the field of computer-

aided design and engineering data management almost doubled in 2007.

According to experts, if the world market software sales in the field of Business Intelligence (BI) grow by 11.4% annually, this growth is approximately 50% for Russia.

As for prospects for the Russian IT market analysts mutually agree that there are no grounds for growth reduction.

According to the Ministry of Information Technologies and Communications, in 2008 the market of Information and Communication Technologies (ICT) will grow by 20% and would exceed RUB 1.8 trln (USD 75 bn).

The volume of information technologies would increase by 29% up to more than USD 24 bn, USD 5 bn involved into software production (53.7% growth) and more than USD 6.5 bn – into IT services market (33% growth). By estimates of the Ministry, by 2010 there would be 43 computers per 100 people (30 at present).

According to the eMarketer forecast, by the end of 2008 the number of Internet users in Russia would exceed 40 million people.

According to the research of Cetelem bank, member of French finance group BNP Paribas, Russia along with Slovakia and Czech Republic are the three countries with the highest potential for the growth of Internet trade.

In the context of present dynamics the results of some ratings seem strange since for some reason they indicate the deterioration of Russia's positions. Thus, the UN experts estimated the readiness of 192 countries for electronic state government. According to E-Government Survey 2008, last year Russia lost 10 points and now occupies the 60th place.

The World Economic Forum put Russia on the 70th place in its rating of countries by the level of ICT development, with such countries as India, Philippines and China ranked higher.

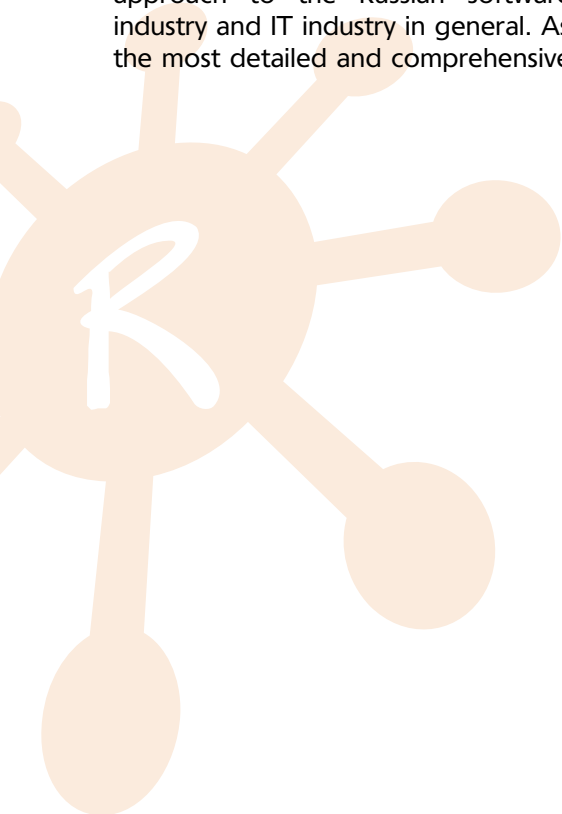
The objectivity of these ratings can be questioned, since the ICT market in Russia is considerably improving in all aspects. Moreover, similar progress is not observed in the great majority of other countries.

Furthermore, the country ranking in E-Government Survey 2008 and the World Economic Forum rating do not correlate with other research. For instance, a group of scientists from London Business School and LECG prepared the Connectivity Scorecard rating showing the efficiency of information technologies use for social and economic development of the country. In this rating Russia has with confidence occupied the 1st place among all developing countries, with a considerable difference compared to such countries following Russia as Malaysia, Mexico and Brazil, and India and China lagging behind is really tremendous. Despite these data, the above states rank higher than Russia in the UN and World Economic Forum ratings.

Comparing data of different analytical reports mentioning Russia and its IT market in this or that

context, we can generally mark a definite positive change of their attitude. The more profound the research is, the more objective and positive is the approach to the Russian software development industry and IT industry in general. As an example of the most detailed and comprehensive analysis of the

situation in the Russian IT industry we can adduce the research conducted by Frost&Sullivan in 2007 (Country Industry Forecast – Political, Economic and Social Analysis for the Russian ICT Industry, 2007. Reports: 4F83-90, 4F84-90, 4F85-90).



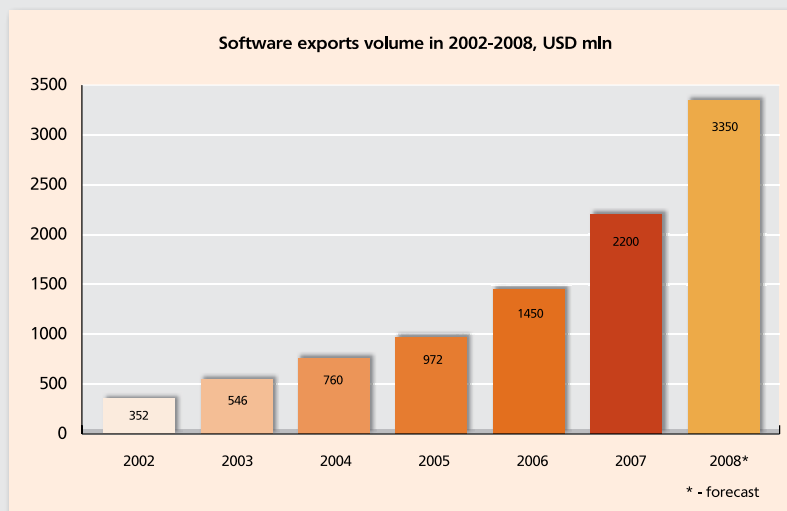


## CHAPTER 2. VOLUME AND STRUCTURE OF RUSSIAN SOFTWARE EXPORT

The volume of Russian software export continues to rapidly grow. According to 2007 results, it increased by 52% and reached the level of USD 2.2 bn. The growth rate remains approximately the same in the last two years; last year's growth amounted at 54%.

Presumably, in 2008 this trend will maintain. According to estimates based on expectations of respondents the growth will remain the same – the volume of export would grow by 52%. It should be noted that the actual value of this indicator in 2007 almost coincides with the forecast of the previous survey (USD 2.1 bn).

Since exports are rapidly growing by all companies and organizations regardless of their specialization, the structure of export has not drastically changed. Nevertheless, there are still some changes. Thus, the export share of products and ready-made solutions is increasing due to the decrease of this indicator in international development centers operating in Russia.



### PRODUCTS AND READY-MADE SOLUTIONS

Several Russian companies who won strong positions on the world market owing to their software developments only in 2008 have first officially announced their financial results for the past year indicating the absolute value of their turnover and its growth rate, which enabled to more accurately evaluate consolidated revenues from product exports. These data allowed to adjust the 2006 indicators. Consequently, the absolute value of software exports decreased. Therefore, in 2006, the share of products in consolidated export revenues dropped from 25% to 23%.

However, this adjustment by no means effects conclusions about the existing trends. In 2 recent years revenues from sales of ready-made products and solutions abroad have been growing much faster than the volume of the entire software export (development services included).

This growth is ensured by companies that long have good positions on international markets. The major exporters of ready-made solutions and products are: ABBYY (electronic dictionaries, text recognition), Kaspersky Lab (antivirus programs), CBOSS (billing systems) and Transas (navigation systems, vessel traffic management systems, marine and aviation simulation systems). These companies accounted for more than a half of Russian exports of ready-made solutions products and. They are also leading by export revenues growth.

Apart from them, there are several relatively smaller companies with leading positions either on the world market or on the markets of certain economically developed countries. These include PROMT (automatic translation systems), Speech Technology Center (speech recognition systems), Agnitum (computer protection software), SPIRIT DSP (software for integrated devices), Parallels (data processing virtualization).

Recent years have not seen any new breakthroughs by export volume of software products nor in terms of emergence of new leaders on international markets except for perhaps Parallels, though there is a good reason to expect expansion in this respect.

Several developers of ready-made solutions, which successfully compete with the world leaders on the Russian market, in recent 2-3 years have been making every effort to promote their products abroad, primarily in the CIS where their products already have good sales. Among them are such companies as 1C (accounting systems, business management systems, games), ASCON (CAD/CAM/CAPP/PDM systems) and DocsVision (document management systems). However, they have not declared their success stories on the Western markets yet.

It appears they continue analyzing international markets. Acceleration of this process is most probably suppressed by the boosting growth of the IT market in Russia. If in their native country it is possible to lift sales by 50-100%, it is useless to re-orient limited resources for the promotion of products on unfamiliar markets.

There are good grounds to assume that in 2007-



2008 future major software exporters will start their history. Recently managers of outsourcing companies and international development centers have noted two trends: a growing number of small outsourcing companies starting to produce their own software on the basis of expertise and experience gained in narrow vertical or technological niches, and a certain increase in staff turnover which to some extent is related to the fact that a number of leading employees decided to establish their own enterprises (start-ups). Taking into account their long-standing business experience it can be expected that a certain part of their new businesses may rapidly grow.

Indeed, in the last 2 years in Russia there were created more favorable for start-ups. Earlier small innovation business had little chance to find funding for a certain idea or for the promotion of a ready-made product. Today representatives of venture capital funds complain that they have money, but there are no good projects. This imbalance will hardly last long. However, the newcomers will be able to influence national export volumes of ready-made products no sooner than in 2-3 year time.

centers located in Russia increased approximately by USD 100 mln.

According to the information available, the most significant contribution to this increase has and will be made by the EMC Corporation, which opened its development center in St. Petersburg in early 2007. They promised to allocate USD 100 mln for the development of a new division within 4 years (USD 25 mln per year on average).

Russian outsourcing companies were seriously worried to lose their personnel due to rumors about activation of Google in Russia. The press quoting unknown sources or local officials told about whole thousands of programmers this company is allegedly planning to recruit in Russia. In fact, Google has indeed started recruiting employees to its development centers in Moscow and St. Petersburg. However, the company has not blown up the labor market yet.

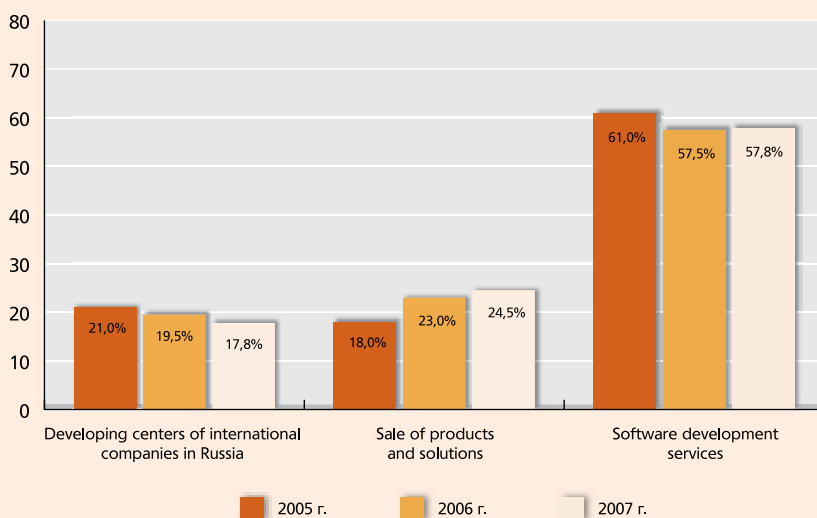
In 2007, Hewlett-Packard opened a research laboratory (rather than a software development center) to solve fundamental problems related to the development of essentially new products (i.e. in the area of relational database and unstructured data management). This is a new area of foreign IT companies operations in Russia, who have started to invite Russian scientists long ago, but previously only to laboratories located in other countries.

If a Hewlett-Packard's attempt to establish a fully-fledged research laboratory in Russia brings success other corporations would most likely adopt the same policy. Nokia jointly with Russian universities has already opened several small laboratories to be engaged in fundamental research. According to Finnish company representative, this is only a start. They believe there is great potential for cooperation with Russian scientists.

In the first year of operation of the Hewlett-Packard's laboratory everything has been going according to the plan. They have already certain accomplishments though the staff is still being formed. In May 2008, there were about 10 scientists working in the laboratory. It is anticipated that an optimal number of researchers (approximately 30-35 people) will be reached by the end of 2009. As a rule similar laboratories a far smaller than developing centers hundreds or even thousands employees.

Nonetheless, successfully working research centers will allow to raise prestige of the country where they are located. Moreover, they interlink local scientists and universities. For example, the St. Petersburg laboratory of Hewlett-Packard distributes grants within Russia. Therefore, it is difficult to estimate the volumes of international financing of research in the country by the number of employees alone.

Software exports by sources of export earnings inflow



## INTERNATIONAL SOFTWARE DEVELOPMENT CENTERS

A total number of researchers and developers in international centers grew less intensively than in 2006. Many of the development and research centers of international companies have reached an optimum scale, hence, the stabilization of investments. A major event was the reduction of number of employees in the Motorola development center caused by general problems of the company. The opening of new centers in early 2007 only made possible to slow down the reduction of the share of this source of export revenues. It dropped from 19.5% to 17.75%. However, the absolute value of investments to international

## EXPORT OF SERVICES

The volume of export of software development services from Russia totaled USD 1.27 bn that is 52% more than in 2006. The increase is similar to the growth of the whole volume of software export. Thus, the share of export services remained unchanged – 58%.

The factors contributing to the services export growth were the same as in the last year. First, we should note the fall in the dollar. In 2007 its exchange rate (average annual indicator) to the Russian ruble reduced by 10% year-on-year. If export volumes were converted in rubles, the growth would have made 37% rather than 52%.

However, it is hard to estimate the impact of this factor. For instance, it can be assumed, that the worldwide trend of increased salaries of developers (and hence of project costs) has influenced the growth of Russian export of software development services to a greater extent than the change in currency exchange rates. Salaries of programmers are growing everywhere – in India, in China and in Russia.

Revenues per one developer continue to grow, which is a result of the enlargement of outsourcing companies since bigger companies have more chances to obtain a more important and complex, and therefore a more profitable order. The share of major companies as a result of mergers and a more active hiring of employees (including the outflow of programmers from smaller companies) has increased in the last year.

The growing number of employees in Russian companies developing software for export is also a significant factor of the growth of services export. The inflow of human resources is provided by universities (however, not to the extent desired by companies) as well as the migration from the neighboring countries, mainly from Ukraine and Belarus.

The main reason of the considerable export growth is the increasing demand for services of Russian programmers which in turn stems from the successful implementation of projects in previous years, active marketing policy of individual companies and of RUSSOFT Association, and officially declared state support of the industry.

In recent years the state support was rather moral than real. It part it helped promote Russia on the global market of software development services, and was also manifested in such important fields as staff training and improvement of tax legislation. In 2007, certain measures were taken to reduce tax burden (see Chapter 4 for more information). Hopefully, important tax laws for the industry would be adopted in the second half of 2008.

The human resources issue is mainly solved by companies independently in. The business community has a lot of complaints against the RF Ministry of Science and Education that is expected to restructure the specialists training system in state educational institutes. To ensure that universities prepare specialists required on the market – i.e. graduates trained both

in fundamental disciplines (which is generally done at a good level) and also with having practical skills, business has to actively participate in the educational process and invest considerable funds in personnel training and retraining. On numerous occasions money is spent to remedy the defects of the Russian state education system.

The human resources problem is the one causing main concerns of outsourcing companies regarding the future export growth. Nevertheless, their top managers are on the whole quite optimistic when answering questionnaires and stating they expect that the export growth rate would remain at the same high level as in the previous two years.

## INTERNATIONAL TRENDS AND RUSSIA

Research companies revealed a number of trends on the world market, which could impact the export volume of Russian outsourcing companies. First, the expected reduction of growth of the global IT market. IDC forecasts that in 2008 the growth would be 5%, this indicator being 6% in 2007. Moreover, the research company analysts changed their forecast for the first months of 2008, since they had to consider certain apparent negative changes of the world economy. In December 2007, IDC stated the growth would reach 5.5%.

Since the US companies remain the main customers of Russian outsourcing companies, special attention should be paid to the situation on the US IT market. According to the IDC forecast, its growth would be 4% against 6% in 2007. This company also predicts a drop in the growth rate of the IT market from 5% in 2007 to 4% in 2008 on the other principal market for Russian outsourcing companies – in Western Europe.

Even a more drastic decline of the global market is forecast by Forrester Research. According to this company estimations, the growth rate would reduce from 12% in 2007 to 6% in 2008. It should be noted, however, that Forrester measured a somewhat different market, that is the global market of technological goods and services. The company evaluated the dynamics of global expenditures of business and states on computer and telecommunication equipment, software and also on engineering and consulting services. The expenditure on the world IT market is a bit less than Forrester's estimates (approximately by 20-30%).

Notably, the forecast was also changed in the beginning of the year. Earlier Forrester forecast a 9% growth in 2008. The forecast was also reviewed for the US market from 4.6% to 2.8%.

At the same according to Forrester, the growth rate of global software expenses will not reduce that considerably – only from 11% to 8%. On the world market of IT and outsourcing services leading research companies see no prerequisites for the slow down in growth rates. Gartner has even revised their estimates

in upward direction. After forecast recalculation they increased CAGR (compound annual growth rate) of the world market of IT services from 2006 through 2011 from 6.3% to 7.4%.

In accordance with Gartner research, the global market of outsourcing services is growing at the same rate – by 8-9%. In 2007 its volume reached £365 bn (USD 712 mln).

IDC forecasts the average annual growth of this market at the level of 9% within the next 5 years.

It would not be quite correct to compare USD 712 bn (the volume of market stated by Gartner) to the volume of Russian export of software development services (USD 1.3 mln). In many segments of the world market of outsourcing services Russia is not present (and would hardly ever be). Nonetheless, the share of Russia is still very small (unlikely over 2%) and does not correspond to its potential. For instance, on the global IT market the Russian share makes 1.2%.

If we somehow single out the segment of complex science-driven projects requiring deep mathematical knowledge from executors, the share would probably be much bigger.

The separation of this segment is a very complicated task as it is impossible to draw a distinct line between “complex” and “not complex” projects. However, even here the great potential of Russia has opened up in recent years. Owing to their educational background Russian developers are often ready to solve problems companies of the developed countries are unable to deal with.

In this context the global trends revealed by analysts will hardly adversely affect the growth rate of Russian software development services export. Moreover, it is likely the segment of the world market of outsourcing services, where Russia is better positioned, will grow more rapidly than the entire market. Last year such assumptions were made by several analysts.

The growth rate of Russian export is under threat of the anticipated re-orientation of resources to the fast developing domestic IT market. Even those companies which before saw no prospects on the Russian market (since the US and Western European markets were much more profitable for them) are changing their corporate strategy and in seriously consider options of finding customers in their own country.

The growth of Russian software export (both services and ready-made solutions) considerably exceeds that of the global outsourcing services market– 52% against 8-9%. There is a certain advantage in this field over main competitors. However, revenues of India and China are also growing faster than the global market.

In 2007, the growth of Indian exports, despite the already significant volumes of this country, approximated 30%. The same indicator is expected in 2008. But in the next 5 years NASSCOM (Indian National IT Association) predicts the annual growth at the level of 25%. It seems the segments Indian programmers have strong positions also grow faster than the world market of outsourcing services. For example, in the field of software testing where Indian developers provide 28% of all international contracts costs, the market capacity should double by 2010 compared with 2007. This market is of interest for Russian companies as well, but implementation of capacities of Russian companies is hindered by the lack of favorable customs' regime of temporary importation of different equipment liable to testing and adjustment.

IDC forecasts an increase of income of Chinese outsourcing companies by 44 % on average in the next 5 years. However, most likely it includes export revenues together with revenues on the big local market.

## Russia's Indicator in the context of changes on the world market

	Growth in 2007	Forecast growth in 2008	CAGR	Source
Global economy	3.2%	3.5%	-	World Bank
Consolidated IT budget of global companies and organizations	2.7%	3.0%	-	Gartner and other sources
World IT market	6%	5%	-	IDC
US IT market	6%	4%	-	IDC
Western European IT market	5%	4%	-	IDC
Global market of technological goods and services	12%	6%	-	Forrester
US market of technological goods and services	-	2.8%	-	Forrester
Russian IT market	18% (24.5%)	(29%)	-	PMR and IDC (RF Ministry of Information Technologies and Communications)
Russian software market	40%	53.7%	-	RF Ministry of Information Technologies and Communications
World software market	11%	8%	-	Forrester
World market of IT services from 2006 through 2011	-	-	7.4%	Gartner
World market of outsourcing services	9%	8.1%	-	Gartner
World market of IT services in the next 5 years	-	-	9%	
Volume of Russian exports of software development services	52%	52%	-	RUSOFT
Volume of Russian exports of software in 2002-2006	-	-	38.84%	RNCOS
Volume of Russian exports of software in 2007-2010			79.02%	RNCOS
Volume of Indian exports of software development services	≈30%	≈30%	-	NASSCOM and other sources
Volume of Indian exports of software development services in the next 5 years	-	-	25%	NASSCOM
Consolidated budget of Chinese outsourcing companies in the next 5 years	-	-	44%	IDC

## CHAPTER 3. MAJOR TRENDS IN THE RUSSIAN SOFTWARE DEVELOPMENT INDUSTRY



Russia has an excellent opportunity to gather momentum when IT services quality and business efficiency enter the picture. In the global economic slowdown, customers' IT budgets are getting restrained, challenging growth of new outsourcing engagements. The trend is particularly vivid in the Financial Services sector which traditionally makes up 1/3 of the outsourcing business. However, ITO market is projected to keep growing at 17% (IDC), with Russian and Eastern European vendors sprinting at 25-30%. This is explained by the ITO's rise in Europe and maturing of the Russian and Eastern European players – a more popular choice for large enterprise clients as of late globally.

**Arkadiy Dobkin**  
President and CEO  
EPAM Systems

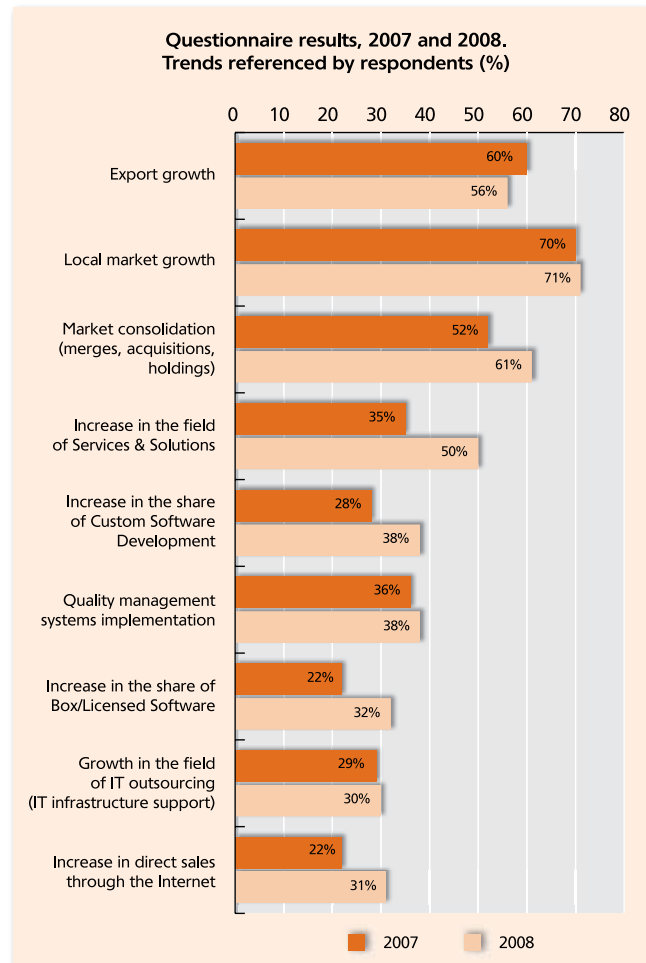
In general, as compared to the previous survey, main trends in the Russian software development industry as seen by the respondents of the survey have remained the same. Again, as a year before, approximately the same number of respondents believe that the main trend is the local market growth (about 70%). Although the deviation from the last year's indicator is adjusted for inaccuracy. Slightly above this limit of error is a decreased mentioning of the export growth. This trend was named by 56% of companies, that is 4% less than last year.

The highest mentioning of the local market growth as the main trend is most typical of middle companies (with the turnover from USD 0.5 mln to USD 10 mln), whereas small and big companies are falling behind by more than 20%. Most likely, middle companies have to make serious decisions when choosing to focus on local or overseas markets. They still lack funds to acquire new resources in the developing countries (as done by EPAM Systems or Luxoft), while the growing labor costs force them to find ways to increasing their income within the growing Russian market.

A certain diminishment of importance of export growth may be explained by a gradual re-orientation towards Russian market of the businesses which previously were exclusively export or predominantly export companies. On the one hand, they are changing their attitude to operations on the Russian market since increased salaries lead to a reduced competitiveness of outsourcing companies on the global market, but on the other hand, these companies start getting beneficial contracts in Russia, which has not been the case before.

Particularly, the expansion and development of the Russian software development market stems from the investment boom in Russia. International companies are coming to Russia, their subsidiaries being or will become our customers according to expectations

of Russian outsourcing companies. For instance, these expectations are related to the international automobile manufacturers that have recently opened several assembly plants in Russia. Since cars are becoming increasingly computerized, it is logical that the models produced in Russia will install software developed here in Russian.





The export growth was least frequently named as the main trend by companies with a turnover less than USD 0.5 mln and those located in other cities (not in Moscow and St. Petersburg). By all accounts, it is more difficult for them to enhance productivity. However, it should be pointed out that these companies also mentioned export growth relatively frequently, and only a bit less often than bigger companies in Moscow and St. Petersburg offices. Importantly, the local market growth is more frequently mentioned by Moscow companies (87.5%), which see the increasing labor costs critical for further expansion of their export activity.

Market consolidation turns to be more obvious. If two years ago there were more expectations than actual examples of consolidation (although they actually existed), since then quite important mergers have occurred (i.e. the establishment of AT Software on the basis of Artezio and Lanit-Tercom, the Exigen and Starsoft merger). In addition, there is an obvious faster growth of the major companies also resulting into consolidation. All these changes were reflected in respondents' answers. This year market consolidation was indicated as the main market trend by 9% more respondents than last year (61%). This trend was noted by absolutely all companies with a turnover over USD10 mln. For them consolidation is of primary importance as they are striving to grow faster than the whole market. Seizure of the greatest possible share of resources by hiring new employees and luring personnel from other businesses as well by acquisition of smaller companies is currently one of the basic objectives of major companies.

Naturally, market consolidation is more frequently mentioned in Moscow and St. Petersburg, as they have the highest concentration of big companies.

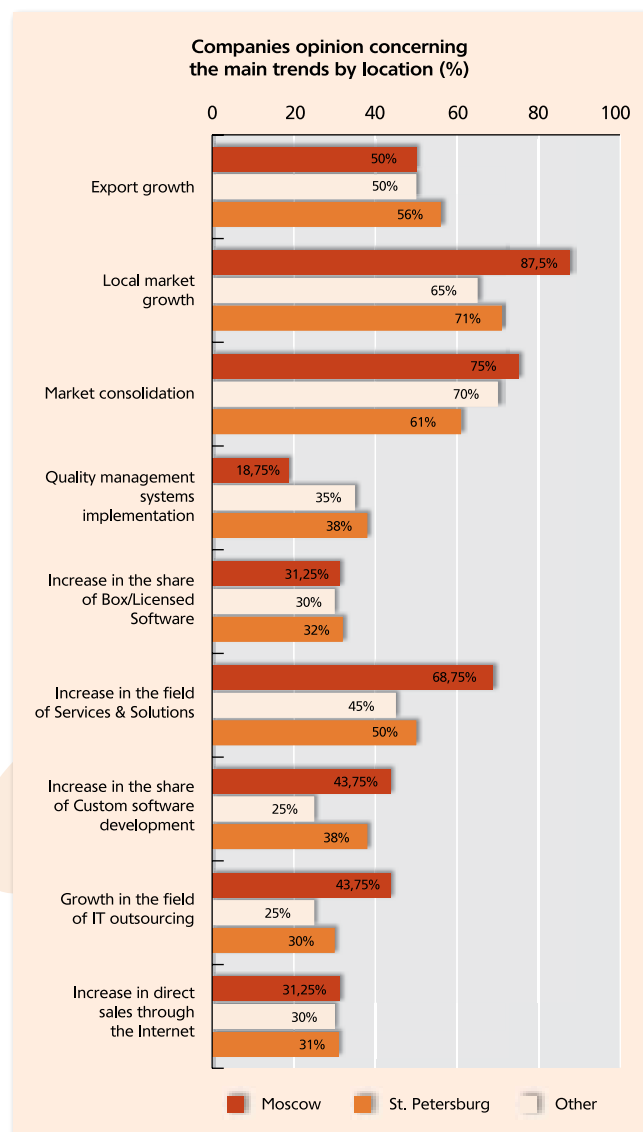
The indicator of implementation of quality management systems as the main trend this year is about the same as a year before. The highest value of this indicator is characteristic of middle companies (with the turnover from USD 4 mln to USD 10 mln), which have to certify their quality management systems in compliance with international standards when achieving a certain level of ambitions to win big projects in international tenders. This trend is more obvious in St. Petersburg and other cities, while in Moscow this indicator is much lower. Similar distribution of responses was observed in the previous survey, too. It follows, that implementation of quality management systems in Moscow has reached the saturation point and turns to be less crucial than for other cities.

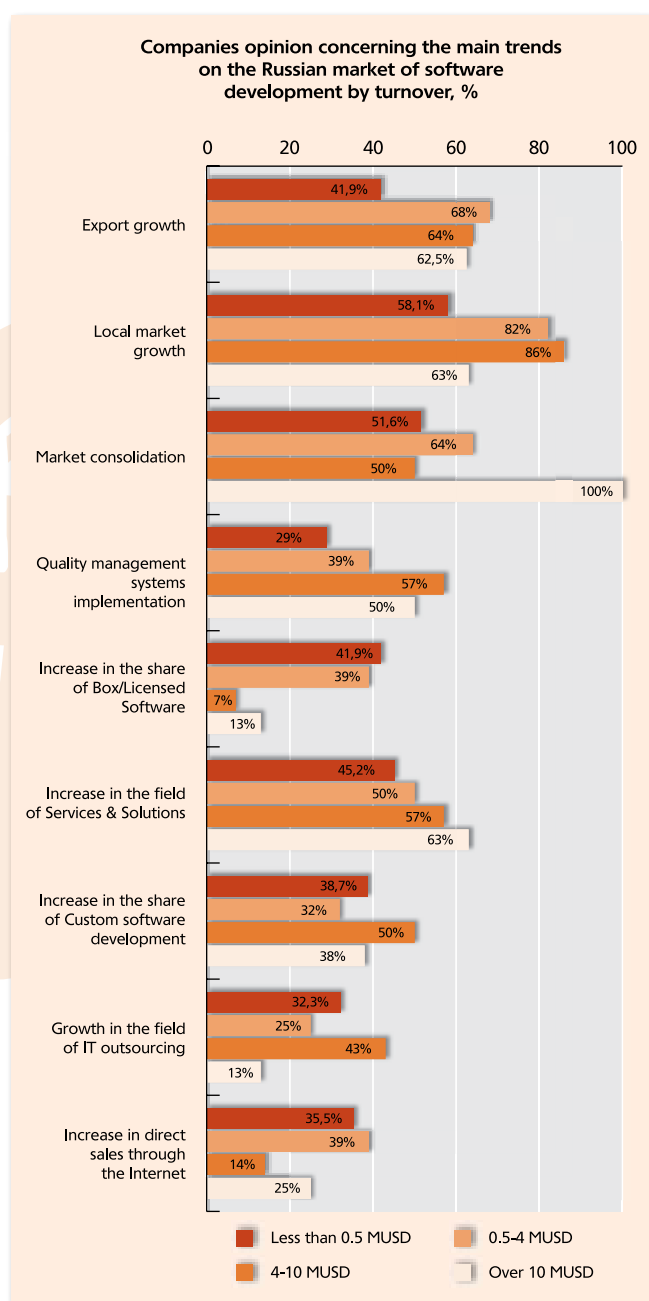
The reference to the trend of the increase in share of product developments has become considerably higher from 22% to 32%. Basically, it happened at the expense of relatively small companies (turnover up to USD 4 mln) for whom it is difficult to compete for personnel with major companies in the framework of the service model, but owing to their own products they have more chances to succeed. In this case, the location of company does not matter at all. For all cities the reference to this trend is actually the same.

The relevance of the trend of an increase in direct sales through the Internet is similar. It is also better estimated by relatively small companies irrespective of their location. Here we also observe the same change of the indicator against year-on-year. This means that the new products are intended for sale primarily through the Internet, which is compliant with current practices. Anyway they are actively being sold through the Internet even when the box versions are available.

The growth in the field of IT outsourcing (IT infrastructure outsourcing) was mentioned by 30% of companies – in fact the same figure as last year.

There is a great change in the growth of software solutions development and implementation ("Services & Solutions"), this indicator increased from 35% to 50% and is typical primarily of big companies. Most likely this change is associated with the expansion of the range of the offered services and introduction of system integration services. Thus, major Russian companies get a taste and experience in system integration projects commissioned by foreign partners in Russia. This experience will no doubt help them to further expand their business operations offering system integration services in other countries too.





The questionnaire did not indicate all possible trends. The in-depth research of the focus group (about 10 companies) identified several other trends. Not all, but most representatives of leading companies believe that there is a growing importance of constant cooperative work on the project with an opportunity to change specification in the course of development and applying the Agile Programming methods. A conventional software development merely based on specification cannot any longer ensure positive results in the dynamically developing markets.

Diversification of risks of customer companies through jobs distribution among several service providers situated in different countries is also mentioned as a trend.

## THE CORE BUSINESSES OF COMPANIES

The rating of core trends of businesses development almost has not undergone any transformations compared to the previous survey, except for the item "Establishment of development centers in regions" moved a step up from the last position. The significance of this trend compared to others has a bit increased against the previous period, as well as in the last year.

**Priority trends of business development**

Order	Trends	Change of rating compared to 2007	Change of rating compared to 2007, %
1	Export growth	19	10
2	Local market growth	16	7
3	Establishment of a wide marketing network abroad	-1	-1
4	Increase in direct sales through the Internet	-3	-1
5	Establishment of development centers in regions	-7	-2,5
6	Certification of software development processes	-13	-4

## CHAPTER 4. OVERVIEW OF BUSINESS ENVIRONMENT IN RUSSIA

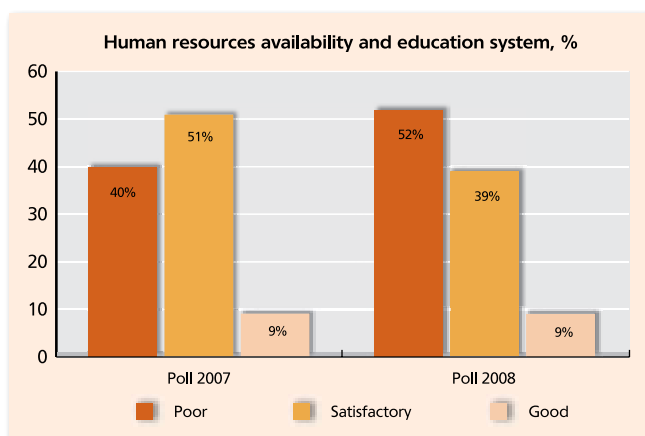
Our poll shows that during the previous year business environment for software development companies by most parameters has slightly worsened or remained the same. The only exception is property rights protection, which has evidently improved last year.

A group of large companies demonstrates best evaluations of business environment by all parameters. They also face a lot of problems, but at the same time more opportunities to overcome them. By the majority of parameters the most difficult conditions are noted for middle companies (with a turnover from 0.5 MUSD to 4 MUSD). Anyway among those companies there is the biggest number of unsatisfied with existing conditions.

Similar results were demonstrated by the survey prepared by the IEPP (Transient Period Economy Institute) and published in the newspaper Vedomosti on March 27, 2008. This research was conducted in December 2007 and involved industrial companies. It is noteworthy, that by several intersecting parameters of both surveys produced almost identical results (concerning the lack of personnel, infrastructure and better business environment for large companies).

### HUMAN RESOURCES AND THE SYSTEM OF EDUCATION

The results of the poll allow to claim that the human resources problem has not been solved in the past year. The level of provision of staff and educational system quality has dropped against year-on-year. The number of satisfied companies (who chose the "satisfactory" mark) decreased by 12% (from 51% to 39%). The number of respondents who chose the mark "poor" grew by the same figure – 12%. The decreased level of satisfaction reflects the real situation: every year companies are facing more and more problems with the search and recruitment of required specialists.

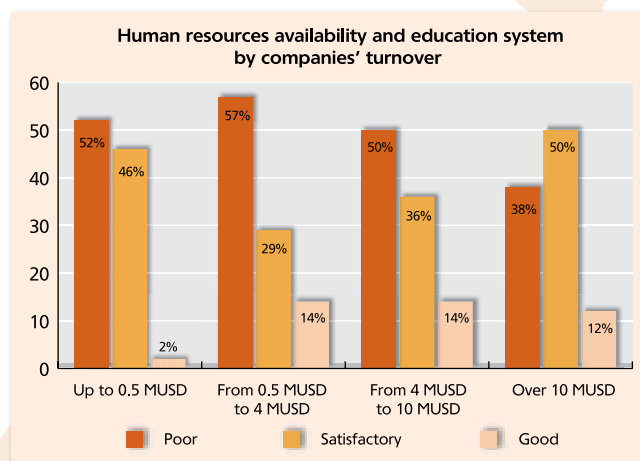


However, it should be noted that mere summing of evaluations of different in size companies is not quite correct. Only the major companies are involved in active recruitment, while a lot of smaller companies reduce their staff as they are losing competition for the main resource. The number of losers far exceeds that of winners. It is this fact that could have influenced the estimates of personnel supply. If we exclude the group of companies with a turnover up to 0.5 MUSD, we will get a clear dependence: the greater the

company, the better it evaluates the situation with human resources.

The smallest companies are less active on labor market. Their most urgent problem is not recruitment of new personnel but rather retention of their existing staff. Therefore, this category of companies more often gave "satisfactory" marks than middle companies. At the same time they anyway have less "good" evaluations than all other categories. The distribution of dissatisfaction and satisfaction in terms of human resources was the same as a year ago.

Nonetheless, the situation on the labor market in the past year has probably deteriorated, since evaluations have slightly lowered even in the largest companies as compared to the previous survey.

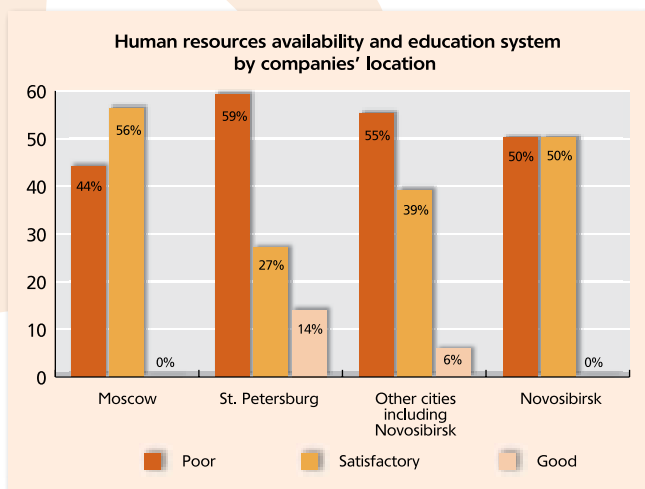


Situation on the labor market is complicated in all Russian cities. Certain significant fluctuations may most likely be explained not by actual problems of staff expansion, but by the complexity of the issue. Respondents were asked to evaluate both human resources availability and the system of education. In this context the evaluation of the system of education might be associated not only with the number of graduates entering the market but also with the

quality of their training. Perhaps this determined that "good" marks were mostly given in St. Petersburg and "satisfactory" – in Moscow. At the same time, St. Petersburg gave the largest number of "poor" evaluations.

Furthermore, the majority of middle and large companies from Moscow and St. Petersburg have regional branches. Therefore, they actually assessed the situation on labor markets not only in the metropolitan cities, but in other Russian cities as well.

Owing to the activity of St. Petersburg and Moscow companies in the regions (both owing to branches opening and specialists transfer to both capitals) the evaluations of human resources availability and system of education outside Moscow and St. Petersburg worsened compared to 2006. If only 2 years ago regional companies leaders evaluated the situation on the labor market higher than their Moscow and St. Petersburg colleague, there is no distinct difference at the moment.



There is no clear regularity in evaluations of human resources availability and educational system depending on the share of export in consolidated revenues. We have observed a natural leveling, because levels of salaries and requirements of companies earning main income from sales on the Russian market gradually become identical.

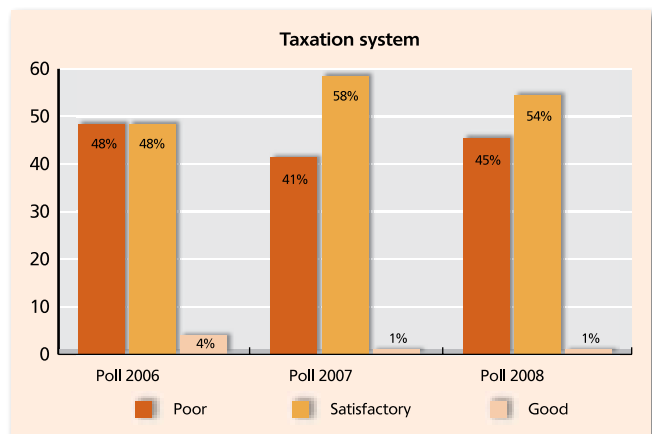
## TAXATION SYSTEM

In the 2006 poll the system of taxation was evaluated slightly better compared to the same reporting period in 2005 (the number of "satisfied" companies increased by 10%). Most likely, respondents evaluated not the actual changes but rather governmental intentions to reduce tax burden for software development companies. During last survey businesses were waiting for coming into force of the Law on Reduction of the Unified Social Tax (UST) for software exporters adopted in 2006. The tax rate decreased from 26% to 16%.

Generally speaking, software exporters welcomed this law. However, for a long time the Government coordinated the procedure of accreditation of companies who could claim UST reduction. When the

Russian Information Technologies Agency was charged with this task it emerged that it was hazardous to use this privilege due to inconsistency between the law and the pension legislation.

Several companies (including at least one Russian development center of a large international company) decided to take risks. All in all, about 40 companies and organizations passed accreditation and were granted a privilege. By now, there have been no legal proceedings associated with it. However, a small amount of privilege in comparison with the previous version of the law (which provided a special regime with a single tax in the amount of 6% of turnover) and the risk of legal proceeding with the pensions' fund led to the majority of software developing companies refused to take risks and felt disappointment toward governmental initiatives to reduce the tax burden. That is why this year evaluations have not improved year-on-year, and have even deteriorated a bit. The number of respondents unsatisfied with the system of taxations grew by 4% year-on-year.



The evaluations of the taxation system were by no means improved by amendments in the RF Tax Code that came into force since January 1, 2008, according to which enterprises are exempt from the value-added tax (VAT) on sales of licensed software. In fact, this law neither works. Software developers waited for clarifications, but explanations made by the RF Ministry of Finance brought no good news.

It turned out that the privileges cover only software products with utilization rights transferred on the basis of the already signed license agreement. Actually when such products are sold in retail, a license agreement is signed only after purchase and sale. Therefore, in case of retail sales companies have to pay VAT.

There are still hopes that the tax burden for IT companies will be really significantly reduced. At present, there is information that the State Duma would return to the review of the law in the second reading presupposing the introduction of a special tax regime for export-oriented IT companies. According to this law, instead of VAT, UST, income and property tax exporters would pay a unified tax to the amount of 6% of turnover.

Software developing companies do not hurry to congratulate themselves in view of the proposed

transfer to a simplified taxation system, due to the opponent of the act – the RF Ministry of Finance which has repeatedly ruined initiatives to adopt a more adequate tax legislation for innovation business, in particular, the initiative to reduce VAT declared by the RF President.

Evaluations of the taxation system could have been even worse, however, many enterprises have the opportunity to optimize their tax payments. With their main production bases in Russia they register their headquarters in other countries offering better business environment for software companies. The number of such states is big, including Ukraine, Cyprus, England and US off-shore zones.

Thus, they pay basic taxes abroad except income tax paid in Russia. So it is quite probable that if software companies are granted real privileges, tax proceeds from these companies will not cut down, but would substantially grow owing to the transfer of their headquarters under the Russian jurisdiction.

Since large enterprises have more opportunities for such optimization and protection of their interests in disputes with state institutions they are less critical of the system of taxation than small companies.

Evaluation of taxation system is approximately the same in different cities. At a level of the subject of the Russian Federation it is not so easy to lower the tax burden. Only granting privileges on income and property taxes remain within the competence of regional legislatures. Such privileges allow for a slight cut down the tax burden of software companies and do not fundamentally change the overall situation.

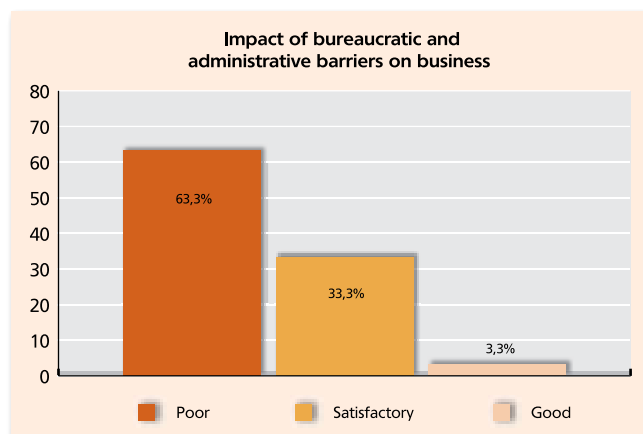
## BUREAUCRATIC AND ADMINISTRATIVE BARRIERS

Bureaucratic and administrative barriers are one of the most serious challenges for business in Russia, including software development companies. Once again this generally recognized fact is confirmed by results of the poll. 63% of respondents chose “poor” evaluating the level of solving problems of bureaucratic and administrative barriers. In comparison with the previous poll this indicator increased by 7%. Last year it also increased, but only by 2%, which prevented from making conclusion about the existing trend (such a growth could have been related to actual error).

It follows, that this trend does exist after all. However, it should be pointed out that its existence does not necessarily mean the growth of specific barriers for software developers. It is likely that the case in question is the general growth of obstacles for business and entrepreneurship due to monopolization of resources allocation (allocation of land, access to power, gas and heat supply) and access to real estate as well as the increasing involvement of state institutions in market competition and take-over raids.

It is also possible that evaluations deteriorated against the background of legislation improvement the effect of which is estimated by CEOs of companies

much lower than it was expected due to the failures of mechanisms of new laws application. The existence of barriers for recruitment of foreign staff in Russian companies looks absolutely illogical. Sometimes the inviting Russian party has to spend up to six months to formalize all required documents to make it possible for such specialist to work for 1 year in Russia. Some companies are ready to attract experienced foreigners or former Russian citizens to use their expertise and knowledge to arrange sales of ready-made solutions and products on the world markets. But they do not dare to undertake these steps precisely due to complicated bureaucratic formalities.



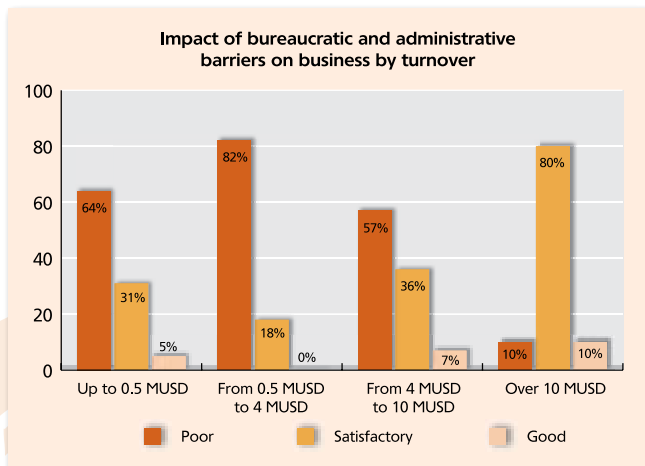
As before, a negative impact of bureaucratic barriers is mentioned more often the more a company is export-oriented, which is obviously the result of comparison of business practices in Russia and abroad.

Considering the responses by location the worst marks are traditionally given by companies from Novosibirsk and St. Petersburg. This year only 6 companies from Novosibirsk participated in the poll. Therefore the sample is small. However, 5 out of these 6 companies gave negative feedback of the way the issue of bureaucratic and administrative barriers is solved, which can really be associated with the current situation this city.

The steadily bad evaluations given by St. Petersburg companies can not but surprise because the Governor of St. Petersburg repeatedly speaks about support of the high-tech sector. It may be assumed that principal bureaucratic and administrative barriers are mainly generated by federal authorities (customs and tax bodies, Ministry of Internal Affairs, major federal monopolies such as the former RAO UES and Gazprom).

At the same time, relatively good evaluations of the level of bureaucratic and administrative barriers were given by the largest companies (with the turnover over 10 MUSD). Evaluations “satisfactory” and “good” to the approach to this problem were given by 90% of respondents in this category. Since overall evaluations (by all companies) have deteriorated, it may be assumed that the turnover approximating 10 MUSD is a critical point: exceeding this indicator companies are much less influenced by administrative and bureaucratic barriers imposed on their business





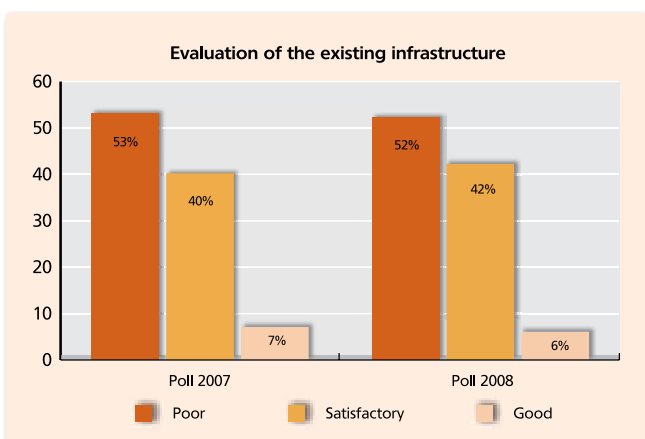
activity. That is understandable as they come up to have substantial resources to overcome the bureaucratic barriers. Based on experience such a complacent mood ends when the company is nearing the turnover of USD 100 bn and more and becomes a subject of interest for property redistributions resorting to raids.

Nonetheless, the solution of barriers' problem at the expense of concentration of resources and revenues in the hands of two-three dozens of companies is not justified. The software development industry in Russia is at the initial stage of its formation. Therefore, conditions should be created for emergence and development of a great number of new companies that as a rule will not be direct competitors of the existing major developers.

Middle-size companies with the turnover from 0.5 MUSD to 4 MUSD have the most strained relations with bureaucracy. Respondents from this category give the worst evaluations (82% of respondents are displeased with the solution of the issue).

Companies with the turnover less than USD 500 K are much more loyal to bureaucracy (compared to middle companies). They enjoy the simplified taxation system for small business. Moreover, small businesses due to insignificant turnover and their nature have less frequent contacts with officials and are in less need to overcome the existing administrative barriers.

## AVAILABILITY OF UP-TO-DATE INFRASTRUCTURE



The previous poll showed that the attitude to the existing infrastructure slightly improved from 2006 to 2007, however this trend was discontinued. Evaluations of the infrastructure remain similar to the last year (deviations within 1-2%, which does not exceed the error).

Certainly, there are actual changes. Modern business centers and roads are being built, communication channels are being developed and the problems of power supply are being solved as well. But these improvements are compensated by the increased load on these infrastructure sites. First and foremost, it concerns business centers. Their number is growing, but the demand for services is also increasing, which leads to higher lease rates. As a consequence, the accessibility of high quality premises for a specific remains practically unchanged. Sooner or later, if investments in construction of business centers maintain at the present level, a radical change will be inevitable. Lease rates and commercial property will start to decrease, but today this is not happening yet.

Still there is no significant progress in implementation of projects on technology parks construction specifically for IT companies (including software developers) with state financial support. Design and construction of technology parks in some cities is already in progress. But it goes slowly and the terms for property construction are constantly shifted. Besides, initiators of these projects have little understanding of the final result. There are reasons to assume that within the framework of technology parks ordinary business would be constructed (not only for IT companies). An attractive feature of technology parks projects for developers is their location near major universities, establishment of technology incubators for smaller companies, construction of inexpensive residential housing or married families' hostels near technology parks.

The situation with the launch into operation of special economic zones (SEZ) is a bit better. Here the SEZ residents are granted privileges of a unified social tax and payments for power supply. In addition, a special customs' regime has been introduced in SEZ. Most importantly, in SEZ high-technology companies are entitled to build their own offices and obtain property rights to land to use it as a collateral for credits and to get rid of the arbitrary will of lessors once and for all.

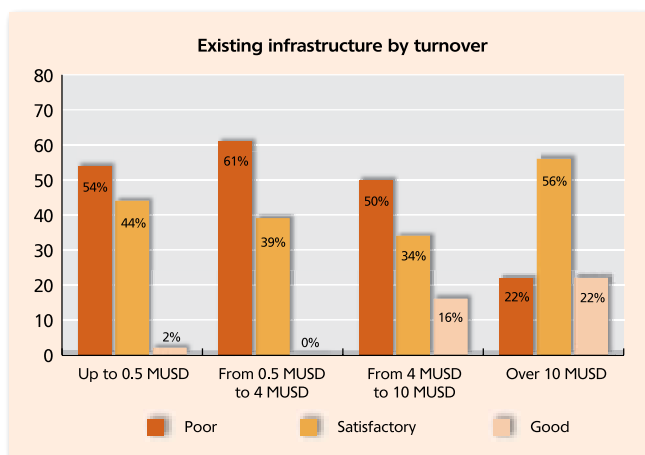
There is no significant progress in development of Science Cities. Several research centers in a number of Russian cities received this status and, therefore, additional funding from local and federal budgets. However, first, the problems of these cities are solved very slowly, and, second, similar state support – primarily by means of funding of infrastructure facilities – would only exert indirect influence on the software development industry with a certain time lag.

The dependence of companies' satisfaction with infrastructure from their location has become more logical than in the previous poll. Evaluations of

respondents from the category "Other cities" (exclusive Moscow, St. Petersburg and Novosibirsk) were the best, though it is obvious that the infrastructure in the largest cities is better than in the vast majority of other Russian cities and towns.

An advantage of relatively small cities was the roads with less heavy traffic and a cheaper rent of premises. They are gradually losing this advantage due to accelerated development of economy in the regions. As a consequence, the level of dissatisfaction with the infrastructure by regional companies increased. It is likely that this deterioration is also related to the growing requirements from the companies of the "Other cities" category.

Major companies are more satisfied with the infrastructure than all the rest. It primarily concerns companies with the turnover over 10 MUSD. Only 25% of them gave "bad" evaluation. Middle companies (with turnover from 0.5 MUSD to 4 MUSD) are most displeased with infrastructural problems. It seems that small companies have less strict requirements, hence their evaluations are far from being the worst.



## FINANCIAL SUPPORT TO SMALL BUSINESSES (START-UPS). INVESTMENT FUNDS

The level of satisfaction with financial support to start-ups almost remains unchanged year-on-year. This support received "satisfactory" marks from 30%, which is similar to the last year. The number of "good" evaluations has slightly decreased from 6% to 2.5%.

Probably, expectations resulting from establishment of state-supported venture funds are still unjustified. These funds have started to operate cautiously. At the same time granting licenses to the state fund Rosinfocominvest was delayed by the same state structures.

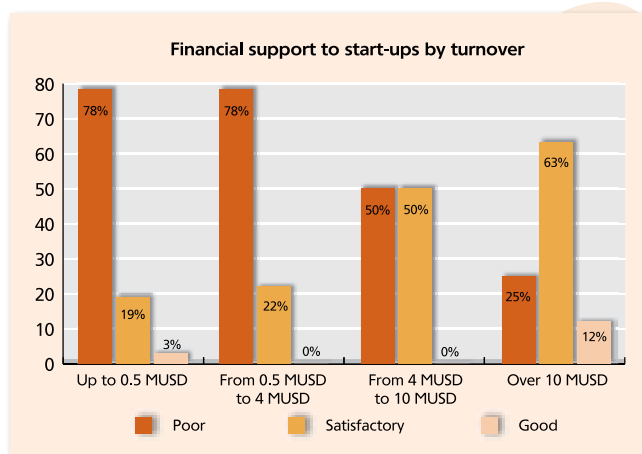
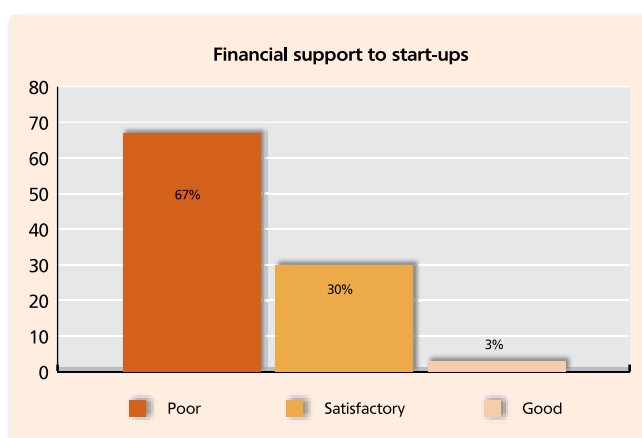
Typically of venture capitalists funds would invest in start-up risky innovation companies in the last place.

First of all, money of these State supported funds comes directly to the already operating high-technology companies with the turnover of no less than 2-3 MUSD. Start-up software developing companies

are not registered among the recipients, no wonder given the virtual nature of their assets. Nevertheless, all representatives of management companies of state-supported venture funds consider investments in software companies as one of the promising lines of their activity.

It seems, however, that without creation of a network of special seed-money funds like the well-known Fund of support to small businesses in scientific field (the so called Bortnik Fund), evaluations of state financial support of start-ups will hardly improve in the coming 2-3 years.

20-30% of respondents gave no evaluation of state financial support to start-ups at all. Most likely, not all companies are interested in changes in this field. The number of other questions on business environment left without answer makes less than 10%.



It is more convenient for venture companies to start working with larger companies that already make profit from sales of their products and success stories. Such companies set up subsidiaries for new promising lines of activity. To finance these start-ups they either use equity capital, or take credits from banks, or receive funding from business angels or from state and non-state venture funds.

Starting entrepreneurs and small companies do not have necessary turnover, and therefore are doomed to find business angels or to apply to state seed-money funds. For this reason, and also because the funding of smaller businesses is associated with bigger risks, than

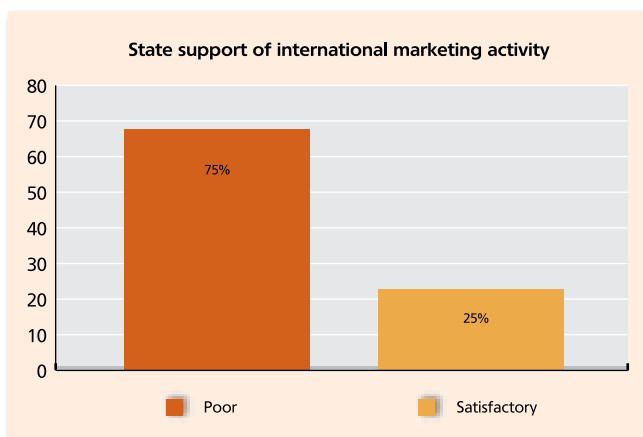
in case of work with large companies, the satisfaction of companies with financial support to start-ups is directly dependent on the size of respondent organization.

Nonetheless, managers of venture funds suppose there is high potential for the emergence of lots of start-ups. There are many good ideas, but usually they are not well-thought off from the standpoint of commercial implementation. Experts expect a breakthrough in this field in the next 2-3 years.

However, state-supported venture funds will hardly ensure such breakthrough. Due to legislative regulation of these funds smaller companies actually have no access to their money.

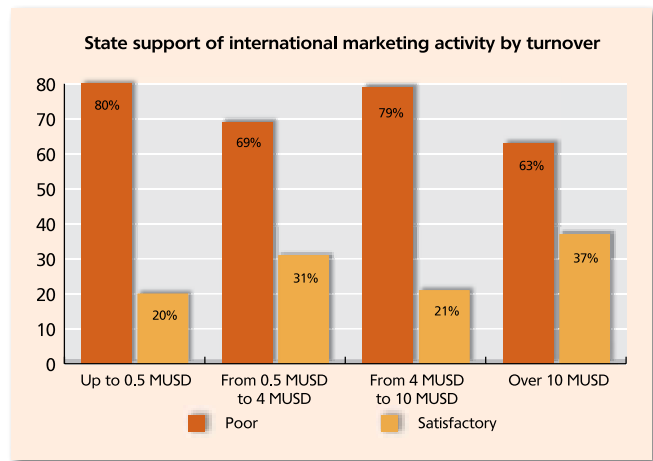
High-ranking officials often mention the establishment of venture funds with huge governmental resources as their own accomplishment. However, the majority of software developing companies do not see any return on money invested by the state. Evidently, the discrepancy between declared sums and impossibility to use them for start-ups results in growing discontent. It may explain the highest level of criticism towards financial support to start-ups expressed in two capitals – Moscow and Petersburg. Presumably, the situation is no better in other cities, but there local authorities have never made high-flown declarations about state-supported venture funds.

## STATE SUPPORT OF INTERNATIONAL MARKETING ACTIVITY



Based on the poll results, there is little improvement regarding state support of marketing activity. There are 5% less “poor” evaluations than two years ago. However, this reduction is small and could be caused by imprecision (each year’s indicator changed by 2-3%). In any case a share of dissatisfied companies is still very big – 75%. So there are no breakthroughs in the resolution of this problem.

The bigger the company, the more satisfied it is with the existing state support of international marketing activity. This was the case last year as well. At the same time, this support is most needed by small companies namely.

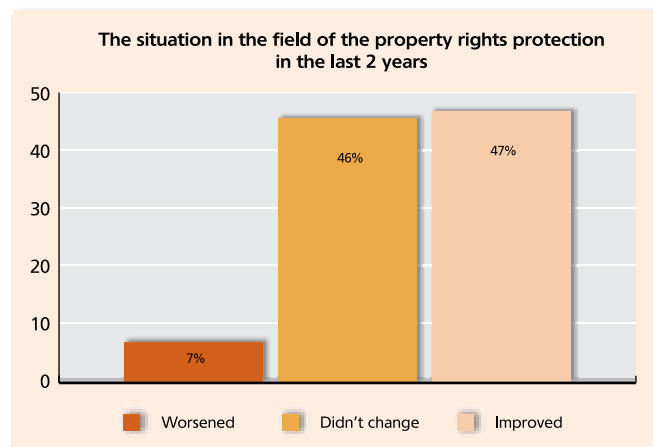


## THE SITUATION IN THE FIELD OF PROPERTY RIGHTS PROTECTION

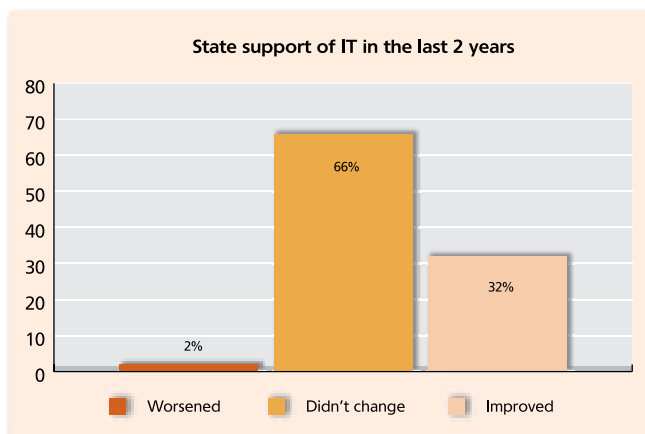
Obvious improvement took place in the field of property rights protection, which was observed by 47% of respondents. In the previous survey this indicator reached 28% and also was considerably bigger against year-on-year. If the poll covered only leading product companies no doubt this improvement would have been noted by even a greater proportion of respondents (perhaps, even by 100%). In 2007, Russian software developers significantly increased their turnover largely owing to the anti-piracy campaign initiated by Russian state bodies jointly with business associations in the last 2-3 years.

However, among respondents were also companies who won absolutely nothing in this anti-piracy campaign because they have no property rights to any ready-made solutions. Perhaps, they even lost due to the requirement to purchase software legally or fell victims of state raiders. This is exactly the reason why 46% respondents saw no changes in this field, and 7% marked deterioration.

Improvements are seen by the most successful major companies who are to a mainly oriented to the Russian market.



## STATE SUPPORT TO THE SECTOR OF INFORMATION TECHNOLOGIES



It is natural that evaluations of changes in the state support to the IT sector during the last 2 years remain mainly unchanged. As a year before, no improvement was observed by 2/3 of respondents. At the same time, deteriorations were revealed only a few respondents.

A growing number of companies who think that the state support has improved can most likely be explained by the growing activity of different state institutions (first of all, the Ministry of Information Technologies and Communications). In 2005-2007 there appeared hopes that the industry was finally taken notice of and it would be adequately supported by the state in the nearest future.

However, no substantial results have been reached. The situation was seriously aggravated by the fact

that the new Government did not include a ministry responsible for information technologies. The former Ministry of Information Technologies and Communications was transformed into the Ministry of Mass Communications losing IT in its official name.

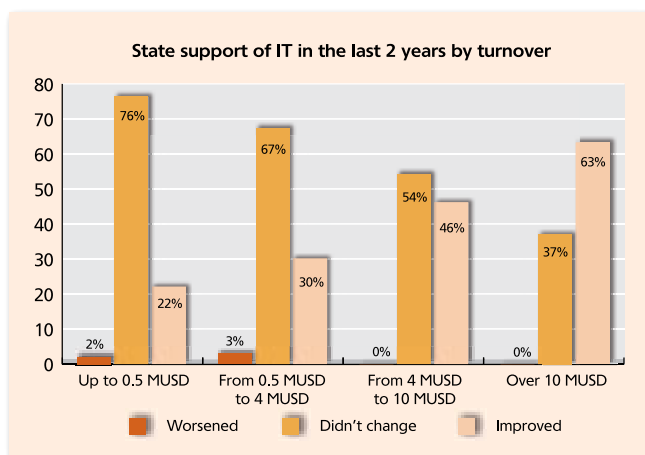
The invariability of evaluations compared to the previous poll may be perceived as extended anticipation. If in the current year the change of the Ministry's title causes diminishment of support to projects of the software development industry, then the number of companies, who positively evaluate the state support to IT at the moment, would undoubtedly decrease.

The larger the company, the more visible are improvements for its representatives. This dependence was observed in the previous research, too.

Improvements are mentioned by 63% of the largest companies. It is almost twice as much than the average indicator. Larger enterprises have more opportunities to work with governmental structures and more information about what should be expected from the state support.

Somehow their evaluations are result of expectations. During in-depth interview the representatives of these companies explicitly criticized the existing state support of the IT sector. However, they are speaking about anticipated decisions of the State Duma and the RF Government and about chances to adopt the laws required by the industry and are willing to support any lobbying in this respect. Small companies see no real opportunities to participate in this process based on past experience.

A negative evaluation of state support of the IT industry is a general characteristic of other countries, which have experienced similar periods of rapidly growth of the IT sector. In particular, similar statements were repeatedly made by representatives of NASSCOM from India), where state support to the industry has been and is incomparably higher than in Russia. Apparently, there is an objective delay between requirements of the young and dynamically growing industry and the decisions adopted by the state burdened with problems of traditional economy. It is essential that such delay should not exceed the developmental cycle of the innovation economy and cause its degeneration.



## CHAPTER 5. GEOGRAPHICAL DISTRIBUTION AND PRIMARY MARKETS

The headquarters of companies participating in the poll are mainly concentrated in Moscow and St. Petersburg (44% of all respondents) as was before. This concentration of exporting companies is quite natural because both capitals provide the best conditions for international business and much more universities preparing highly qualified staff compared to other cities. However, within two recent years the total export share of Moscow and St. Petersburg is lowering. It could be attributed to the randomly changing involvement of respondents but most likely a more active participation of regional businesses in the poll is quite logical. A number of participating companies from other cities also grew at various forums and exhibitions. Obviously, the number of successful exporters in the regions has been indeed growing as expected.

There are good high schools in many Russian cities (depending on criteria applied 10-20 cities can be named). Earlier this school worked mainly for Moscow and St. Petersburg companies which attracted specialists from the regions or sometimes brought no results at all since it was hard for young and gifted people to prove their worth, and not all of them wished to leave for boisterous capitals.

Recently the situation has been changing. The leading Moscow and St. Petersburg companies while keeping on inviting specialists from the regions now more often declare their intention to recruit more actively in their regional branches (or establish such branches). Some major companies have already stopped mass recruitment to their head offices. On the other hand, regional companies now have competitive advantages over Moscow and St. Petersburg enterprises. There are less expenses in the regions while the infrastructure is nearing the level of Moscow and St. Petersburg.

A part of projects which have been previously transferred to metropolitan companies today are being shifted to the regional companies on the outsourcing basis. Successful product companies start to emerge in the regions.

In foreseeable future in terms of total exports volume Moscow will still occupy leading positions, with St. Petersburg being a persistent runner-up. The largest companies with their headquarters in Moscow and St. Petersburg created geographically distributed networks of development centers not only in the Russian regions and neighboring CIS countries, but also far abroad. Practically they are no longer restricted by a complicated situation on the local market because they are able to obtain additional human resources in countries with cheap manpower.

Thus, there are two main trends related to geographical distribution of companies:

- 1) a more active use of regional export opportunities;
- 2) the search of major companies for cheap human resources far abroad.

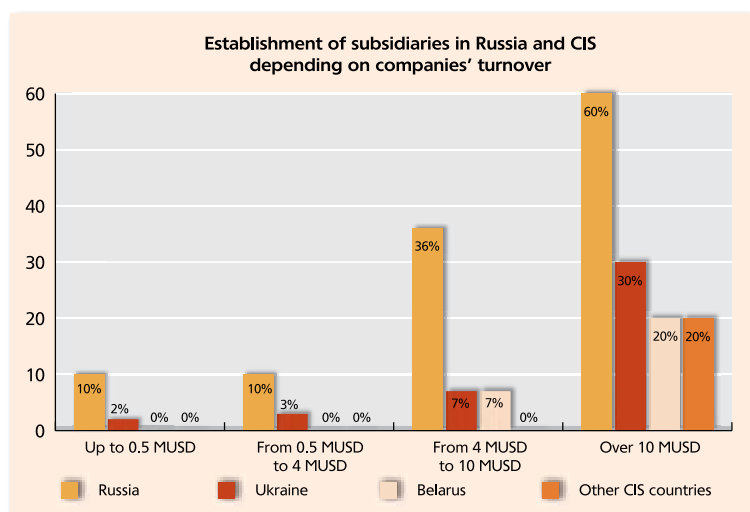
At the moment the first trend is more pronounced, though the establishment of an efficient geographically distributed structure is a great challenge and by no means all companies are able to deal with it. Basically only major and most successful middle companies can establish branches in other cities.

Opening development centers in the regions not only allows to get benefits, but enables to solve a number of problems. First, the lack of modern infrastructure and cultural differences compared to St. Petersburg and Moscow (Russia is a big multinational country involving cultural features of different regions. Besides, a remote branch is difficult to manage.

### LOCATION OF SUBSIDIARIES AND REPRESENTATIVE OFFICES

Despite all the difficulties of management of offices in other regions and countries, it is almost impossible to achieve much success without them. That is why the vast majority of companies, who are able to open a branch or an office abroad, have already set up their remote offices. As it is shown by the survey, such opportunities directly depend on the company's size.

Only 10% of representatives of small and middle business (with turnover less than 4 MUSD) could open their branches in Russia. To do the same in Belarus, Ukraine and other





CIS countries is a nearly unrealizable task for them, although there are some unique cases. At the same time, almost all major and leading middle companies have at least one branch. 60% of large companies have a regional branch in Russia and 20-30% in Ukraine, Belarus and other CIS countries.

A list of cities where respondents have their branches is far from being complete because the sample covers only some 10%. Nevertheless, it gives an idea what cities have good conditions for branch establishment.

## CITIES WITH BRANCHES OF PARTICIPANTS OF THE SURVEY

### Russia:

Saratov, Novosibirsk, Perm, Veliky Novgorod, Krasnoyarsk, Tyumen, Kaliningrad, Novokuznetsk, Tomsk, Vladimir, Kazan, Kolomna, Kurgan, Izhevsk, Samara.

### Ukraine:

Kiev, Vinnitsa, Sevastopol, Dnepropetrovsk, Odessa, Kharkov.

### Belarus:

Minsk, Novopolotsk, Vitebsk, Mogilev, Grodno, Gomel.

### Other CIS countries:

Karaganda, Tashkent, Yerevan

As a rule branches in Russia and the CIS are production departments, but not always. In some cases they function as sales offices. Another option – in remote divisions both sales managers and developers are in place. Quite often an office initially intended for promotion of solutions and services in a certain region eventually partly becomes a production department. On the contrary, the representative offices in foreign countries as a rule function as marketing services, and rarely include a full-scale development team. 30% of companies have their offices outside the CIS. In 2008, 13% of companies are planning to open branches (including those with already set up international offices).

Opportunities for opening representative offices far abroad depend to an even greater extent on the size of the company (compared to the chances to open a branch in Russia and the CIS). Only an insignificant number of small companies have remote offices abroad.

A little less than 1/3 of middle companies (with the turnover from 0.5 MUSD to 4 MUSD) have already opened their representative offices, with 2/3 among respondents with the turnover from 4 MUSD to 10 MUSD. On the other hand each major company (the turnover over 10 MUSD) has more than one foreign office.

It is not always correct to compare indices for different regions to the previous year data due to too big (like in this case) changes in the structure of respondents. It can be only concluded that almost none of new offices have been opened by regional companies. This corresponds to the forecasts of the previous poll based on the plans of respondents.

Only 3% of companies intended to open their offices in Germany. It appears that they postponed their plans to 2008. In previous polls the inconsistency between plans and real actions was more significant.

The lack of expansion on international markets is explained by re-orientation to the local market and by business consolidation (all large companies have already opened offices where needed, while smaller companies have solve other issues).

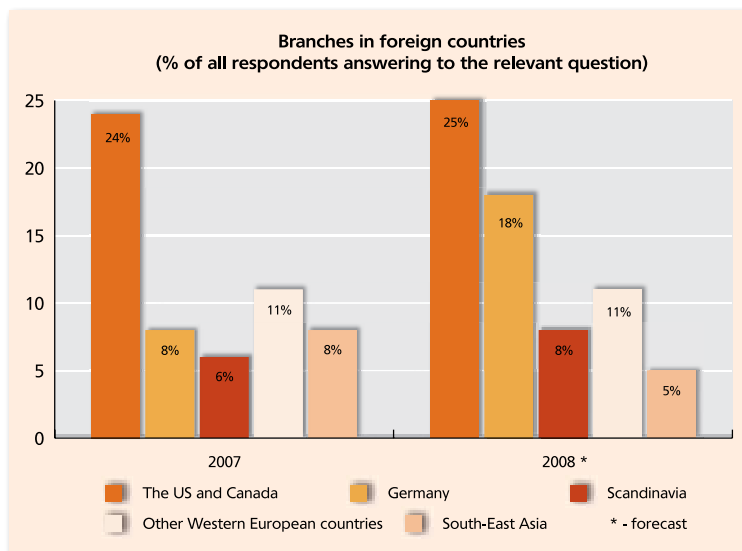
In 2008, a significant growth in the number of representative offices of Russian companies is expected in Germany alone. At present 10% of respondents plan to open their branches there. Most likely not all of them will succeed, however, these plans testify that Russian companies see the biggest growth potential exactly on the German market.

The plans to set up a branch in Germany are typical basically of middle companies with turnover from 0.5 MUSD to 10 MUSD. Lots of larger Russian companies are already represented in this country.

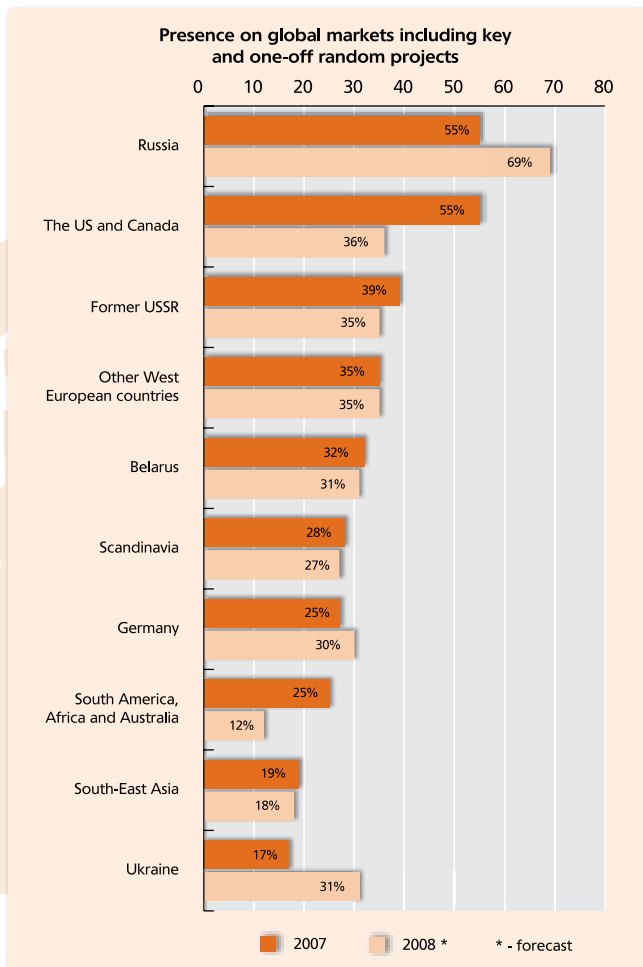
It is expected that the growth of representation in Scandinavia will be attained by the smallest companies. Some experts consider promising the cooperation of

small teams of developers with Scandinavian companies for whom it is difficult due to their relatively small size to place orders in far off countries (India and China). In recent years different governmental and nongovernmental organizations (first of all, Finnish) have been trying to establish contacts with small Russian and Scandinavian companies.

For the time being the fluctuations of the South-East Asia index in our table should not be paid much attention. These strange changes took place in the results of previous polls as well. Evidently, the majority of respondents still do not consider this region seriously. It can be assumed that 3-5% of companies have their representations in South-East Asia, and this indicator remains stable for several years.



## PRIMARY MARKETS



As a year ago respondents consider Russia as well as the US and Canada primary markets. These indicators are identical. This approximation was expected, however, but not to such degree. But based on results of 2008 the new divergence should occur – a significant and mirror-like. Obviously, a high proportion of respondents intend to re-orient from the US market to the Russian market. If the existing trends persist, the US market which 2-3 years ago was number one leaving all others far behind will drop to the middle of the rating. Already in 2008 its importance will probably equal the groups “Other countries of the former USSR” and “Other Western European countries”.

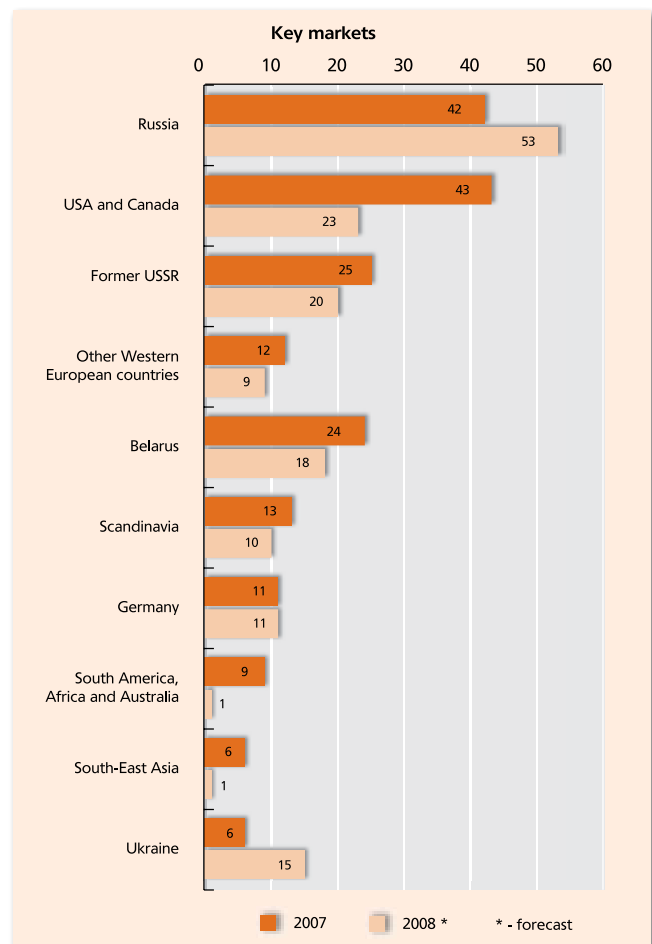
The companies planning to leave the US market are mostly small or middle size. The larger companies with turnover over 10 MUSD, with strong positions in the USA usually do not have such intentions and wait for the American market to recover.

The on-going reduction of the US market importance is logical and is reflected in other researches as well. For example, according to the TPI consulting company in 2007, the European market of IT outsourcing services advanced the US market both by the number of contracts (220 against 194), and by total cost of these contracts (€32.7 bn against €21.3 bn).

Last year Belarus and other countries of former USSR have become considerably more important for Russian

companies. In 2008, the same growth is expected for Ukraine and Russia. Apart from the USA the slackening of interest is shown for markets combined into one category – “South America, Africa and Australia”. There should be no drastic changes in the significance of markets of West Europe and South-East Asia in 2008.

The attractiveness of Germany for our respondents is manifested only in their plans to open representative offices there. Nevertheless, in 2008 3% of respondents plan to enter the German market implementing individual projects. For them Germany may become a key market only in the long run.



If we analyze what markets are considered primary by the companies in 2007 and 2008, the anticipated continuous re-orientation to the Russian and the CIS market will be even more obvious. Russia has the highest indicator of mentioning as the key market in 2008 than all other countries and regions. Second-ranked are Ukraine and Germany with identical figures for the last two years. Perhaps, the dropped index of the “key market” in such a big number of countries and regions reflects the uncertainty of prospects on these markets, but in reality the importance of some of them would remain. However, there is no uncertainty concerning Russia and CIS countries (first of all, Ukraine). Possibly, the war in Georgia and the ambition of Ukraine to become a NATO member would change the plans of Russian companies, but right now Ukraine is the first mentioned as the key market or a market with several projects (the forecast growth above 50%).

Interestingly, in the 2008 forecast among all markets only the USA keeps their positions in the top five primary markets although their rating lowered from 42% to 22%. All other places are occupied by CIS countries (Russia, other CIS countries, primarily Kazakhstan, Ukraine and Belarus).

Most representatives of leading outsourcing companies involved in in-depth interviews recognize the far-reaching prospects of the Russian software development services market. Some of them still believe that the local market of these services is too young and just starts forming. A range of customers is limited to the largest Russian companies and subsidiaries of international corporations. Nonetheless, everybody is expecting a booming growth of the local market.

It is indicative that the highest growth of interest to the Russian market is demonstrated by Moscow companies, which is easily explained by the fact that headquarters of all leading Russian companies who are the main customers of software projects are concentrated here in Moscow. Regional companies are largely oriented toward export of their products and services due to insufficient demand for new efficient IT solutions of regional companies.

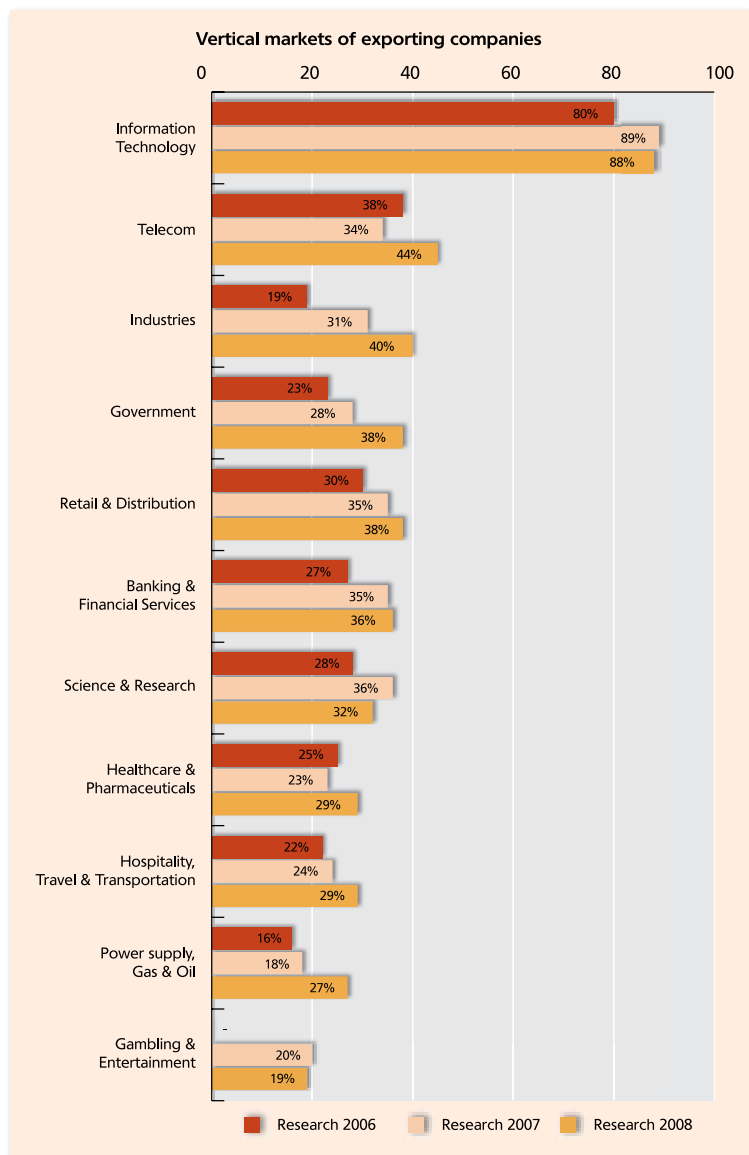
## VERTICAL MARKETS

The frequency of records of practically all industries represented by customers of our respondents has increased. It means that the customer range of many companies has diversified. A similar expansion was revealed in the last poll as well.

The only decrease in the number of records compared to the previous poll concerns "Science & Research". However this reduction makes 4%, and as such does not allow making unambiguous conclusions about the changes in demand of science and education institutions. If the difference grows up to 10%, then such conclusions are grounded. Similar deviations (only towards the growth) are observed in the following segments: "Power

supply, Gas & Oil", "Industries", "Government" and "Telecom". Perhaps, this growth is associated with the increased activity of CIS organizations as customers of Russian companies.

Of particular interest is the increase in the frequency of records for "Industries" continuing for the second year. Prospects for the expansion of customers owing through the industrial sector were mentioned by experts already 2 years ago.



## CHAPTER 6. HUMAN RESOURCES AND SITUATION ON LABOR MARKET

According to the analytical center Real-IT (information posted to website CNews.ru), in late 2007 in Russia 865 thousand people were working in the information technologies sector that is 1.18% of employable population. This figure is quite acceptable in developing countries, but in the developed it is much higher (in the USA – 3.79%, in Germany and the UK – 3.4%).

According to estimates of the Association of enterprises engaged in computer and information technologies (APKIT), the need in new employees in the IT industry in 2007 amounted to 189,000. Out of this number, IT companies required 82,000 and the remaining enterprises (together with state structures) – 107,000. A total number of university graduates specializing in IT disciplines covers about half of this figure. Moreover, not all graduates choose work in their field of study.

Secondary educational institutions do not have any significant effect on the labor market in the IT sector, as their quality of training mostly does not meet requirements of employers.

The annual demand for new IT specialists will be growing. By 2012 it will be 234,000 at minimum, and 550,000 at maximum (in case of innovative development of economy). The number of first-year students studying IT disciplines in Russian universities is many times less than the current need in these graduates, and even less than the need in these specialists in a 5 years period when today's first-year students finish their studies.

Andrey Fursenko, the RF Minister of Science and Education, promised that in 2008 state universities would increase the number of state-financed IT students up to 40,000. This decision would allow to slightly reduce the growth of unsatisfied requests of enterprises and organizations, but not more.

Interviews with top managers of leading companies of the segment give grounds to assume that the situation with the lack of software developers is no less complicated. Most likely, the shortage of programmers calculated in relative numbers is higher than lack of all IT specialists. For example, in St. Petersburg, according to the vacancy server Vakant.ru, in January 2008 the demand for programmers twice exceeds the supply.

It is impossible to exactly estimate the shortage of developers experienced by Russian companies. Taking into account the situation on the world software and development services market, Russian export-oriented software companies could have had a several times greater total staffing level, and the number of companies would also increase. However, they have to increase the number of employees limited by the supply on the labor market.

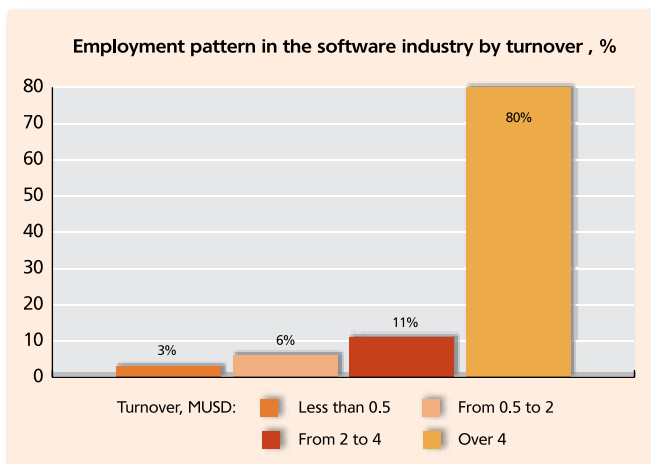
According to the APKIT data (the report on the survey results "IT personnel in the Russian

economy", 2007), in the end of 2007 Russian software production employed about 130,000 specialists, while the demand for new programmers in 2007 was approximately 40,000 people (out of them, in our opinion, export development required about 60%, and the local market – 40%).

Given a complicated situation with human resources most likely larger companies planned to attract new personnel through establishment of development centers in the Russian regions and the CIS (mainly in Ukraine and Belarus), as well as far abroad. The examples of acquisition by leading Russian software services providers (EPAM Systems and Luxoft) of developing companies in South East Asia (in China and Vietnam) and in Eastern Europe (Hungary and Romania) show that our leaders are fully assimilated on the global market and successfully combine high quality, but becoming expensive personnel in Russia with relatively cheap and less skilled human resources in developing countries.

Middle companies (turnover 0.5-4 MUSD) are facing hard time and are not planning any significant growth of personnel since it is becoming more and more difficult to compete for human resources with larger companies.

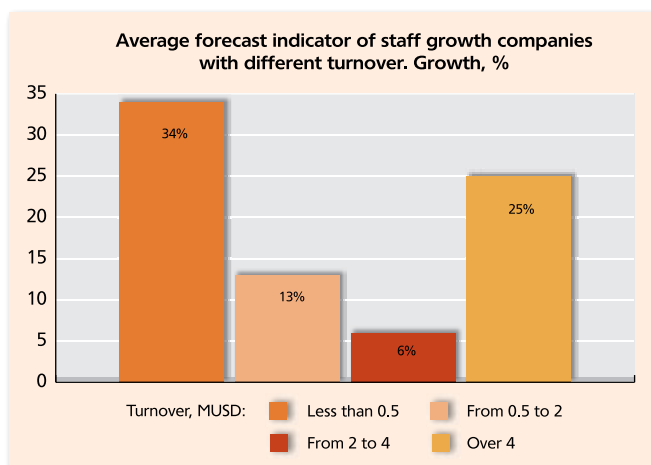
Small companies (turnover < 500,000 USD) are the most aggressive scheduling the growth of staff by 34%. They explain their increase in staffing with promised options and ambitions of fast-growing business by entering the market with their own products.



The inflow of employees in Russia is primarily determined by graduates of Russian universities and also by retraining programs for specialists with skills in software engineering, and labor migration from the CIS.

On the basis of responses of top managers about 5-10% of all newly recruited programmers came to Russia from the countries of former USSR.

A number of university graduates who studied disciplines required by Russian software development companies increased about 10% last year.



According to the report of APKIT “Analysis of enrollment of IT students in universities and specialized secondary schools in 2006”, in 2006 the Russia educational system prepared 94,000 specialists, who according to their diploma can work in the software sector. But only about 10% graduates are suitable for export-oriented companies. All the rest require additional training they get in specialized commercial centers of additional education.

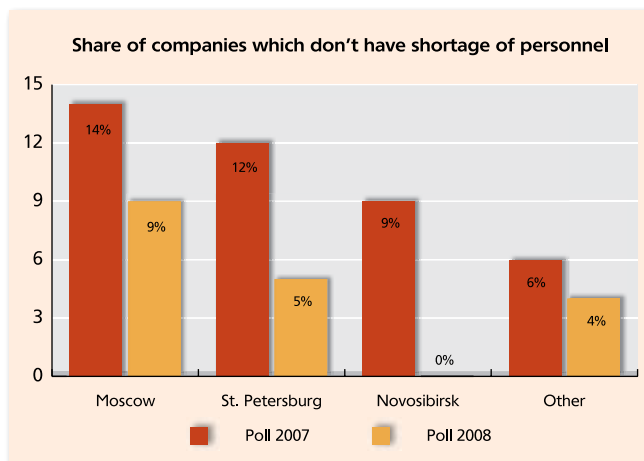
The demand for services and software of Russian companies grows much faster than the supply of trained specialists on the labor market. In recent 2-3 years the shortage of human resources was somewhat mitigated by labor migration. A relatively big number of developers moved to the largest Russian cities (Moscow, St. Petersburg, Novosibirsk and others) from the regions where they did not have sufficient opportunities to apply their knowledge and skills. In addition, specialists came from the neighboring states (first of all from Belarus, but also from Ukraine and Central Asia).

It can be stated that labor migration from regions to the capitals has reached its peak. It is not surprising that the biggest outsourcing companies stopped mass recruitment of personnel to their Moscow and St. Petersburg development centers. They prefer to open new development centers in the cities with lower salaries than in Moscow and St. Petersburg, however, it should be noted that recruiting in remote offices is more difficult than in head offices.

As it has been said, leading service companies establish their production departments in the countries of South East Asia by acquisition of local companies. This is quite a new phenomenon which has been observed in the last 2 years. Previously the major companies only considered a theoretical possibility of opening departments in far off countries, whereas now they successfully compete on the labor market with Indian, US and European leaders.

In this context it is reasonable that the number of companies satisfied with staff supply has significantly reduced, which is observed in all cities. A bit better indicators shown in Moscow and St. Petersburg should not be misleading. Here there are more large companies recruiting to their branches set up in the

regions and abroad. According to the estimations made by representatives of leading software companies, the situation on the labor market in Moscow and St. Petersburg is the most complicated.



As the major companies are more competitive on the labor market, they feel less the shortage of specialists. However, in the coming years even they will hardly be able to build their professional staff at the expense of smaller companies. So only a small percentage of those who do not feel shortage of personnel will remain in this group.

The situation on labor market will be aggravated by the demographic collapse due to the sharp decline of birth rate in 1991-1999. The representatives of universities already feel the decrease in a number of school leavers.

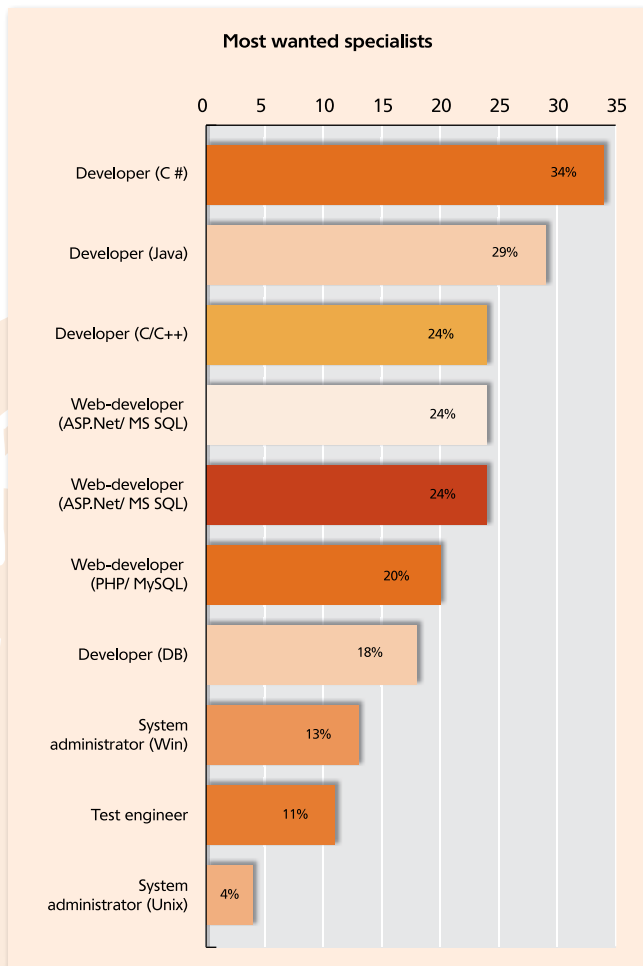
One of a few positive factors on the labor market is that almost all employees of software companies have a good command of foreign languages (mainly, English), if it is required in their work. Therefore, this relevant subsection is excluded from this chapter.

Nevertheless, there is good potential for the industry development. We would remind here, that in spite of the increasing shortage of human resources a high rate of growth of the IT market and software export remains. The problem with personnel is mainly caused by the educational system lagging behind the requirements put forward by the growing industry. It can be solved or mitigated by sound state policy aimed at the involvement of industry in the educational process and stimulation of investments from the real economy sector into education. There is no crisis in the industry. There are lots of possibilities for staff increase despite the demographic collapse.

## DEMAND FOR DIFFERENT SPECIALISTS

Comparing to results of the previous poll we see that three most wanted specialties remain the same. These are developers C #, Java и C/C++. However, web-developers are getting close to them. Instead, test engineers in this rating moved downward. This discipline has become less wanted which is probably





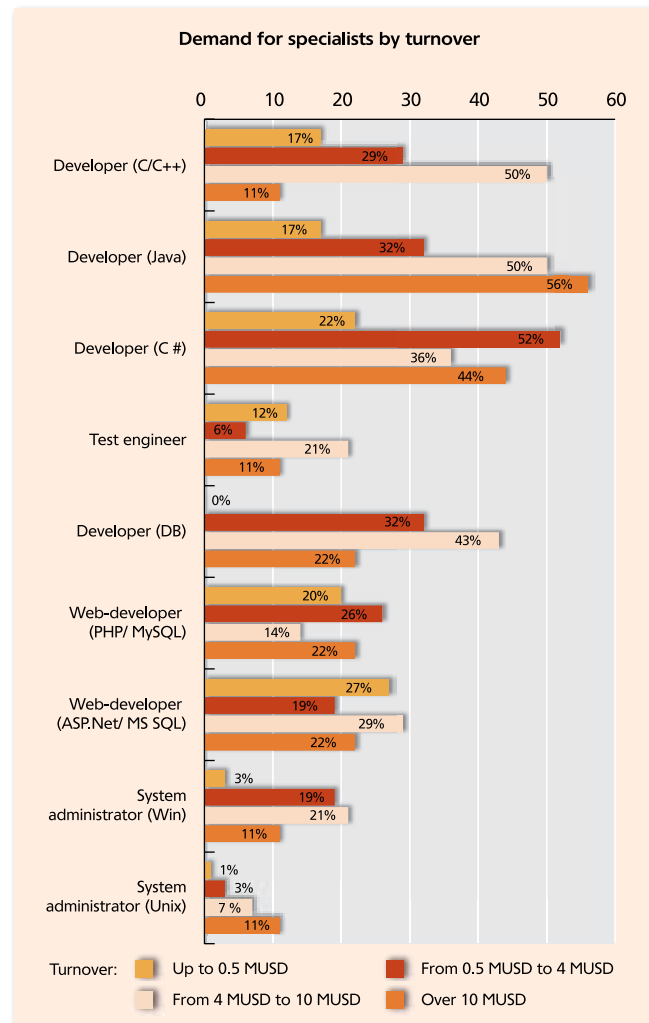
related to the intensive training of testers in different Russian cities in two recent years.

In 2007, developers C # were the most widely recruited by companies. Next place is shared with almost identical indicators (mentioned by 30% respondents) by developers C/C++, Java, DB и web-developers. The figures compared to 2006 decreased for developers Java and C/C++, as well as for test engineers, and increased for DB developers and PHP/MySQL web-developers. Only 5% respondents did not employ last year, which is the same as a year before.

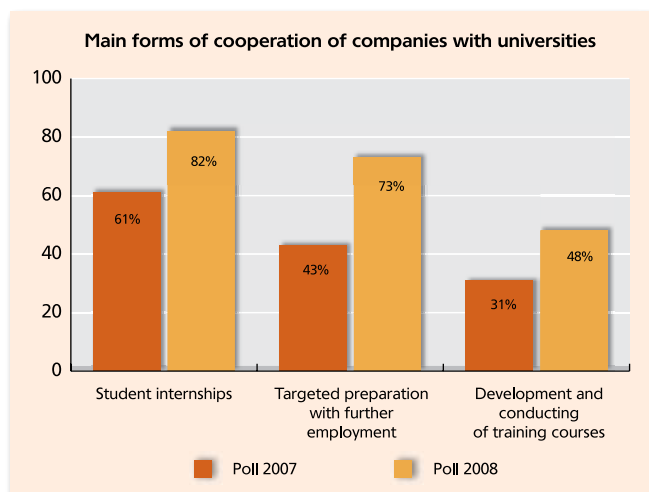
The results of the poll testify that in St. Petersburg the most critical and wanted are Java and C/C++ developers. It is proved by recruiting agencies' surveys (for example, Vakant.ru). "Other cities" face the biggest problems with C # developers.

Structure of demand in Moscow is more homogenous than in St. Petersburg and other cities. It can be noted that last year the demand for ASP.Net/MS SQL web-developers sufficiently increased in the capital, which is also characteristic of St. Petersburg.

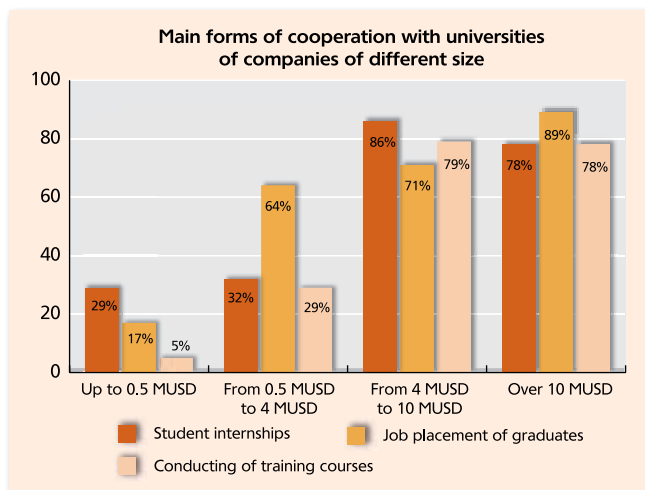
Unsatisfied demand for certain specialist varies depending on the size of the company. A specific regularity is manifested only in some cases. The larger the company, the more problems it has with recruitment of Java developers and Unix system administrators. The smallest companies (turnover less than 0.5 MUSD) are most concerned with shortage of C # developers on the market and do not feel at all the lack of DB developers.



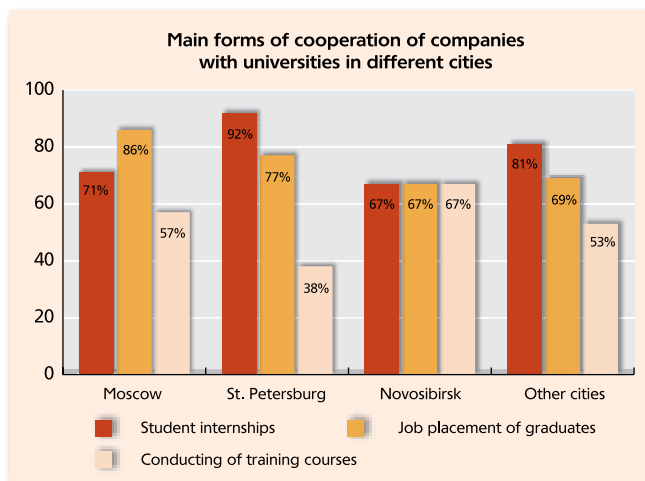
## COOPERATION WITH UNIVERSITIES



Due to obvious aggravation of personnel problem companies started to cooperate with universities even more intensely. In doing so, larger companies use practically all kinds of interaction, while middle and small companies cannot afford arranging courses in universities nor student internships, limiting themselves to contacts with universities only at the stage of job placement of students after graduation. Far and wide business cooperation with the higher school is generally growing.



There is no difference regarding cooperation with universities depending on location (except for Novosibirsk which is represented by a too small number of respondents to make unambiguous conclusions). We can only mention that in St. Petersburg (in comparison with other cities and particularly compared to Moscow) a big number of companies prefers student internships, conducting of training courses being on the second place.



Universities with graduates in the greatest demand among software development companies:

#### Moscow

1. MGU (Moscow State University)
2. MIFI (Moscow Engineering Physical Institute)
3. MIPT (Moscow Institute of Physics and Technology)
4. MSTU (Moscow State Technical University)

Others: MIET (Moscow State Institute of Electronic Engineering), MIREA (Moscow State Institute of Electronics and Mathematics), MAI (Moscow Aviation Institute)

#### St. Petersburg

1. SPbGU (St. Petersburg State University)
2. SPbGU ITMO (St. Petersburg State University of Information Technologies, Mechanics and Optics)

3. SPbGPU (St. Petersburg State Polytechnical University)

4. SPbGETU (St. Petersburg State Electrotechnical University)

Others: SPbGUT (Bonch-Bruевич Telecom University), SPbGUPS (Transport University), SPbGUAKP (Aerospace Instrument Engineering University)

The rating of universities compiled for the first time in the previous survey has not significantly changed. It is unlikely to considerably change in next years. Universities may gain authority among employers only in the course of several consecutive years of successful training of specialists.

In the regions the estimation of universities is mostly identical. The first place as a rule belongs to a classical state university (with mathematical and mechanical or physical and mathematical faculties), and the second—to one or more technical universities. For instance, in Novosibirsk graduates of the Novosibirsk State University are in the greatest demand. The Novosibirsk State Technical University ranks second.

A good indicator of the quality of training of programmers in different Russian universities is the results of students in international programming competitions. These contests are regularly arranged by leading corporations with the purpose to search for talented programmers. Since Russians have been dominating these competitions in the past decade, it allows to speak of a very good quality of training in software developers in Russia.

At the prestigious programming championship among students organized on a yearly basis by the Association for Computing Machinery "ACM International Programming Collegiate Contest" Russian universities' teams have won leading positions at the end of the last decade.

Since then the results have only improved (see Table on page 34). At the same time not only the number of winners has increased, but also the number of university teams from Russia which entered the world elite has also grown. Since 1999 10 Russian universities won prizes in these competitions, with 4 teams in different years becoming absolute champions. It is by far more than in any other country.

In final of the last team world programming championship among students the absolute first place was again taken by Russians. This time the world champion was the team of St. Petersburg State University of Information technologies, Mechanics and Optics.

Apart from universities, which teams won top places in the programming world championship; as elite also may be classed Ural State University, Stavropol State University, Orel State Technical University and Moscow Institute of Physics and Technology. Being among 30-40 best universities based on results of the last final of the prestigious contest may also be considered an excellent achievement.

Judging from world championship results, high-class programmers can be trained in universities of 11 Russian cities: Moscow, St. Petersburg, Saratov, Perm, Izhevsk,

**Prizes won by the Russian university teams on world championship in programming among students (ACM International Collegiate Programming Contest) from 1999 to 2008\***

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
St. Petersburg State University of Information Technologies, Mechanics and Optics	3 place	5 place	3 place		3 place	1 place	3 place		3 place	1 place
St. Petersburg State University	9 place	1 place	1 place					6 place		11 place
Moscow State University				9 place	2 place		2 place	9 place	10 place	5 place
Saratov State University				6 place	7 place			1 place	6 place	
Perm State University						4 place				
Izhevsk State University						8 place	9 place			3 place
Altai State Technical University								3 place		
Ufa State Technical Aviation University								10 place		
Novosibirsk State University									5 place	
Petrozavodsk State University									13 place	10 place
Total winners	2	2	2	2	3	3	3	5	5	5

\* - number of top places varied from 10 to 13 during that period  
Source: ACM International Collegiate Programming Contest

Stavropol, Yekaterinburg, Novosibirsk, Ufa, Barnaul, Orel and Petrozavodsk. About ten other Russian cities are equally good to compete with them.

In individual programming contests Russian students also perform very well. For example, during the last programming world championship TopCoder-2007 in the Algorithm category Moscow student Pyotr Mitrichev became the winner repeating his last year's success. In the Applied Program Development category the first place was taken by another student of Russian origin – Nikolai Archak, who now studies in New York. After his victory Pyotr Mitrichev is confidently leading the world rating TopCoder.

Russian high school children also successfully perform on different competitions related to programming. Thus, in the XIX International Olympic Games of school children in informatics held in August 2007 Russian team won 1 silver and 3 gold medals. In March a schoolboy from St. Petersburg Daniil Abramov came among Grand Prix winners of the contest of young programmers Google Highly Open Participation Contest (GHOP).

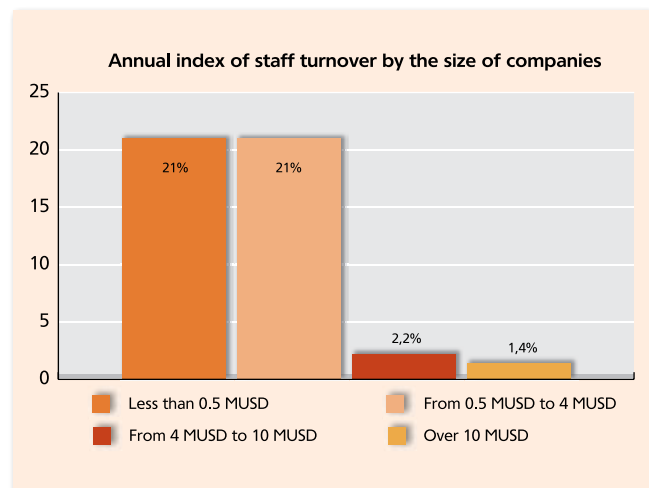
Unfortunately, successful performance of Russians in international programming contests creates an illusion among Russian officials of absolute well-being in the field of staff training. Actually, IT industry representatives have lots of claims to Russian higher education institutes that are adapting their programs very slowly and do not hurry to increase enrollment of students to be trained in IT disciplines, and generally reluctant to follow the market requirements. In many respects these claims stem due to activity of the Ministry of Education and Science and the RF Government.

Officials do not respond or react with great delay to proposals of industry representatives concerning relevant changes to be introduced in the system of personnel training. Therefore, companies have to actively cooperate with universities, spending much money on elimination of drawbacks of the state education system. In recent years they have started

to offer internships for the most advanced first-year students, although previously they worked only with senior students.

The increase by 40,000 in the number of budget places in state universities for training of IT engineers is positive, but these measures should have been taken 5 years ago at least. The same holds for preparation of professional standards in the field of information technologies developed at the initiative of the Ministry of Information and Communications and Association APKIT and presented in April 2008.

## STAFF TURNOVER



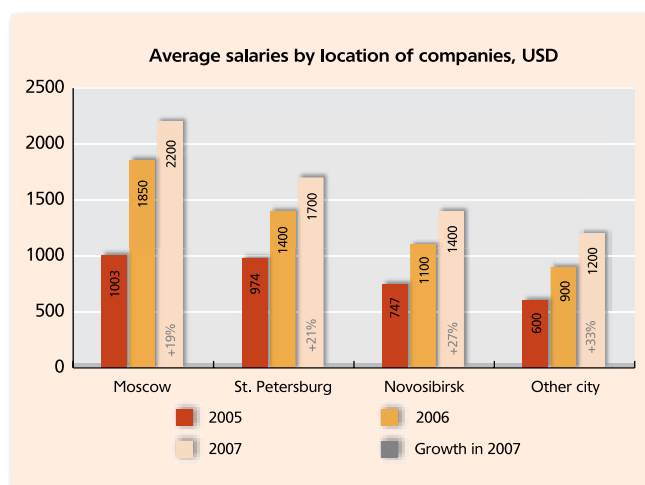
Large and middle companies retain a relatively low index of staff turnover, which is one of the competitive advantages of Russia on the world outsourcing services market. In India this indicator is much greater, amounting to some tens percents. Stability of project teams involved in project implementation is an important factor in reducing risks when an order is placed in Russia under otherwise equal conditions. For large companies (turnover over 4 MUSD) the staff

turnover is almost non-existent, a value at the level of 1-2% can be neglected.

The less the turnover, the greater is the average staff turnover index which confirms the process of human resources attraction from small companies to larger ones. The turnover of the smallest companies drastically increased and dropped almost to zero in the largest organizations against year-on-year.

The smallest companies with the annual turnover up to USD 500,000 have a relatively high index of staff turnover – 21%, nonetheless it is still lower than the same indicator for the majority of Indian outsourcing companies. 25% of companies in this category have shown a strong decline in the number of employees, while some of them experience 100% staff turnover. Owing to these companies the index for the whole category is rather high. Other members of this group manage to avoid mass dismissal of employees, most often owing to high professional qualification and technological specialization of personnel in niche-like companies as well as to staff motivation of product-oriented companies by offering options if the product successfully enters the market.

## SALARIES



In 2007, average salary of developers grew by 20-30% year-on-year. In 2 years it twice increased in all cities.

At the same time, the growth of salaries was much less than a year before. According to 2006 results, it was at the level of 50%. In 2007, programmers earned in rubles only 8-20% more than a year before. It may be stated that the dollar's fall significantly contributed to the growth of salaries in dollars.

Service companies have objective limits for the growth of salaries because an excessive increase of wages will make them in-competitive on the world market. A few years ago the difference in salaries of programmers in Russia and Western countries was very big (3-5 times) stimulating transfer of software development to Russian companies. At present, such approach would not save that much. Service companies try to draw attention of customers to other advantages of cooperation with them (such as

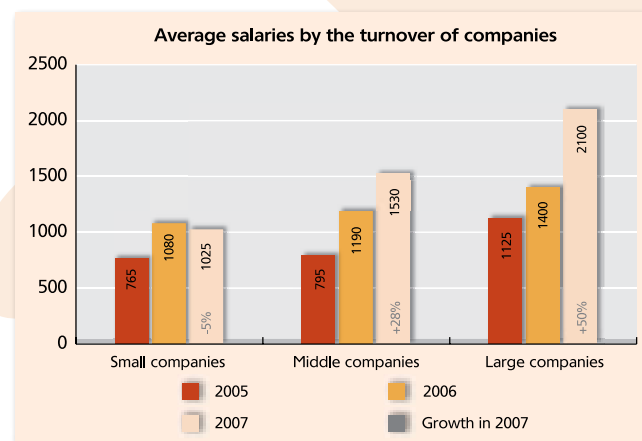
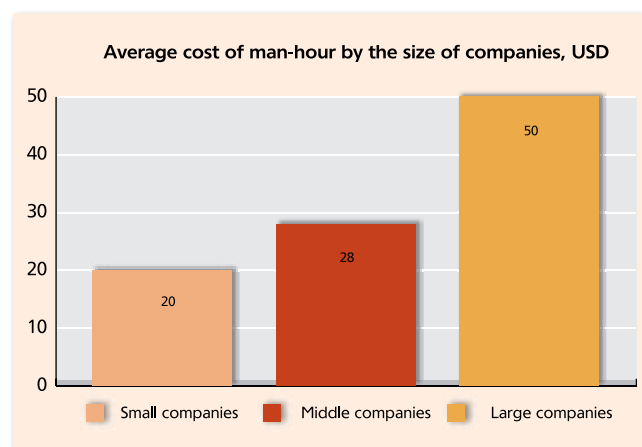
unique expertise and deep knowledge). However, a possibility of saving is still one of the most important factors to resort to outsourcing, which presupposes limitations on programmers' salaries growth.

To all appearances, the growth of salaries has reached the limit when outsourcing becomes unprofitable. Future growth of salaries will correspond to international trends.

It should be pointed out that in 2 recent years the index of salaries growth in different cities has equalized. The Russian labor market became unified across the industry, and now the probability of any deviations from general trends in any city is extremely low.

The increase is higher for companies that had low level of salaries. i.e. where there was a growth potential. However, in cities where cost of living is lower than in Moscow and St. Petersburg, average salaries will not reach the level of capitals. Most likely, the growth rate of programmers' salaries in different Russian cities will further equal with only a few percent difference.

The results of the poll coincide with the information of recruiting agencies. For example, according to the HeadHunter data published by CNews the salaries offered to testers in Moscow from I quarter 2007 to I quarter 2008 increased by 24% (up to 48,900 rubles), developers (.NET) – by 14% (up to 54,000 rubles), developers (Java) – by 19% (up to 56,000 rubles).



The difference in average salaries between the largest and smallest companies increased which correlates with data on staff turnover and growth

depending on the size of the company. Developers in companies with turnover less than USD 500,000 earn half as much as in companies with annual turnover over 10 MUSD. Major companies have opportunities to obtain more profitable orders, and thus these companies may offer a higher salary to programmers.

The growth rate for large companies (50%) was measured not quite correctly, because compared to the last year the characteristics of this group were changed. Nevertheless, the growth of salaries in the major companies is the highest among all the rest.

## SITUATION ON THE LABOR MARKET IN COMPARISON WITH INDIA AND OTHER COUNTRIES

The situation on the labor market is complicated not only in Russia, but also in many others competing countries. The lack of programmers is a worldwide problem leading to a high growth of salaries in many countries. For example, in India and Russia this indicator is approximately the same. Salaries of Indian programmers increase by 15-20% per year, and the growth of salaries for some professions amounts to 50%. According to the National Indian Association (NASSCOM), in 2007 salaries grew by 15% if measured in the local currency (rupee), which strengthens against the dollar. The same index is expected in 2008.

The growth of salaries results in reduced saving when orders are placed in India. Previously the involvement of Indian outsourcing companies enabled to spend 6 times less on project implementation on average, now this factor makes only 3. If the index of direct saving reaches 50% the order placement in India would make no sense.

The shortage of programmers is felt everywhere in the world, hence the growth of their salaries grows in every country. Naturally, in countries with higher salaries, the growth is slower. For instance, in the USA it makes only 5% annually.

According to company Luxoft, in Vietnam an average programmer salary is about half as much as in Russia. Most likely, such a big difference is temporary. Moreover, to some extent it reflects the quality of specialists' training.

Outsourcing companies in India as well in Russia face a big shortage of high-skilled specialists. According to the NASSCOM data published by The Wall Street Journal, about 50% university graduates with the major "engineer" and up to 85% graduates in other disciplines are not suitable for work after finishing studies. India has no obligatory secondary education, and its quality leaves much to be desired, which poses a grave problem for Indian IT outsourcing. Goldman Sachs experts think that maintaining high growth rate in this sector would soon be impossible if millions of Indians do not get better elementary and secondary education.

Compared to other countries, Russia has a reasonably good potential. According to Frost & Sullivan, by the number of researchers and developers per thousand citizens Russia is the world leader, and by the number of scientists and engineers per million people occupies the third place, significantly excelling India and China. In terms of the share of students getting technical education Russia ranks first in the world (according to UNESCO, Federal Statistic Office of Germany). It is essential to use this potential, which is very hard to do given insufficient state support of the IT industry.



## CHAPTER 7. TECHNOLOGIES

### OPERATING SYSTEMS

Among operating systems used by respondents the MS Windows family is still the most popular. It was mentioned by 97% companies. It corresponds to the last year figure (in this case a 1% deviation can be neglected). The indicator of the use of operating system MS Windows Mobile (41%) also remained the same.

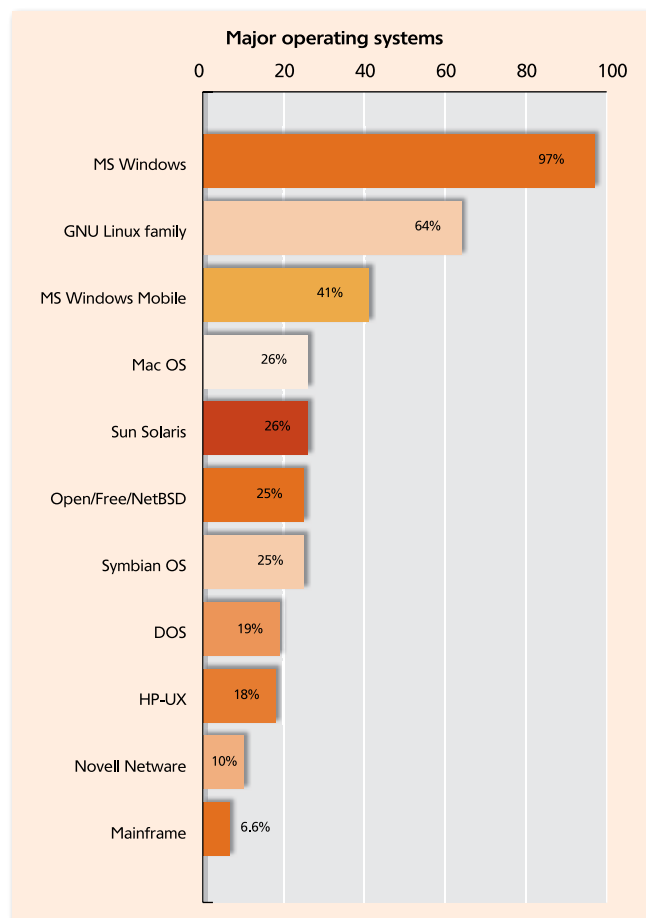
Out of 11 operating systems (or their families) included in the questionnaire, only 5 have shown significant changes in the frequency of records. For the second consecutive Symbian OS used in smartphones and communicators is becoming more widespread. In 2006, the growth was from 15% to 20% against year-on-year. Last year it increased by 5% more achieving the level of 25%. Based on conclusions of experts, this trend is connected both with a growing popularity of locating software development in Russia and the growth of Russian market of smartphones and communicators. Due to these two reasons the orders on development of software for mobile phones are more frequently placed in Russia. Unfortunately, in the vast majority of cases these projects do not involve system programming and are primarily aimed at software localization.

It may be also assumed that the growth of records for Symbian OS may be associated with attempts of respondents to claim their increasing competences viewing the acquisition of rights to this operating system by Nokia. Anyway, the integration of Symbian and the Nokia's product line will add to its popularity and would allow to regulate the use of different versions of this system.

Fewer records were registered for Sun Solaris and Open/Free/NetBSD (by 4% and 8% respectively) which are both open source software. Experts think that their days are gone. At the same time, the index of shareware family of operating systems GNU Linux increased by 8%. They are very popular among developers owing to their design features.

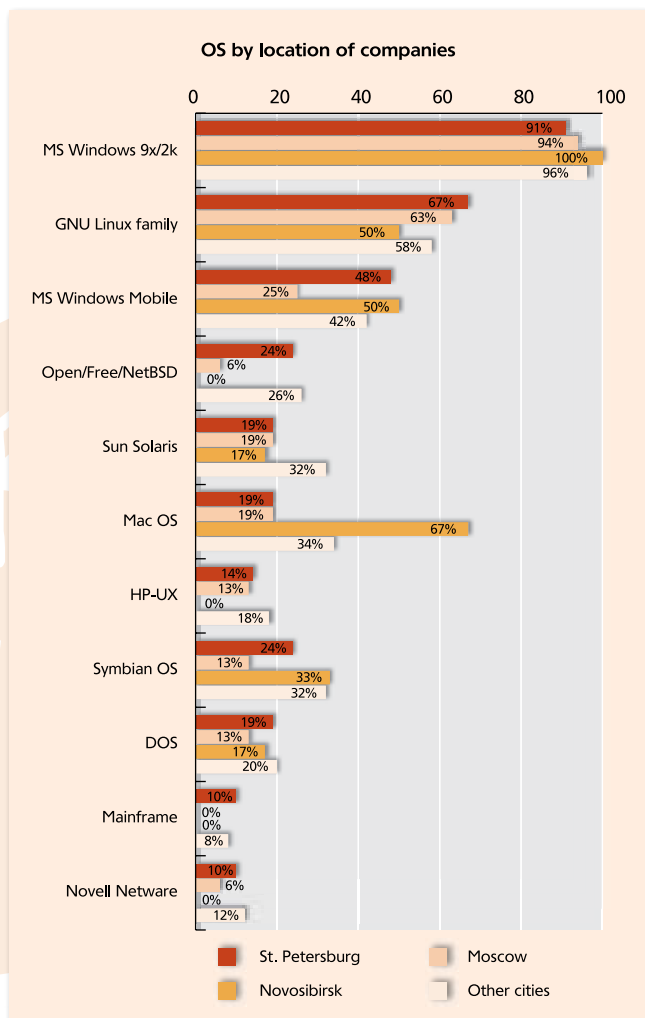
These fluctuations allow to assume the existence of a certain dynamic equilibrium in the use of proprietary operating systems and open source systems. In 2006, a more obvious decrease of the share of open source systems was observed instead of the previous 2 years' growth. In 2007, forecasts of experts that the problems with promotion of Vista will stimulate interest to open source operating systems have not proved out yet. At the same time, it may be noted that the mentioning of the operating system HP-UX (proprietary version of the operating system UNIX of Hewlett-Packard) decreased by 4%, and it seems that the loss of these 4% results from the growth of Linux popularity.

Looking at differences in this index among leading cities – centers of software production – there are registered deviations from average, which



as a rule reflects local specialization in software development. MS Windows is less frequently recorded in St. Petersburg, where GNU Linux, Mainframe и MS Windows Mobile are mentioned more often than in all other cities. In terms of using OS for mobile devices Moscow is an outsider leaving all other cities far behind. From our previous polls we learnt that projects involving software development for mobile phones keep away from the capital, the main reason being higher labor cost in Moscow. Mobile phone developments may come to the capital only provided the outsourcing of complicated key technologies. In any case ordinary applications are and will be developed mainly outside Moscow.

Even if the representation of Novosibirsk is low, however, it may be noted that popularity of Mac OS is much higher there than the average Russian index. In the category "Other cities", where Novosibirsk may be classed with in most cases, the biggest number of records is shown by the following OS: Novell Netware, Symbian OS, HP-UX, Mac OS, Sun Solaris, Open/Free/NetBSD, MS Windows 9x/2k, DOS. In other words, all the above operating systems are widely used. Such a wide range of operating systems is attributable to the fact that this category of our survey includes much more respondents than Moscow and St. Petersburg.

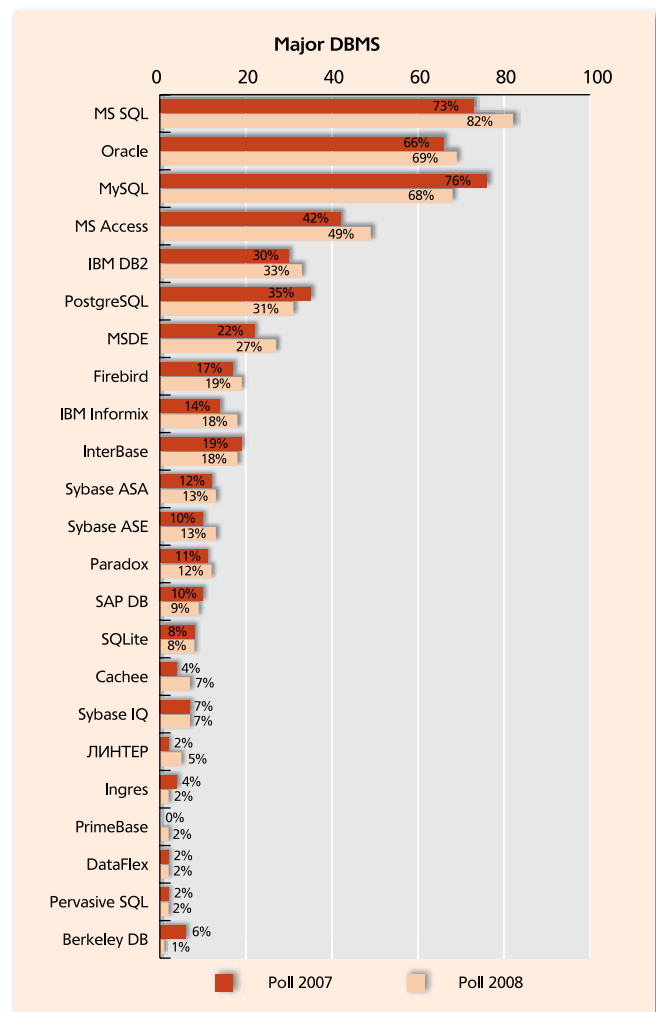


These deviations were observed in the previous survey as well. However, some changes have also taken place. Systems Sun Solaris, Mac OS, HP-UX have become much popular in the regions. It may be connected with the outflow of system software projects from Moscow to the regions where expenses are lower. A number of records for HP-UX and Mainframe have significantly decreased in Moscow companies. As far as Mainframe is concerned it may be assumed that the majority of relevant specialists in Moscow switched to the IBM research center.

## DBMS

A number of records for MS SQL increased almost by 10% year-on-year, this DBMS again heading the list after last year it was second to MySQL. In its turn MySQL lost 8%. Perhaps, such movement coupled with a respective change in indicators of both DBMS is associated with a certain general loss of popularity of open source due to a more and more wide practice of a number of leading manufacturers of proprietary software to open their codes for major state customers.

DBMS Oracle kept on increasing its indicator, even just by 3%, which was still enough to become the second most popular database management system after MS SQL. However, the difference between Oracle and MySQL is quite symbolic. DBMS Oracle managed to



become more popular among the smallest companies (turnover up to USD 500,000) despite its image of a powerful and expensive DB. Last year its popularity grew mainly owing to middle companies.

Positions of another Microsoft solution MS Access also strengthened (by 7%). MS Access and MS SQL grew among smaller companies. The growth of records for DBMS MSDE, Sybase ASE, IBM DB2, IBM Informix, Cachee, LINTER is a bit higher (or at the level) than the inaccuracy limit. About the same decline is observed for PostgreSQL and Berkeley DB.

Sybase, SAP, IBM are more popular among larger companies as a year before. In contrast to Oracle they have not become more available to small business. At the same time, "free" Firebird is rarely used by large companies with the turnover over 4 MUSD.

The smaller the turnover, the more often MySQL is preferred. Such a clear dependence was not observed a year before. Probably, it is a consequence of anti-piracy campaign. It became risky for small companies to use expensive OS or DBMS illegally. They can not always afford to acquire licenses preferring to use free MySQL.

## PROGRAMMING TOOLS

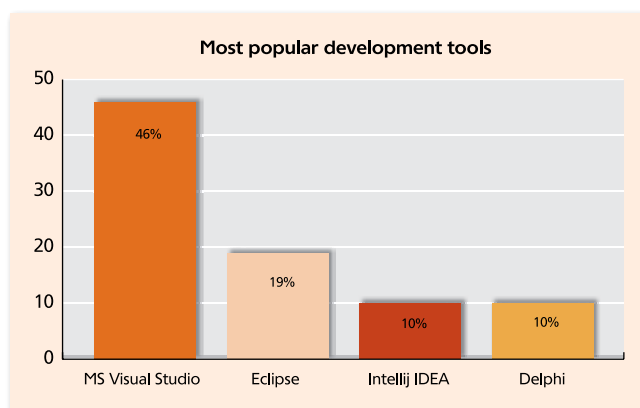
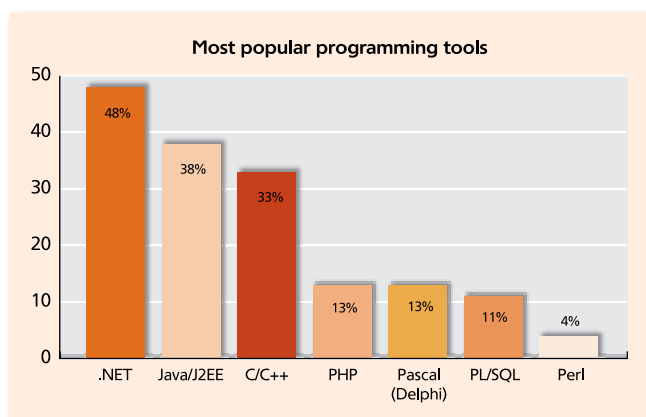
As before, the first three most popular programming tools are C/C++, Java and .NET (C#, VB.NET, ASP.NET). However, C/C++ popularity continues to reduce. Today

Java and .NET have forced it out of the first place occupied in the last two years. In experts' opinion, no big wonder that popularity of C and C++ declined. Programming language C is traditionally used in the system field, and C++ when it is required to write wrappers and modifications of libraries. Currently, due to the growing complexity of applications the shifting to platforms with more complex programming tools is underway, since their use makes it possible to significantly speed-up the process of software development. In this regard Java (J2EE) and .NET platform open opportunities greatly exceeding those of C and C++.

In fact, last year the three leaders had identical indices. This year .NET is an undisputable leader.

PHP retains the position of the most popular programming language of web-applications with the mainly unchanged indicator. Its frequency records are practically the same. Pascal enjoys the same stable indicator (Delphi). In comparison with the previous poll the indicator of PL/SQL increased significantly (from less than 5% to 11%), which is probably a result of Oracle strengthening its positions in its segment of the world market.

Indicators of 3 out of 4 of the most popular development tools remained the same as last year adjusted for inaccuracy. Only the number of records for IntelliJ IDEA reduced from 14% to 10%. Developers got into using its free alternative Eclipse.



## CHAPTER 8. QUALITY MANAGEMENT SYSTEMS CERTIFICATION

Based on the results of the poll, the number of companies having quality management systems complying with one of the international standards (ISO or CMM/CMMI) remained almost unchanged for the passed year. A decreased proportion of such companies by 1.5% (from 28% to 26.5%) can be explained by the increased sample (by 12%) of respondents against year-on-year. First, the sampling grew through involvement of smaller and middle companies which previously did not participate in the survey. These companies are less capable to undertake expensive certification procedure. Generally, from 2006 to 2007 the percentage of certified companies among all respondents significantly grew (from 18% to 28%).



8.4% of companies have the CMM/CMMI compliance certificate (last year 10%), and ISO – 25% of companies (last year 27%). These figures allow to admit that those companies which could afford passing the expensive certification procedure (primarily in compliance with CMMI) had already obtained a certificate before 2007. In the last year financial resources improved primarily in larger companies which had already obtained a compliance certificate ISO or CMM/CMMI.

Among the remaining companies a third or more planned to go through certification, mostly in 2007. However, the majority had to give up these plans. It is likely that small companies even have not tried to pass certification because were busy solving other issues (first of all trying to retain their staff). Moreover, a part of these companies re-oriented towards development of their own products making the availability of a certificate less important since developers of replicated solutions have different key success factors, and namely marketing, time-to-market and the quality of the product itself.

Nevertheless, the share of small and middle companies which are going to obtain a compliance certificate to one or another standard in the next 2 years remains almost unchanged. 27% of managers

of companies with the turnover up to 0.5 MUSD hope that hard times will pass and they will be able to get the compliance certificate with ISO or CMM/CMMI. The number of such optimists is bigger (35%) among companies with turnover from 0.5 MUSD to 4 MUSD

It is worth noting that managers of the majority of small and middle companies poorly understand what CMMI implies and what efforts should be made to go through certification procedure successfully. They are a little bit better informed about ISO, which is still insufficient to adequately evaluate their chances. Thus, their plans on certification as a rule are overestimated right from the start.

Among larger enterprises there are only a few companies (less than 15%) which still don't have a compliance certificate with ISO or CMM/CMMI, but need it. The leaders in customized software development already for a long time can boast at least one certificate or even more. As a rule, their plans are aimed at the next level of maturity. For example, in February 2008 Luxoft confirmed its compliance with the model CMMI-DEV version 1.2 becoming the first European company meeting the superior level of maturity in compliance with the latest version of the model.

The obtained results testify that the major part of companies (including middle companies) that required certification have already passed this procedure. However, comparing different sources in the previous poll it was discovered that actually no more than 10% of market players had any certificate. That is far less than is demonstrated by the polls in the last two years (26.5% this year and 28% last year). These differences are explained by the fact that the companies which have gone through certification participate in the survey more willingly. First and foremost the inconsistency between the sampling and the general totality concerns smaller companies. As for larger companies, data adequacy is close to 100%.

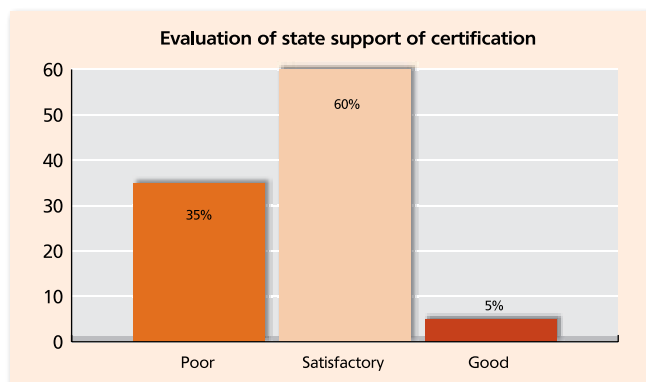
Thus, among companies with the turnover from 0.5 MUSD to 4 MUSD that were not included in the survey, obviously there are much more companies which do not have a compliance certificate with ISO or CMM/CMMI, but wish to get it. Presumably, the share of these companies may reach 30%.

Granting certificate might provide an additional impetus for their development. However, small companies do not have sufficient resources for expensive certification procedures (especially for CMM/CMMI). Perhaps, for them it will be justified to apply for the state financial support that would fully or at least partially cover expenses on certification. Such support was given in many countries (including India).

At the same time, a lot of small service companies even with a certificate cannot compete with larger enterprises, especially on the labor market.

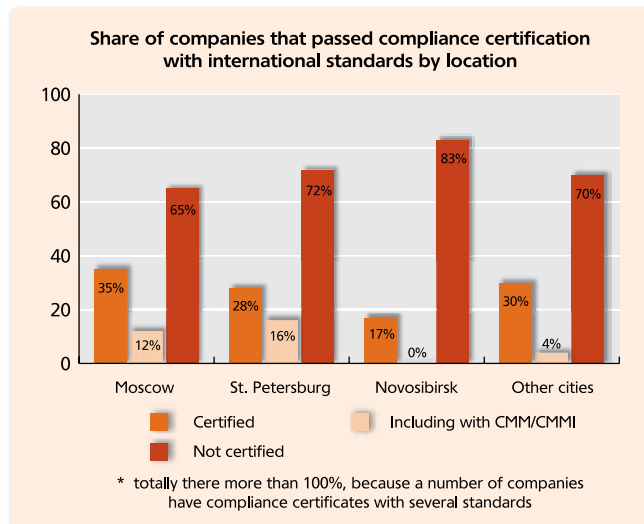
Nevertheless, the share of respondents satisfied with the state support to certification increased significantly in comparison with the previous poll: "satisfactory" evaluation was given by 60% (approximately 30% more year-on-year). The experts of Russee Consulting and TEKAMA consider the change in evaluation might be triggered by the state program initiated by the RF Ministry of Economic Development and Trade. The program involved state support to high technology companies who wished to go through ISO compliance certification. Later on similar support was also provided by several regional administrations. As a matter of fact, money from regional budgets was allocated only for ISO certification.

Granting of the appropriate certificate is an additional advantage in competition for exporters of software development services, but this industry has a more suitable specialized standard CMM/CMMI that was created and used mainly in the USA – the biggest software services market. The standard ISO 9000/2000 is a general-purposed and is employed mostly in Europe. To date the Russian government has not planned lending assistance to service companies in certification with the CMM/CMMI standard in spite of repeated proposals by RUSSOFT. According to Russee Consulting and TEKAMA, in the foreseeable future the attitude of officials towards this standard is unlikely to change.



The issue of state support of certification concerns not only the software development industry, it should be solved in the context of the overall situation in other high-tech sectors of the Russian economy. Yet it should be pointed out that by amount of obtained certificates of compliance with ISO Russia is far behind even Eastern European countries with much less population and number of companies.

The sampling of opinions about certification is quite specific, i.e. among the participants of the poll there are much more certified companies than in the general totality. In extrapolating the answers of the questionnaire to the entire general totality this fact should be kept in mind and data from tables reflecting the situation in different cities should be interpreted with.



At the same time, these data accurately reflect the maturity level within the industry (that is the relationship between large and middle service companies to the total amount of exporting companies in different cities and regions), because major and middle service companies require certification the most.

As shown, the highest concentration of these companies is in Moscow, which reflects both the role of Moscow as location of headquarters of a number of leading Russian service companies and the share of export of Moscow companies in the total volume of Russian software exports.

Due to their remoteness from world markets Novosibirsk companies are historically focused more on the product business model. All other regions including St. Petersburg have approximately similar concentration of large and middle service companies. Instead the companies from St. Petersburg differ from "other cities" by the level of CMM/CMMI certification, which distinguishes their level of maturity and turnover (16% against 4%).



## CONCLUSIONS

In the opinion of software development market players, the image of Russia has significantly improved in recent years, largely owing to the efforts of leading Russian companies and their unions. Russian software industry is more often associated with the high-tech software niche, where Russian developers have more distinct advantages.

In terms of the growth rate of software and development services exports Russia excels its main competitors, but still there is a long way to go before winning the position on the software world market Russia deserves given its potential. The main issue is the aggravation of human resources problem and lack of effective state support.

Russian industry leaders (about 10-12 companies) have occupied proper leading positions in Central and Eastern Europe, successfully compete on the global market with the best providers from the USA, Europe, India and China and involve resources from Russia, Eastern Europe and South-East Asia. A number of middle companies successfully develop vertical industry or horizontal technology niches.

The share of products and ready-made solutions in total export revenues is increasing due to the reduction of this indicator for the world development centers operating in Russia. The promotion of products' abroad gives hope that high export growth would maintain.

The US mortgage crisis and the following global financial crisis are causing the reduction of IT costs in the world, which inevitably leads to the growth of competition. The situation on the global market is becoming increasingly complicated (the reduction of growth rate), but is still favorable for Russian exports (primarily through specialization in the field of high-tech software).

The adverse market conditions and the growth of the Russian economy force Russian software exporters to re-orient to the internal and CIS markets. There is a decrease in the role of the US market in the context of a certain market growth in Europe. However, almost all major outsourcing Russian companies that successfully cooperate with US partners are not planning to leave the US market and hope to maintain their sales.

The process of consolidation in the field of customized software development still continues, but its limitations are already seen. In the near future the major outsourcing companies would be able to keep their high growth rate only opening new development centers far abroad and strengthening their sales centers on the most important and promising markets.

Last year the business environment for software developers in Russia has slightly deteriorated or remained unchanged by the majority of parameters. The only exception is the intellectual property rights protection, where market players register significant improvements.

The vast majority of respondents are unsatisfied with the state support of the industry. The major companies are far less displeased with current business conditions. The worst evaluations of the level of state support are given by middle companies with the turnover from 0.5 MUSD to 4 MUSD.

Small companies are facing serious difficulties. Some of them disappear losing their staff that moves to large companies and former customers, some specialize in a specific technical field, and the majority shifts to the product model and re-orient to the Russian market. Due to instability in the lower part of the pyramid there emerge a lot of new businesses.

The labor migration from the regions to Moscow and St. Petersburg has not stopped, but considerably dropped in scale. There is a continued growth of qualified labor migration to Russia from the CIS.

Metropolitan companies are aimed at opening their own development centers in the regions and abroad.

The situation on the labor market is gradually aggravating. However, this downward trend is also observed on the markets of other countries. The lack of specialists is a worldwide problem.

Programmer salaries grew faster in the cities where they were previously lower. The salary growth in the capitals has slowed down. Evidently, the salary level has reached its maximum beyond which business becomes unprofitable. In the near future it is expected that there would establish stable salary levels proportional to living costs in different regions. The Russian labor market is becoming uniform.

The staff turnover indicator has even more reduced for the major companies and soared for the smallest companies against year-on-year. The shortage of staff decreased for certain professions (especially, test engineers). The most wanted are developers trained in C #, Java и C/C++ languages.

The number of companies certified for compliance with one of the international standards (ISO or CMM/CMMI) remained practically unchanged. All leading service providers have passed certification.

The uncertainty of prospects of many middle and small companies does not allow to determine whether they need to undertake expensive certification or not.

## THANKS TO THE PARTICIPANTS OF THE SURVEY

1C-Bitrix .....	www.1c-bitrix.ru	Info Industries Group JSC ...	www.iig.ru
A1QA.....	www.a1qa.com	Intelligence-Soft, ltd .....	www.intsoft.spb.ru
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## RUSSOFT Association

RUSSOFT Association ([www.russoft.org](http://www.russoft.org)) is the nation wide association of the most technically competent software developing companies from Russia and Byelorussia. By joining forces under the leadership of RUSSOFT we are able to provide costumers with a range of comprehensive solutions and IT services.

The head-quarters of RUSSOFT is located in Saint-Petersburg, Russia. Today we unite more than 70 companies with over 14000 of highly qualified programmers and software engineers with advanced graduate level degrees in Technology & Computer Science. RUSSOFT cooperates with the leading Universities which form the unique human potential of Russia. RUSSOFT is the long-term sponsor of Russian Universities' teams who are regularly winning the ACM International Collegiate Programming Contests.

We maintain the highest level of international standards, professional training and quality control, whereas our companies are the absolute leaders by CMMI/ISO certification in Europe. Their capabilities have been proven by long term customer relationships and partnerships with such companies as IBM, Boeing, SAP, Procter&Gamble, Deutsche Bank, CSC and many others.

RUSSOFT members are able to provide sophisticated solutions and to implement various software projects, from small ones to those consisting of several hundred person-years. We may work either on site or offshore, for hourly wage or on fixed price contracts. The important thing today is that Russia offers substantial benefits in cost of software development coupled with outstanding capability to solve R&D complicated technological tasks.

RUSSOFT Association is the voice of the industry and an active lobbyist of its interests in the Russian Government. We are struggling for better tax and customs legislation for the IT sector, for a system of IT-parks all over Russia and for attracting the State support to the international IT events.

We generate lots of marketing and PR activities in Russia and abroad, in the major destinations of the Russian speaking IT industry – the USA, Europe and Far East. Among the brilliant examples there are participation at CeBIT (2001-2008), Comdex Scandinavia (2001-2002), road-shows to the USA (2002-2005), Germany and Scandinavia (2000-2007), Russian Outsourcing and Software Summit (2001-2008), Russian CIO Summit (2003-2008) and many others.

As the major Association of software developing companies, RUSSOFT provides the most accurate and up-to-date information about Russian software market. We regularly organize market studies – in solo or in collaboration with prominent Russian and international partners (e.g. CNews, IFC). RUSSOFT maintains the largest database of software developing companies in Russia (Vendors Directory) and serves as the most reliable source of information for the whole business community.

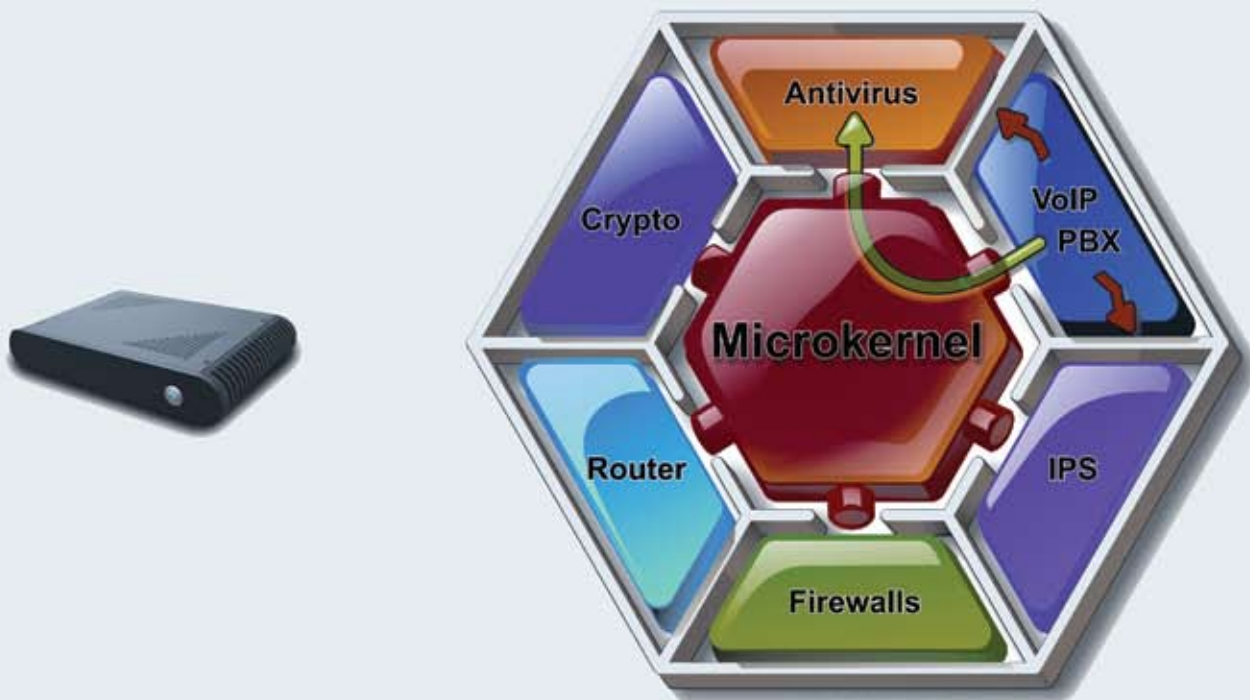
RUSSOFT is a part of the Russian Information and Computer Industry Association (APKIT) where we play the role of Software Development and Export Committee. Being a part of APKIT enhances our abilities to lobby the Government to support the IT industry.

## Key scopes:

Virtualization  
Trusted Software  
Open BIOS  
Microkernel OS

Cryptography  
Intrusion Prevention Systems  
Voice over IP  
WebSphere Enterprise Software

## INFORMATION SECURITY SYSTEM ALTELL NEO





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