Innovation in Russian SMEs

Growth under Transition

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Small and Medium Business in Russia

During the last 10 years Russian small and medium enterprises (SMEs) have been showing a significant growth, not least due to energetic support provided by federal and regional authorities. Legal initiatives aimed at supporting SMEs include the Federal Law No. 209-FZ — ‘On Development of Small and Medium-size Entrepreneurship in the Russian Federation’ (GRF 2007) — which is the cornerstone legal document in the SME sphere.

The state pays particular attention to developing SMEs in the Science and Technology (S&T) sector. The framework for providing financial support to entrepreneurs at all stages of high-tech businesses’ life cycle is generally in place. Its major components include: (a) Russian Foundation for Technological Development (RFTR), which has been recently revived after years of being frozen; (b) Foundation for Assistance to Small Innovative Enterprises; (c) Russian Venture Company (RVC); (d) Russian Corporation of Nanotechnologies (Rusnano); (e) regional venture funds; and (f) the National ‘Program of Support and Development of Small and Medium Enterprises’.

These policy tools envisage direct financial support. But two initiatives by the Government Commission on High Technology and Innovation, launched in 2010, envisage indirect measures with respect to innovation at SMEs. The first of them enforces 47 largest Russian state-owned companies to develop their own Programs of
Innovation Development (PIDs), which — due to the issues stated in government recommendations — should include building linkages with innovative SMEs as one its key components. The second one is creation of a number of national technology platforms (TPs) that should be aimed at bringing together stakeholders (including SMEs) in most promising technological areas in order to bridge the gap between science and industry.

Leading Russian higher-education institutions also provide support to SMEs via, for example, a system of industrial parks (about 85 throughout the country) and business incubators and technological innovation centres (about 40 nationwide). Development of these forms of higher education institutions’ participation in creation of SME enterprises is encouraged by the Russian government. In particular, in 1998, an interdepartmental programme to speed up technological innovation in Russia for 1998–2000 was approved (subsequently extended), and in 2006 the Russian Federation government approved a national programme called ‘Creation of High-Technology Industrial Parks in the Russian Federation’. The latest initiative in this respect is a federal law that allows creation of small enterprises by public research institutes and universities in order to implement in practice the intellectual properties resulting from S&T activities (GRF 2009).

The co-ordinated support provided by the government to SMEs has brought significant results. In 2009, the number of SMEs in Russia exceeded 4 million — about 97 per cent of the total number of enterprises in the country. However, despite the significant increase in the number of SMEs, the role they play in the economy is still rather limited. In particular, between 2005 and 2007, SMEs’ turnover remained around half of the total of all Russian enterprises and organisations. Russia is yet to complete the process of downsizing huge conglomerates inherited from the Union of Soviet Socialist Republics (USSR) era, including de-monopolisation of the so called ‘natural monopolies’ and privatisation of large state-owned enterprises.

**SMES and Innovation System**

*Definition of small and medium business*

The small and medium business sector is defined in accordance with international statistical practices; it includes companies (legal entities)
and individuals (private entrepreneurs who didn’t register a company). The sector’s legal entities are subdivided into small enterprises (SEs) and medium-size enterprises (MEs); classification criteria are defined in the Federal Law of 24 July 2007 (GRF 2007). Article 4 of this law defines the categories of small and medium businesses. These cover consumer co-operatives and commercial organisations (except state-owned and municipal unitary enterprises) included in the unified national register of legal entities; physical persons included in the unified national register of individual entrepreneurs conducting their business without creating companies (hereafter referred to as individual entrepreneurs); and farms.

SMEs should meet the following criteria:

(a) for legal entities: total share in their chartered capital owned by the Russian Federation, Russian regions, municipalities, foreign legal entities, foreign citizens, public and religious organisations (associations), charity and other foundations must not exceed 25 per cent; shares owned by legal entity(s), which is not a small or medium company, must not exceed 25 per cent.

(b) average work-force in the previous calendar year must be no higher than the following limits for each category of SMEs:

(i) 101–250 employees for MEs, inclusive;
(ii) up to 100 employees for SEs, inclusive; among them micro-enterprises (up to 15 employees) constitute a separate group.

(c) revenues from sales of goods (services) excluding Value Added Tax (VAT), or the book value of assets (depreciated values of capital and intangible assets) for the previous calendar year must not exceed limits set by the government for each category of SMEs (as stated in the government regulation of 22 July 2008 (No. 556, ‘On Threshold Amounts of Revenues from Sales of Goods [Services] for Each Category of Small and Medium Businesses’)). The following threshold values for revenues received during the previous year have been set, excluding VAT: for SEs 400 million roubles (about US$ 27.8 million); for MEs: 1,000 million roubles (about US$ 70 million).
Each small- or medium-size company is placed in the relevant category according to the larger value of the criteria defined in (b) and (c) previously. For the purposes of this study, enterprises employing between 250 and 500 people will be classified as MEs.

The role of SMEs in the Russian economy

SMEs are making a significant contribution to the Russian economy. Since its conception in Russia in the mid-1980s, SMEs have been steadily increasing production volume and employment, and by now have become the backbone of the national economy. In the last 20 years the institutional framework for development of SMEs was put together in the country; it includes the following components: (a) basic legislation, most notably the Federal Law No. 209-FZ (GRF 2007), and the Russian Federation (RF) Tax Code which establishes simplified taxation procedures for individual entrepreneurs and SEs; (b) an elaborate system for providing financial support to SMEs at all stages of their operations; (c) the higher education system now has a component specialising in training staff specifically for SMEs; (d) a mechanism for regulating the intellectual property issues including its creation, distribution and use is in place, and being further developed.

Despite important limitations — including an immature system for providing loans to SMEs, which has become even less available in the face of the global financial crisis and inefficient mechanisms for promotion and support of horizontal links — SMEs are enthusiastic about their prospects in Russia.

Statistics Characterising SMEs’ Role in the Economy

The total number of SMEs in Russia is over 4 million, which comprises 93.5 per cent of all enterprises and organisations in the country (if we consider all enterprises and organisations with work-force under 250 as SME), and about 97 per cent if also count the companies employing up to 500 people. In 2007, particularly, there were about 1.1374 million SEs, about 3.0762 million MEs employing up to 250 people, about 157,700 MEs employing between 250 and 500 people, and only 135,100 enterprises employing more than 500 people (OPORA 2008; Rosstat 2010). Between 2005 and 2007, the total number of Russian SEs...
was growing, but at the rate of no higher than 10.2 per cent a year. On the other hand, the number of MEs in 2007 decreased as compared to 2005.

As mentioned here, between 2005 and 2007 the share of SMEs in the total turnover of all Russian enterprises and organisations was steadily about 50 per cent. The share for SEs reached 26.4 per cent, for MEs employing up to 250 people 17.2 per cent, and 7.5 per cent for MEs employing between 250 and 500 people. In absolute terms, in 2007, SEs received about US$ 1,316 billion, MEs employing up to 250 people about US$ 871 billion, MEs employing between 250 and 500 people about US$ 381 billion, and enterprises employing more than 500 people about US$ 2,519 billion (ibid.).

The average SME work-force has also grown during recent years. Growth was achieved through increased number of staff at SMEs employing between 250 and 500, while the number of workers at MEs employing up to 250 have decreased between 2005 and 2007. In absolute terms, the average work-force of SEs numbered about 8.045 million in 2005, about 8.582 million in 2006, about 9.239 million in 2007; average work-force of MEs employing up to 250 people numbered about 23,347 people in 2005, about 22,988 in 2006, and about 22,729 in 2007; average work-force of MEs employing between 250 and 500 people numbered about 8,349 people in 2005, about 8,396 in 2006, and about 8,502 in 2007. The average work-force of the enterprises employing more than 500 people numbered about 27,050 people in 2005, about 27,205 in 2006, and about 27,547 in 2007. The total national employment during that period had increased, and since the number of people working at large enterprises remained practically unchanged the overall growth was achieved through increased work-force at SMEs employing between 250 and 500 people (ibid.).

**History and Prospects of Russian SMEs**

Modern Russian businesses have grown out of the co-operative movement of 1985–91 that flourished in the USSR. On 2 April 1991, the law ‘On General Principles of Entrepreneurial Activities of the USSR Citizens’ was adopted, which established basic provisions for entrepreneurship in the USSR and rights and responsibilities of economic actors, guaranteed government support to entrepreneurs, and regulated their relationship with public authorities.

Development of small businesses in Russia was closely related with the overall economic and political trends. The first years (1985–87)
were characterised by the emergence of S&T development centres, ‘temporary creative workgroups’ founded by public associations, teams of contractors. Participants of entrepreneurial activities were few; the whole thing was seen as an experiment. The social and psychological basis for private business and entrepreneurship was gradually emerging.

Later on, in 1987–88, the scale of entrepreneurship was rapidly growing; many people felt free to work for their own prosperity and created a lot of new co-operatives and companies, although many of the companies were liquidated within a short time. The declared objective of providing government support to small business was to meet the internal market’s demand for consumer goods. However, that did not occur — mostly due to insufficient financial resources and immature infrastructure.

In 1989–90, the first legislation was passed to encourage development of small enterprises. This has been achieved to an extent: people’s business interests became much more diverse, new organisational forms of entrepreneurship emerged, leasing and renting became increasingly popular. Preparation for the so-called ‘small-scale privatisation’ was underway. That was when private entrepreneurship was legitimised.

One of the more important phenomena of that period was the emergence of leasing and renting, encouraged by switching all state-owned enterprises and production associations to self-financing and profit-and-loss mode of operations. Privatisation had turned public property into privately-owned assets, de-monopolising them in the process. It created the necessary basis for real transition to a market economy, and a prospect to increase efficiency of the Russian economy.

In 1991–92, the key trends in the Russian economy were commercialisation and emergence of medium and large business. Many laws have been passed, opening opportunities for major development of entrepreneurship. During these years a market infrastructure emerged; business skills and solutions became more elaborate; commercial structures, agents and all kinds of sellers started to merge, grow and get stronger; the oligarchy appeared, along with more advanced financial institutions such as banks and exchanges. Unfortunately, the state was unable to support competition by creating a favourable environment and offering preferential terms to SMEs — which in its turn displayed a weakness for ‘parasitism’, i.e., inclination towards pure brokerage, buying-and-selling activities. Everything was left to
the natural flow of things: survival of the fittest. It looked like implicit encouragement of centralisation and strengthening of entrepreneurs’ positions, which on the one hand contributed to the deterioration of the market’s psychological climate due to negative public perception of entrepreneurs (as people busily ‘lining their own pockets’), while on the other making the whole situation much more criminalised.

The years 1993–94 mark the beginning of full-fledged large-scale privatisation and development of all kinds of entrepreneurship. For the first time ever venture firms appeared. The age structure of entrepreneurs had stabilised, as opposed to earlier years when many people tried to establish their own businesses — often just to try their luck; at that stage young and middle-aged people comprised the majority in the age structure of entrepreneurs. ‘Niches’ for entrepreneurs of different ages also emerged: the older ones mostly dealt with franchising, chains, local monopolies, whereas the younger ones engaged in more traditional mass production or flexible market-oriented businesses.

After the initial fast growth the potential of super-profitable brokerage and agency activities was practically exhausted, so in 1995–98 many of the small businesses ceased to exist. The trend towards concentration and centralisation of capital was emerging in the economy; the first takeovers took place. At the current stage of small business development one can see its historical roots. Creation of mixed economy, entrepreneurial environment and small business development have a lot in common in terms of basic criteria, starting from basics of property ownership to principles of organisation, functioning and management in a market economy.

SMEs’ history in Russia is over 20 years old now. At the All-Russian Forum — ‘Small and Medium Business as the Foundation for Russia’s Socio-Economic Development in the 21st Century’ — which took place on 26 May 2008, the participants, mostly representing SMEs (58 per cent), were polled (RASMBS 2011). The respondents’ average experience in SMEs was about 10 years. Some of the survey results are presented in the Table 3A.

Most of the respondents were negative about the ultimate results of small business development during the previous years. The same is true about the current situation and the factors affecting the development of SMEs. However, the respondents were still optimistic about the future: in particular they believed that in the next few years the contribution of SMEs to the economy would grow, as would their competitiveness and scale of operations.
The Role of SMEs in the High-Tech Sector of the Economy

SMEs play an important role in research and development (R&D) and innovation in Russia. Among all enterprises engaged in R&D in Russia, some 90 per cent are SMEs. Compared to 2001, the number of SEs engaged in R&D in 2007 did not increase significantly, while the number of such MEs had slightly decreased; in the middle of this period there was a drop in the number of both SEs and MEs conducting R&D (Figure 3.1).

**Figure 3.1: Organisations Engaged in R&D**

Among innovative organisations, large enterprises had the biggest share in recent years (2006, 2007) and their number remained practically unchanged; at the same time, the number of other enterprises
engaged in innovation activities grew, particularly that of companies employing: (a) 50–99 people, (b) 100–199, (c) 200–249, and (d) 250–499 people. The only group of enterprises that demonstrated a reduction of innovation activity were those employing less than 49 people (see Figure 3.2).

**Figure 3.2: Organisations Engaged in Innovation Activities**

Number of Organisations

![Diagram showing the number of organisations engaged in innovation activities by the number of employees in 2006 and 2007.](source: HSE (2010b).

The amount of innovative goods and services (according to statistical definitions, innovative goods and services are the results of innovation activities aimed to be sold in the market) produced by industrial enterprises increased during 2004–07; the biggest growth (compared to 2004) was achieved by companies employing up to 49 people, while other groups of enterprises demonstrated mixed and volatile results (see Figure 3.3).
Exports of innovative goods outside the Russian territory by industrial companies employing up to 499 people, after getting seeing a decrease in 2005, had grown in 2006. However, in comparison with 2004, an overall reduction took place. It was caused by decreased exports by companies employing (a) up to 49 people, (b) 50–99 people, and (c) 200–499 people, while enterprises that employed 100–199 staff have reduced their export (see Figure 3.4).

Internal R&D expenditures in 2003–007 declined for enterprises employing between 100–499 people, while staying the same for those employing up to 100 people; it is important to note that total expenditures declined (according to Rosstat data) (Figure 3.5).

Innovation expenditures showed almost the same trend: in three of the five enterprise groups this indicator has dropped, the exceptions being companies employing (a) 50–99 people and (b) 100–199 people (see Figure 3.6).
Figure 3.4: Export of Innovative Goods and Services Produced by Industrial Enterprises Outside the Russian Federation (in US$ million)

Source: HSE (2010b).

Figure 3.5: Internal R&D Expenditures (in US$ million)

Source: HSE (2010a).
An important indicator of innovation activities for SMEs is their involvement in joint R&D projects. Such projects could be initiated by any kind of client, including SME itself, a research institution or university, as well as by a bigger company or government agency. Funding could also be provided from different sources, e.g., from budget funds, government programmes, etc. There can be also various types and goals of the projects — from incremental R&D-based innovation to developing a brand new product. The important point is that R&D projects should be implemented in collaboration with an SME and research teams from elsewhere. The number of joint R&D projects increased in 2006, as compared to 2004, after a significant drop in two enterprise groups in 2005: employing (a) up to 49 people and (b) 100–199 people. At the same time, the number of enterprises engaged in joint R&D projects was much lower than the number of projects they implemented; indicating that one enterprise on an average participated in more than one R&D project. Unlike the
number of joint R&D projects, the number of participating organisations had been steadily growing through 2004–06. These figures are in congruence with the findings of previous studies in which a strong positive relationship between firm size and collaboration in all economic sectors was explored. In particular, it was found that larger firms often function as nodes in interactive networks; they also tend to use networking more for screening potential sources of knowledge, experimenting with different partners, and monitoring activity in existing networks (Hagedoorn and Duysters 2000). In a study of collaborative R&D induced by the European Union (EU) framework programme, the Focus Group on Innovative Networks demonstrated that the majority of large firms were technology- or learning-oriented in their collaborative behaviour (Luukkonen 2001), while SMEs were typically more market-oriented (Torbett 2001).

Another key indicator for SMEs is related to technology transfer. It covers acquisition and sales of S&T knowledge and know-how with respect to provision of S&T services, applying technological processes, production of goods both with and without formal contracts. The number of organisations that acquired new technologies was growing in all enterprise groups, except in 2005 when there was a reduction for companies employing up to 49 people.

The number of companies selling new technologies elsewhere was significantly lower than those that purchased technologies (buyers). This indicates that transferring promising technologies to the SME sector for subsequent development and commercialisation is much more popular in Russia than developing new technologies at SME for subsequent transfer and ‘replication’ at large enterprises.

The role of higher education institutions and state-owned research institutes in creation of new SMEs

The mainline organisational mechanisms that enable higher education institutions and state-owned R&D institutes to participate in SMEs include industrial parks, business incubators and technological innovation centres. According to some estimates there are about 75 university industrial parks and approximately 40 technological innovation centres in Russia.
An important tool to support development of university industrial parks is the Inter-Institute Science and Technology Programme, ‘University Industrial Parks and Innovation’, implemented by the RF Ministry of Education and Science. It has the following objectives: 

(a) support university industrial parks’ technological innovation projects and their small innovation enterprises;  
(b) provide research and methodological support for training and retraining personnel for industrial parks and their small innovative enterprises;  
(c) provide research and methodological support for international activities of university industrial parks;  
(d) provide research and methodological support for existing and new university industrial parks’ organisational, informational and analytical activities.

A promising area for higher education institutes’ (HEIs’) increased participation in creation of new SMEs is Inter-Institute Entrepreneurial Complexes that pool together HEIs’ resources to deal with various regional problems, staff training, development of infrastructure to support start-up entrepreneurs, and increase international standing and visibility of HEIs and relevant cities/regions.6

Another promising tool is a combined university technical park (Shukshunov 2009). Such parks are created jointly by several interested HEIs in the same city (region). When a new park is registered as a legal entity, its shareholders get shares of the park profits and revenues generated by the park’s tenant companies. Entrepreneurs and inventors get access to certain physical assets — premises, research, laboratories, and production equipment. HEIs’ R&D divisions may be contracted by tenant entrepreneurs to perform various jobs, or the entrepreneurs may be allowed to use these divisions’ resources.

An important organisational mechanism for HEIs’ participation in SME creation and operations is technological innovation centres (TICs). Development of TIC network started in 1998 as a part of the National Inter-Departmental Programme to Speed Up Technological Innovation in Russia for 1998–2000. The goal of the programme was to create a modern national innovation system which among other things would support development of TICs as basic infrastructure elements, on the basis of various organisations actively participating in high-technology innovation activities in Russian regions. It should be noted that all TICs are linked into an integrated network on the basis of the non-profit Union of Russian Technological Innovation Centres, established on their own initiative. This provides opportunities for a flexible cooperation between TICs and innovative companies.
from various parts of the country, and allows for a start of large-scale innovative projects by pooling resources, potentials and knowledge of numerous innovative companies in various industries. To promote the network members’ exports, the union launched the Gate2RuBIN project, which on 20 March 2008 was officially approved by the European Commission as a part of the European Competitiveness and Innovation Programme (CIP). The TIC network has a serious potential for advanced R&D and innovation, including in areas like nanotechnology, biotechnology, electronics, medical technology, navigation and aerospace, etc. Also, the model of existing TICs — members of the Union — can be replicated to create new TICs to develop basic innovations into marketable products (RUITC n.d.).

** Venture capital’s role in the creation of innovative SMEs in Russia **

Venture investments are becoming increasingly important in Russia. Currently there are 74 members in the Russian Venture Capital Association. In 2007–08, there were continued efforts towards developing a support structure for innovation economy and venture industry based on business–society partnership. The most important milestones included the following (RVCA 2008):

- Increased attention of the highest echelons of the country’s government to the development of efficient national innovation systems, encouraging initiative and private business participation in switching the Russian economy to an innovation-driven growth model;
- Beginning of implementation of the Federal Goal-oriented S&T Programme for 2007–12;
- Emergence of venture funds created jointly with RVC and the second-stage tender to choose managing companies;
- New tenders held by the Ministry of Economic Development to set up regional venture funds;
- Emergence of Russian Investment Fund for Information & Communication Technologies (Rosinfocominvest) Inc.;
- Emergence of Rusnano state corporation;
- Amendments to legislation to bring it closer to international standards and practices.
The government budget is still the main source of funds for R&D and innovation activities in Russia, and each year its role as an investor is becoming even more important. One of the main funds allocation tools is the federal goal-oriented programmes. Funding of innovative enterprises and companies within the framework of the Federal Goal-oriented S&T Programme is administered by the Ministry of Education and Science, Government of Russian Federation. In 2002–06, Rosnauka implemented the first federal programme — ‘R&D in Priority S&T Areas’ — and then approved a second such programme for 2007–12. The programme offers innovative companies a chance to take part in a tender for public investment. The state may provide 90 per cent of funding for research (with the other 10 per cent coming from non-public sources); 30–50 per cent of funding for engineering development projects; and 30 per cent when it is the business’ initiative and entrepreneurs are ready to invest serious funds. Rosnauka invites professional experts to evaluate applications submitted to tender. Funding is provided in the form of state contracts to perform appropriate work. One of the indicators of the success of the projects is the amount of private funding raised. The Federal Goal-oriented S&T Programme — ‘Commercialisation of Technology’ — section’s budget for 2007–12 is about US$ 2,455 million (or about US$ 403.4 million annually, on average); 36 per cent of that amount is coming from the government budget and 64 per cent from non-public sources.

The first federal-level organisation in Russia established to finance primarily private small innovative enterprises at the ‘seed’ stage was the Foundation for Assistance to Small Innovative Enterprises, created in 1994 as a public non-commercial organisation. According to the Foundation, the companies it supported implemented more than 3,500 inventions patented in Russia and abroad, which allowed them to manufacture products for about US $ 417.3 million, paying in taxes 1.8 times more than the amount of public money they received. Their output per worker in 2008 was about US$ 104,000. Thousands of new jobs have been created. The Foundation has 29 offices in research-intensive Russian regions. The main tools for providing support to innovative companies are programmes called START (providing seed capital to finance projects), TEMP (assistance to acquire licences for new technologies and technological solutions from Russian R&D organisations) and LAUNCH (funding of innovative projects of start-up companies based on R&D results and professional support of Russian universities).
The Venture Capital Innovation Fund (VCIF) was one of the first novel agencies during the early period of Russian venture industry. Established by the RF Ministry of Science and Technology and registered in St Petersburg, the VCIF became the first tool that actually worked to provide government support to venture investors, and later on was used as a template to create other ‘funding foundations’.

RVC went through the setting-up period quite quickly and became operational, holding its first tender for managing companies as early as May 2007. The rest of the year was spent drafting up contracts with the winners, to define the sides’ obligations for the future registration procedure for trust managing rules, terms and conditions for putting together the declared venture funds. In the end, two venture funds were set up in 2007 with total assets of about US$ 515.9 million:

(a) Closed-end venture unit fund Russian Bank for Development and Foreign Economic Affairs (VTB) Venture Fund with assets of about US$ 260.6 million; and
(b) Closed-end venture unit fund Bioprocess Capital Partners with assets of about US$ 255.3 million.

By the end of 2007, RVC’s own assets grew to US$ 2,553.7 million. The established funds demonstrate highly dynamic investment activities, very much ahead of traditional venture funds.

The VTB Venture Fund’s Investments Committee analysed a pool of 14 investment projects with total investment requirements of about US$ 190.7 million — about 55 per cent of the fund’s assets (four of the projects were proposed by foreigners willing to work in Russia). It should be noted that the management company’s pace was quicker than the ones normally shown by foreign equivalents. In 2007, the fund made the first investments in five to six projects to the total amount of about US$ 48.8 million — 34 per cent of all approved budgets and 19 per cent of the fund’s total assets. VTB Venture Fund’s investment portfolio was distributed to cover priority S&T areas in the proportion of: 37 per cent for information and telecommunications systems; 25 per cent for sensible exploitation of environment and resources; 19 per cent for power generation and energy saving; 10 per cent for transportation and aerospace systems; 6 per cent for information processing, storage and protection technologies; and 3 per cent for software development — the maximum investment
being for information and telecommunications systems and sensible exploitation of environment and resources.

The Bioprocess Capital Partners is planning to invest about US$ 102.6 million in various innovative projects. In 2008, the fund was planning to consider a pool of project to invest over 49 per cent of its assets.

In 2008, the second tender to select managing companies was announced; the total amount of capital to be managed by newly created venture funds reached about US$ 625.9 million. After applications were accepted, 18 managing companies out of 20 applicants were authorised to take part in the tender. The total demand for investments during the second tender exceeded US$ 3,400.8 million. Compared with the first tender, the number of participants was 50 per cent higher and the demand for investments grew by more than 85 per cent. The experts noted that the quality of applications improved as compared to the first tender. A sharp increase of the private sector’s interest in getting into the venture industry is evident of the growing venture capital market and viability of the model based on public–private partnership. The bids were discussed by the RVC’s board of directors and the following companies were selected: ROSNO Alliance Asset Management, Maxwell Asset Management, Leader, Inc., Sever Asset Management Company, and CentrInvest Managing Company.

Currently RVC is considering setting up seed capital funds in Russia. Problems which RVC has already encountered or might face in the future include difficulties in finding private co-investors and worthy projects to invest in, as experienced by RVC-established venture funds.

Accordingly, RVC may switch from its main objective — development of a venture funding system based on public sector–private business partnership — to dealing with secondary issues and substituting private investments with public money. Speaking about the Russian model generally, establishment of national venture funds with public participation is just the first step to launching the mechanism of venture industry. Much more important is another task: building partner relationships between RVC, private venture funds and market players, speeding up the collective training, development of highly-skilled professionals’ market, and gaining world-level skills and competencies. The private sector also needs a convincing set of success stories to trigger the chain reaction of the market’s further development. Creation of such sectors is one of the major objectives of RVC.
In 2007, the Federal National Property Management Agency approved the regulation to establish the Rosinfocominvest. In November 2007, about US$100.8 million of Russian Investment Fund assets were paid as the RF’s share of Rosinfocominvest’s chartered capital. In February 2008, the fund’s assets were increased through additional emission, and later the same year a tender to select a managing company was held and Rosinfocominvest started investment operations. The fund’s main objectives include efficient investments in Information and Communication Technology (ICT) companies, ensuring planned returns on investments, assisting the management of investment recipients to use the funds in an efficient manner, providing support for shaping and implementing investment recipients’ marketing policy, improving ICT industry’s investment image, assisting investment recipients to prepare for Initial Public Offer (IPO), and achieving liquidity of Rosinfocominvest’s assets.

By the summer of 2008, about 20 regional venture funds were established to invest in small S&T enterprises, and tenders to select managing companies were held.

Some of the regional venture funds have already started operations and faced the first problems, including:

- Lack of projects in the region where the fund operates. Accordingly, in certain cases, venture companies have to move on to more promising regions by opening offices there.
- Small size of some of the first-order funds — inadequate to interest potential managing companies who can’t see how their running costs will be covered (or managing companies start hiring ‘cheap’ staff lacking full qualifications).
- Problems with attracting private capital due to insufficiently developed legal status of and framework for close-end unit venture funds.
- Inadequate skills, qualifications and experience of certain managing companies’ personnel, and in certain cases excessive workload (too many projects).

The Rusnano state corporation was established in July 2007 to take part in investment and external economic activities in the area of nanotechnology, both in Russia and abroad, including joint projects with foreign capital. The corporation’s main job is to invest in relevant projects jointly with private investors. Rusnano’s mission is to
promote and implement the national policy aimed at making Russia a world leader in the field of nanotechnology in three main areas, namely: (a) making a significant contribution to generating new basic knowledge; (b) Russian companies securing leading positions in the world markets of nanotech products; and (c) creating a global forum in Russia to discuss research, technological, production, investment, and environmental aspects of the world nanoindustry development. Rusnano also promotes Russia’s recognition as a leader in the global nanotech community. The main targets for Russian nanoindustry — which the state corporation is supposed to help achieve — are the following: increasing sales of Russian nanoindustry products (from US$ 1,390.9 million in 2008 to US$ 51,136.4 million in 2015; the total volume of sales in 2008–15 should reach about US$ 161,931.8 million); significant increase of Russian nanotech products’ share in the world market (from 0.07 per cent in 2008 to 3 per cent in 2015); substantial increase of nanotech exports (from US$ 278.2 million in 2008 to about US$ 10,227.3 million in 2015). To accomplish these objectives, Rusnano performs the following tasks: evaluates nanotech projects to select them for subsequent financial support with the corporation’s funds; provides organisational and financial support to R&D in the field of nanotechnology; finances projects to implement nanotechnology or manufacture nanotech products; finances training projects for nanotech professionals; monitors implementation of nanotech projects financed with the corporation’s funds; performs other tasks in accordance with the RF legislation. By the middle of 2008, Rusnano received 455 applications from 62 cities. Over US$ 20,863.6 million was requested altogether (between US$ 69.5 million and US$ 5,424.5 million for specific projects). Most of the applications sent to Rusnano were for small-scale projects still at early development stages (R&D and engineering design). Rusnano sees itself as a partner in venture business. At the same time its key objective is eliminating barriers and limiting risks to venture funding of nanotech projects at all stages of the innovation process. Rusnano is willing to join forces with private venture funding companies to finance specific projects, establish early-stage investment funds, business incubators, and venture funds.

Legislation supporting venture funding includes the federal law of 6 December 2007 (No. 34-FZ — ‘On Amendments to the Federal Law, On Investment Funds and Certain Other RF Bylaws’). The law is aimed at improving regulation of unit investment funds; managing
companies, specialised depositories and non-state pension funds by public authorities; and government supervision of the above activities including licensing, and creating new investment opportunities on this basis — in particular, introducing the institute of qualified investors. The law’s objective is to provide better protection of rights and legal interests of persons who invest their savings in unit funds and non-state pension funds, and to encourage venture investments through investment funds created specifically for qualified investors.

Policy to Support Innovation and Entrepreneurship in SMEs

To provide a legal framework for development of small and medium business in Russia, the Federal Law No. 209-FZ 24 July 2007 (GRF 2007). The law regulates relationships between legal entities, individuals, and federal, regional and local public authorities in the RF in the sphere of SMEs; defines the concepts of SMEs actors, support infrastructure for SMEs and types and forms of such support.

The law describes the main goals and principles of the RF government policy to support small and medium entrepreneurship in the RF:

(a) The RF government policy to support SMEs is a component of overall national socioeconomic policy and includes a set of legal, political, economic, social, informational, consultative, educational, and other steps by the RF federal, regional and local public authorities and self-government organs to implement the goals and principles established by this law.

(b) The main goals of the RF government policy aimed at developing SMEs entrepreneurship include: (i) providing support to SMEs in order to create a competitive environment in Russia’s economy; (ii) creating favourable conditions for the development of SMEs; (iii) ensuring competitiveness of SMEs; (iv) helping small- and medium-size businesses to promote their goods (services), intellectual activity results in Russian and foreign markets; (v) increasing the number of SMEs; (vi) promoting employment and self-employment; (vii) raising the share of products (services) produced by SMEs in
the GDP; (viii) increasing the share of taxes paid by SMEs to the federal, regional and local budgets.

(c) The main principles of the RF national policy to support small- and medium-size businesses include: (i) division of responsibilities with regard to providing support to SMEs between federal, regional and local public authorities and self-government bodies; (ii) responsibility of federal, regional and local public authorities and self-government bodies for creating favourable conditions for the development of SMEs; (iii) participation of representatives of small- and medium-size businesses, and non-profit organisations acting in the interests of such businesses, in development and implementation of the national policy to support SMEs, and in expert assessment of draft federal, regional and local legislations regulating this sphere; (iv) ensuring that SMEs have equal access to support according to the conditions established in federal, regional and local programmes for development of SMEs entrepreneurship.

The law also defines special measures to support SMEs, such as: (a) special tax breaks, simplified accounting rules for calculation of tax, simplified tax return forms for certain taxes and duties for small enterprises; (b) simplified accounting rules for small enterprises engaged in specific industries; (c) simplified rules for presenting statistical data by SMEs; (d) preferential terms for privatisation of state and municipal property by SMEs; (e) special conditions for SMEs acting as suppliers (contractors) of products (services) to public (municipal) authorities; (f) taking steps to ensure that rights and lawful interests of SMEs are not breached in the course of government supervision; (g) taking steps to provide financial support to SMEs; (h) undertaking measures to develop support infrastructure for SMEs; and (i) other such actions.

To implement the national policy on supporting innovation and entrepreneurship in SMEs, the following organisations have been set up by the government: (a) RFTR, (b) Foundation for Assistance to Small Innovative Enterprises, (c) RVC, (d) Rusnano, and (e) a number of regional venture funds.

Recent policy developments in Russia include the previously mentioned PIDDs of 47 largest Russian state-owned companies and 28 TPs approved in April 2011.
TPs are considered among the most promising tools of innovation policy in Russia, and are a mechanism of public–private partnership in the field of innovation. They provide a communication place for key stakeholders in a particular promising technology area to discuss and share their mid- and long-term visions and articulate requests to the government aimed at facilitating development of that area. Eventually, TPs should help to overcome the lack of business innovation by bridging the gap between science and industry.

There were several steps taken in the campaign aimed at creation of Russian TPs. By December 2010, over 180 proposals to build TPs in particular fields were brought to the Ministry of Economic Development. There were more than 1,000 organisations behind those proposals altogether. By April 2011, all the proposals were evaluated, and the Government Commission on High Technologies and Innovation approved the list of TPs — which comprise many innovative SMEs as their members — that currently includes 28 particular platforms:

(1) Closed Nuclear Fuel Cycle with Reactors Based on Fast Neutrons
(2) Controlled Fusion Synthesis
(3) Radioactive Technologies
(4) High-speed Intellectual Railway Transport
(5) National Space Technology Platform
(6) National Information Satellite System
(7) Aeronautic Mobility and Aircraft Technologies
(8) Intellectual Energy System of Russia
(9) Environmentally-Friendly Thermal Power of Enhanced Efficiency
(10) Advanced Technologies of Renewed Energy
(11) Small-scale Energy Distribution
(12) Innovations Technologies Use to Increase the Efficiency of Construction, Security and Maintenance of Automobile and Rail Roads
(13) Solid Minerals
(14) Hydrocarbon Mining and Usage Technologies
(15) Deeper Oil and Gas Processing
(16) Ocean Exploration
(17) Medicine of the Future
Local Productive Systems and SME Development in Brazil

(18) Bio-industry and Bio-resources — BioTech2030
(19) Bioenergy
(20) National Software Platform
(21) National Supercomputer Technology Platform
(22) Innovative Laser, Optic, and Optoelectronic Technologies — Photonics
(23) Development of Russian Light Emitting Diodes Technologies
(24) New Polymer Composite Materials and Technologies
(25) Materials and Technologies of Metallurgical Engineering
(26) Technologies of Mechatronics, Embedded Systems of Control, Radio Frequency Identification, and Robotics Industry
(27) Ultra-high Frequencies Technologies
(28) Technologies for Environmental Development

The PIDs were prepared and approved by the Governmental Commission by July 2011. Given the size of financial obligations taken by the 47 companies, the scale and potential effects of the implementation of PIDs seem great. Altogether all companies plan to stream unprecedented amount of funds to innovation. The total is about 3,000 billion roubles (see Table 3.1).

Table 3.1: The Budget of Programs of Innovation Development of 47 Largest Russian State-owned Enterprises (1,000 roubles)

<table>
<thead>
<tr>
<th>PID Budget</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2013 to 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Largest Russian State-owned Companies, Total</td>
<td>732,257</td>
<td>949,850</td>
<td>1,441,220</td>
<td>197</td>
</tr>
</tbody>
</table>


The increase of R&D expenditures of these companies leveraged by PIDs is also quite impressive and is expected to be more than two-fold in comparison to 2010 (see Table 3.2).

The implementation of the PIDs is to have a significant influence on innovative SMEs. Following the recommendations issued by the Russian Government Commission on High Tecnology and Innovation the largest Russian state-owned companies included special chapters devoted to establishing their relations with SMEs to their PIDs.
The estimation made by the Ministry of Economic Development shows that increasing innovative demand of the state-owned companies will facilitate growth of innovative supply of SMEs. In particular, according to the PID, many companies plan to build targeted facilities to find, evaluate and implement innovation developed by SMEs and to improve their procurement mechanisms to support innovative SMEs’ participation in relevant calls.

To support innovative SMEs some companies (like Rosneft, Gasprom, Rostelecom, Russian Technologies, etc.) plan to establish corporate venture capital funds together with the state development institutions and private investors. These foundations will put funds in stock capital of innovative SMEs.

Some PIDs also contain plans to create innovative SMEs as spin-offs of state-owned enterprises. Those spin-offs are aimed at developing and commercialising new technologies that could contribute to the growth of corporate technological level. Some companies even intend to develop their own corporate technological parks and business incubators which could help SMEs to implement projects with potential impact on corporate development, and enable them to use corporate science and technology infrastructure.

### Industrial Clusters

Industrial clusters in Russia are mostly concentrated in the mining industry. Typically, they demonstrate a comparatively low share of processing industries (e.g., wood-processing cluster in Arkhangelsk region, chemical cluster in Perm District) and insufficiently developed engineering components (e.g., wood-processing cluster in Arkhangelsk region, agrifood cluster in Krasnodar District). Nonetheless, there is a significant potential for further development of basic clusters.
Production clusters

Several large production clusters are currently operating in Russia (Delovaya Rossiya and HSE 2012).

Arkhangelsk Timber Products Cluster

Arkhangelsk is a leading Russian region from the forest industry point of view; for decades it has been a major exporter of timber products. The forest resources here are significant: by 1 January 2003, the region had 2,504 cubic metres of wood.

Cellulose Production: The Arkhangelsk region traditionally has been the biggest cellulose producer in Russia. In 2004 the region produced 33 per cent of all cellulose in the country. Cellulose made in the region is either exported to other Russian regions or processed at the local factories. About 60 per cent of the cellulose produced in the region is used locally to make paper, cartons and related products. The main cellulose-based products manufactured in the Arkhangelsk region are cartons; the region is the national leader in this industry, accounting for 25 per cent of the country’s carton production.

Paper Production: This is much less developed (the region is only the sixth biggest paper producer in Russia, at 8.6 per cent of the national output). However, its share has been steadily growing; as indicated by the paper and carton production per 1,000 cubic metres of logged wood, the region is at par with Canada and Sweden, but lags far behind Finland.

Integrated Wood Processing: This is less developed in the region: in plywood production it is the 11th among Russian regions (3.77 per cent in 2004). At the same time relevant production facilities are used at almost 100 per cent of their capacities. Taking account of abundant stock of raw materials in the region, there is a potential for new productions to be built.

Most of the timber and wood products made in the region are exported: in 2004 exports amount to US$ 631 million.

The Arkhangelsk Timber Products Cluster is the biggest in Russia. At the same time it includes relatively few processing companies which make end products and use integrated wood processing technologies (such as furniture or prefabricated houses). Essentially, not only is
this cluster not sufficiently developed, it concentrates on making half-finished products such as boards, cellulose, paper, and carton, which are subsequently exported out of the region.

Manufacturing of machinery, equipment and components is also poorly developed. The Solombal machine works in Archangelsk mostly making timber loaders. Enterprises have to buy imported equipment.

Members of the small enterprises cluster are mostly concentrated in the end-product sector (furniture, wooden window frames and doors, wooden prefabricated houses) and maintenance of the growing fleet of logging machinery and processing equipment. Their share in the cluster’s total output is about 20 per cent. There are approximately 1,000 logging enterprises not registered as legal entities, and a lot of them work ‘in the shadow’. However, the share of enterprises owned by large forest industry holdings is about 80 per cent.

The cluster’s main problem is obsolete infrastructure, and it is becoming increasingly more acute. Other serious problems include: (a) depletion of forests due to protracted absence of efficient forestry coupled with active exploitation of forest resources; (b) lack of clear federal and regional forest and environment policies; (c) inadequate forest roads which would have allowed development of remote areas; (d) paucity of funding necessary to build new forest tracks; (e) growing costs of transporting timber from forests to consumers; (f) difficult procedures for getting logging permits; and (g) discrimination by ‘natural monopolies’.

**Krasnodar Agrifood Cluster**

The Krasnodar District has one of the largest economies in Russia. This is partly explained by demographic factors: with more than 5 million people it is the third largest Russian region. The other reason is its favourable location. The region’s natural competitive advantages include excellent conditions for agriculture.

On top of all this, the regional administration is currently pursuing quite an efficient economic policy. An evidence of this are foreign direct investments in the region’s economy — almost US$ 2 billion in 2000–04, the third best result in Russia.

The service sector generates the biggest share of the gross regional product (GRP) — 53.8 per cent — out of which transportation generates 16.6 per cent and trade and other consumer services 12.8 per cent.
Industry and agriculture produce about 14 per cent each of the GRP each, with the share for construction being 11.7 per cent. About half of the total industrial output (46.9 per cent) is produced by the food industry; thus enterprises of the agrifood cluster generate approximately 20 per cent of the Krasnodar District GRP.

The Krasnodar agrifood cluster is one of the most developed in the country, and not just in its own category but compared to clusters in other industries as well. SMEs are widely represented in its structural components. Particularly, in 2003, SEs comprise 11.9 per cent of the enterprises in the cluster, MEs employing up to 250 people 19.8 per cent, and MEs employing between 250 and 500 people 14.9 per cent.

**Cluster Root:** This component includes small, medium and large companies — e.g., Krasnodar meat-packing factory. Along with processing companies the ‘root’ also includes small food packaging firms.

**Raw Materials:** The district has a certain number of so-called ‘robust farms’ owning advanced machinery and equipment. These farms grow crops, livestock and poultry, then sell it to enterprises for processing.

**Consumers:** SMEs here are mostly represented in retail and catering. Keeping in mind the size of the district’s internal market and the significant number of tourists, these sectors are very important to the cluster, but incomparably less so than exports outside of the region.

A particular feature of the cluster is a high degree of cooperation between its participants. For instance, a sugar-beet farmer can order a whole range of services from sowing and growing to harvesting and transporting the harvest to processing factories. Such services are provided by other small companies competing with each other.

The cluster’s weakest structural component is equipment manufacturing. On the other hand there are lots of suppliers offering imported equipment and machinery, and maintenance services.

As to the problems Krasnodar agrifood cluster is facing, the the most serious ones are: (a) lack of skilled labour, (b) insufficient access to credit, (c) inefficient tax administration, and (d) competition from food manufacturers who use low-quality imported raw materials.
Perm District Chemical Cluster

In terms of economic development, Perm District is among the most successful Russian regions. It’s unusual in that the regional industries, especially clusters — chemical, oil and power generating — kept growing even during the hardest period for the Russian economy, between 1991–97. For example, in 1993, major restructuring and renovation of two of the biggest enterprises of the chemical cluster began — Permnefteorgsynthes, Inc. and Metafraks, Inc. Accordingly, a number of clusters not only managed to sustain their performance and output figures as compared to the Soviet era, but increased them. For example, the chemical cluster’s production volume index in 2004 amounted to 155 per cent of the 1990s level.

Perm District has one of the most diverse and developed cluster portfolios in Russia after Moscow and St Petersburg. In particular, there are seven leading clusters in the district including chemical, wood processing, oil processing, oil and gas production and transport, power generating, engineering, and aircraft engines and power machine building clusters.

At the end of 2005, the total number of SEs in the region was 10,600, employing 89,400 people. Most of the workers were employed in trade (30,100), construction (16,200) and manufacturing (14,300). In percentage terms, in 2003, SEs comprised 4.31 per cent of the enterprises in the cluster, MEs employing up to 250 people 19.4 per cent, and MEs employing between 250 and 500 people 10.2 per cent.

The Perm chemical cluster is the most highly developed in Russia in its category. Its specific feature is a combination of two well-developed components — organic and mainline chemistry. Organic chemistry mostly amounts to organic synthesis of oil and gas, production of mineral fertilisers, methanol, formaldehydes, etc., while mainline chemistry deals with production of potash fertilisers and soda. At the same time more complex chemical production technologies in the cluster are not sufficiently developed despite having the potential.

The Perm chemical cluster is advanced not just in terms of quantitative indicators but also from the basic structural components point of view — from raw materials to consumers, suppliers of parts and services to infrastructure and staff training.

The source of the Perm cluster’s advantages — like any other chemical cluster’s — is access to raw materials. The cluster’s raw materials base includes Western Siberian gas fields, Verkhnekamskoye
potassium and other mineral salts sites, and oil fields of the district and Western Siberia. Raw materials are processed at the cluster’s ‘root’ enterprises and then supplied to other industries and companies outside the region. The key consumers — very important to many SMEs — are oil-producing companies operating in Perm District.

The most highly developed components of the cluster include, first, mechanical engineering and second, network organisations. Production of potassium mineral fertilisers, organic synthesis of oil and gas and nitrogenous fertilisers has the highest shares in the overall output. More advanced kinds of production generating higher added value are less prominent in the cluster. However, they are being developed — for example, production of special chemicals and reactants, very high-purity substances, etc. These industries are developing thanks to SMEs established during the last 15 years on the basis of larger enterprises with high S&T potential, through foreign investments, or from ground zero with the capital provided by private Russian investors. Usually such companies were founded when there was a chance to implement a specific technology to manufacture particular chemical products, mostly for import substitution.

The share of SMEs in Perm chemical cluster isn’t especially large: in terms of both output and employment it’s no higher than 5–7 per cent. The number of such companies also is rather small, at about 20. Normally they employ no more than 100 people though there are a few with 500 and more workers. However, small enterprises play an important role in the cluster’s development since they make the most advanced and innovative products.

The main problems regarding the development of Perm chemical cluster’s SMEs include: (a) lack of skilled personnel, (b) high administrative barriers, and (c) low potential of the technologies they use.

**Tatarstan Automobile Cluster**

The Tatarstan Republic has an industrial sector and cluster portfolio that is almost as diversified as that of Perm District. But unlike the latter, where authorities haven’t been directly promoting enterprises’ activities and have only provided limited support, the Tatarstan Republic’s government consistently pursues an active industrial policy. The authorities not only create favourable conditions for business development but deal with enterprises directly, providing distinctly preferential treatment. Such a policy does bring results: the
An A A r o i o

republic’s economy is steadily growing and has become one of the most industrially developed Russian regions. The total number of small enterprises here by the end of 2005 was 18,600 with a work-force of 146,500 people. Most of them are employed in trade (44,200), construction (37,300) and manufacturing (24,100). In percentage terms, in 2003, SEs comprised 5.2 per cent of the enterprises in the cluster, MEs employing up to 250 people 27.2 per cent, MEs employing between 250 and 500 people 11.3 per cent.

In terms of SME development, Tatarstan is far ahead of other Russian regions. The Tatarstan automobile cluster is sufficiently well-developed, and though it still specialises mostly in making trucks, cars are also built in the region. Truck parts and components are mostly manufactured locally, but car parts are imported from outside the region.

One of the region’s strengths from the cluster development point of view is the existence of advanced infrastructure including engineering, information, communications, R&D, and education. The higher education system benefits from the following key aspects: (a) Kazan State University — one of the oldest in the country; (b) A. N. Tupolev Kazan State Technical University traditionally specialising in mechanical engineering (mostly aircraft construction); and (c) Kamskiy Polytechnic Institute (technical university) in Naberezhnye Chelny, specialising in training staff for the automobile industry.

At the core of the republic’s automobile cluster is the truck manufacturer KAMAZ Inc. In recent years attempts have been made to diversify the cluster’s root business, mostly by attracting foreign investors — car manufacturers. However, KAMAZ remains very important to the whole cluster, though in the mid-1990s only the republican government’s support allowed the company to stay afloat and move on to the next development stage. This in turn created business for a large number of SMEs — suppliers of parts and components to KAMAZ and secondary markets. Preferential treatment of local Tatarstan suppliers openly announced by the KAMAZ management and the republic’s government prompted suppliers from other regions to invest in developing local production facilities.

The republic’s government policy to support SMEs, such as leasing and loan programmes with simplified procedures and preferential terms, free admission to fairs and exhibitions, free or preferential access to training and certification programmes, other support including
direct funding of certain projects allowed some of the SMEs to replace their equipment, launch new business initiatives, etc.

A significant contribution to the development of the regional SMEs was the opening of the Master Kama industrial park — the only one of its kind in Russia.

No other Russian region provides such active and powerful support to local industrial SMEs. It should be also noted that the republican authorities don’t prosecute local SMEs — suppliers of parts and components to KAMAZ who also sell truck parts and components on the so-called ‘grey markets’, even if some of them are not officially registered at all — too actively. These entrepreneurs provide well-paying jobs to a lot of Naberezhnye Chelny residents, and serve as a ‘growth medium’ for more ambitious entrepreneurs willing to become legitimate official KAMAZ suppliers.

**Tomsk Information and Communication Technology Cluster**

The structure of Tomsk Region’s economy is rather unusual: a large share of the industrial output is generated by a few large companies such as the Gazprom and Tomskneft daughter companies, enterprises owned by SIBUR holding (e.g., Siberian Chemical Works), Tomskneftekhim Inc., and Siberian Methanol Chemical Company, Inc. On the other hand practically all of the remaining regional economy is represented by SMEs. In 2003, SEs make up 12.4 per cent of the enterprises in the cluster, MEs employing up to 250 people 25.2 per cent, and MEs employing between 250 and 500 people 12.2 per cent. Being aware of the importance of SMEs for development, the regional administration pursues a very energetic policy to support entrepreneurship, using revenues generated by mining industries to diversify the region’s economy promoting mostly high-tech SMEs.

Tomsk SMEs are best represented and most competitive in the region’s ICT sector. The sector’s main development resource is Tomsk State University of Control Systems and Radioelectronics (TUSUR). The professional education system serves as the main driving force of ICT development in Tomsk, with several thousand new professionals with robust qualifications graduating each year. Apart from TUSUR, there’s Tomsk Polytechnic University (TPU) oriented towards large industrial enterprises and the Tomsk State University, which specialises in basic research in the framework of federal research programmes; it also implements its own programmes
to develop innovative enterprises. These three very different education centres allow the region to train highly skilled engineers, researchers and managers according to traditional curricula on the one hand, and on the other to experiment with training specialists of a new kind — oriented towards entrepreneurship and innovations. Siberian State Medical University also plays a role in the Tomsk higher professional education system: along with a large number of medical research institutes and clinics, it affects the specialisation of many companies — members of the Tomsk ICT cluster.

The specific feature of Tomsk Region is the presence of strong universities that play a key role in the cluster. This allows it to be competitive even vis-à-vis regions that have more powerful R&D capacities concentrated in research institutions.

It’s important to note that Tomsk is a major inter-regional education centre for the whole of Western Siberia. Tomsk universities train many more professionals than the region’s economy can absorb. There are almost 100,000 students in the region with a population of 1 million, and almost 50,000 of them come from other regions.

The leaders of Tomsk Region’s innovation cluster are companies that successfully compete in Russian and international markets such as EleSi (automatic control systems for oil industry), Micran (telecommunication equipment), Elecard (software for enhancing digital images and sound), Electropuls (medical equipment for diagnostics and treatment of heart arrhythmia), SIAM (electronic devices for oil production), and many others — mostly medium-size companies employing between several hundred and thousand staff.

The weakness of the cluster’s root business is in the distinct separation of the enterprises from each other and the lack of interaction and links between them. The companies of the Tomsk ICT cluster practically don’t compete with each other, but don’t have any motivation for networking and cooperation either.

*Science parks and business incubators*

The first wave of Russian S&T parks emerged in the late 1980s (1989–early 1990s), and then a generic term covering them all appeared — ‘industrial parks’. Most of these parks were created by higher education institutions (the USSR higher education system), so science parks were seen as HEI divisions, not as business partners. In 1990,
the first industrial park in Tomsk was created — the Tomsk Science and Technology Park. In the same year, during the first international workshop on industrial parks to be held in Russia (again in Tomsk), it was decided to establish an association of S&T parks created on the basis of higher education institutes — the Technopark Association.

The early 1990s saw science parks boom in Russia (there were two science parks in 1990; in 1991 there were eight; 24 in 1992; and in 1993 the number almost doubled, reaching 43). The first industrial parks lacked infrastructure, real estate, trained managers, and usually weren’t functional in terms of providing support to innovative enterprises.

Quantitative growth was followed by natural stratification of the country’s science parks. Due to both objective circumstances and subjective factors, some of them (in Moscow, Tomsk, St Petersburg, Zelenograd, Ufa) started to develop much faster than others (and still do). In the mid-1990s the number of industrial parks continued to grow, including parks created on the basis of state research centres (SRCs) in academic towns, science towns, formerly ‘closed’ settlements: e.g., Moscow science parks Technopark-Centre and Aerocon; science parks in Moscow region’s science towns such as Puschino, Chernogolovka, Troitsk, Dubna; Technopark-Novosibirsk, the technological innovations centre attached to St Petersburg Regional Fund for S&T Development; and the Obninsk industrial park. The first regional science parks appeared, with the regional and local authorities playing a major role in setting them up.

By the beginning of 1996 there were about 50 industrial parks in the RF, ‘nurturing’ about 1,000 small innovative companies and serving as bases for 150 maintenance and service firms. More than 10,000 new jobs were created in these industrial parks. However, many of them existed mostly on paper.

By April 2001 there were about 60 industrial parks in Russia (just five more than five years earlier); however, only a much smaller number was actually functioning. Just about 30 industrial parks were able to pass accreditation in 2000 and only 11 of them were certified as matching international standards.

Currently there are up to 85 industrial parks operating in Russia, many of them members of the Technopark Association created in 1990.

In 2006, the RF government issued Regulation No. 328-R to approve the state programme, ‘Creation of High-Technology Industrial Parks in the Russian Federation’, aimed at development of high-tech
industries and establishment of high-tech industrial parks. The programme covered the period between 2006 and 2010; the following steps were implemented:

(a) 2006–07: management structures were set up to supervise high-tech industrial parks, carry out preparatory and design work required to begin construction, prepare basic infrastructure, build installations, design a programme for promotion of Russian high-tech companies in international markets, and carry out marketing and other organisational work.

(b) 2008–10: infrastructure was developed for high-tech industrial parks, leading international high-tech companies invited to set up production facilities at high-tech industrial parks, and a programme implemented to promote Russian high-tech companies in international markets.

Barriers and Problems
Hindering Development of SMEs

There is a host of barriers hindering the development of small and medium businesses in Russia. The most important of these are described in this section (see, for instance, Simachev et al. 2009).

The lack of dynamism in the development of small businesses is related to an unfriendly environment and regulation. Many entrepreneurs prefer to do their business not registering as legal entities. Those that exist as SMEs are mostly engaged in trade and catering (they constitute 46 per cent of the total number of small enterprises). Small enterprises are mostly oriented towards local markets — trying to meet the demand of the local population; only a small share of their output is exported (only 7 per cent of small companies have consumers outside Russia). There is no evidence of growth in research-intensive, innovative SEs. The sector as a whole remains quite static: the number of newly established small firms is insignificant and inefficient companies are slow to drop out of business (34 per cent of SEs are unprofitable). At the same time, the entrepreneurial class does not grow per se — most of the new companies are registered by the ‘old’ circle of owners. The level of investments by small companies (compared to medium-size and large firms) is also very low. Small businesses show the strongest trend towards wasting capital on current expenditures.
Another kind of barrier is related to administrative regulation, which is related not so much to establishing a small firm as to its development (growth and diversification). The small firms are not interested in growth because — due to non-uniformity of administrative barriers — micro-enterprises get into the ‘pit’ where administrative pressure is lighter (the bigger the business the more it depends on public authorities, and the more ‘visible’ to authorities it becomes). Even higher barriers are present in research and production industries, which make SMEs neglect this area in favour of other fields. The high administrative ‘unit load’ small businesses have to bear is caused on the one hand by frequent inspections and numerous supervisors and on the other by the costs of preparing the required accounting and taxation documents.

Small business suffers from the competition with ‘shadow’ firms that are pushing legal companies of equal size out of the market since the former can sell their products (services) at more competitive prices. Under these circumstances new micro-enterprises have to either accept the ‘shadowy’ rules of the game or quit the market. At the same time these ‘shadow’ firms cannot legalise all their resources to make a move for dynamic growth.

Access to funding for small businesses is limited by their own sources: partner loans or bank loans. A distinctive feature of Russian SMEs is the significantly less important role of share investments in their funding sources; ‘compensation’ comes from partner loans. Another barrier for Russian small enterprises is the acute problem of providing loan securities to banks. The government support system (specifically its micro-loans component) is poorly ‘tuned’ for bridging the gap small companies face when they try to get bank loans.

During their life-time small companies face many specific problems. When a small firm is being established an important difficulty is putting together seed capital, and government support at this stage is minimal. After a while companies start to feel pressure from lack of financial resources to invest. Market advantages gained after a lengthy period of doing business (image, credit history, etc.) do not ‘compensate’ for the problem shortage of investment resources. The existing small business support system does not provide motivation for the evolutionary development of companies. In this respect strong links with large- and medium-size firms are very important for the development of ‘grown-up’ small companies.

Small enterprises in Russia are often not able to be integrated into relevant value chains. The demand from large enterprises for
innovation (which could be supplied by SMEs) is very limited. At the same time procedures for government procurement are not efficient in to promoting co-operation and networking among small/medium/large businesses because big companies are not usually inclined to subcontract small companies. There are no efficient programmes to promote exports by small enterprises. Peculiarities of VAT regulation make it hard for small companies using simplified accounting and taxation procedures to do business with medium and large firms — which also hampers their integration into the value chains.

Another source of serious barriers is related to taxation, which is unpredictable due to imprecise tax laws and regulations. Small enterprises have limited access to preferential taxation regimes.

The government support system is mostly oriented towards the needs of conventional small companies whereas non-traditional forms of small businesses often do not fit the established schemes and have to rely on themselves. The need to support and develop small business is commonplace in declarations of all relevant government bodies, but the principle of supporting small business is not seen as a major consideration when dealing with issues like promotion of exports, privatisation and tax reforms. The four goal-oriented federal programmes developed during 1994–2001 included specific target figures for small business development, but not one of these federal programmes was fully financed as planned; the funds actually allocated from the federal budget to programmes for small business support are insignificant. There exists an extensive arsenal of tools to support SEs, but they are poorly integrated and badly tuned to the needs of innovative science-and-production small companies — which leads to inefficient use of limited resources.

**Provisional Measures to Improve National Policy for Supporting SMEs**

Various measures could be proposed to promote development of small businesses in Russia. Most of these need to be addressed by the Russian government and its particular agencies, as well as funding institutions. The most important set of measures is related to the improvement of the legal framework for the development of SMEs. This includes a need for robust legislation supporting development of SMEs, as well as amendments to existing laws, in order to:
(a) give organisations operating under normal taxation regimen an opportunity to count ‘incoming’ VAT when they sell products (services) acquired from companies and individual entrepreneurs operating under simplified taxation rules, or paying single tax on imputed earnings;

(b) improve procedures for applying special taxation regimes to small business;

(c) relieve businesses paying single tax on imputed earnings from the obligation to use cash registers;

(d) take into account the specific features of micro-finance activities, relationships in credit co-operation, radical difference between earning of cooperative members, and shareholders’ profits when determining taxation elements;

(e) speed up development and introduction to the State Duma of the draft federal law, ‘On Micro-financial Organizations’;

(f) develop and approve federal goal-oriented programmes to prepare and implement a policy for targeted support of small and medium entrepreneurship, and to improve its competitiveness when Russia joins the World Trade Organization (WTO);

(g) speed up the development of amendments to the federal laws ‘On Citizens’ Credit Consumer Cooperatives’, ‘On Agricultural Cooperation’ and ‘On Consumer Cooperation (Consumer Associations and their Unions) in the RF’;

(h) speed up the development and introduction to the State Duma of the draft law, ‘On Trade’, which should include a provision banning discrimination against small businesses in the consumer market, describe steps to be taken to improve competitiveness of Russian entrepreneurs and introduce limitations (similar to the ones existing in European countries) on operations of large retail networks (working hours, locations, lower domination thresholds, etc.);

(i) develop a draft federal law which would grant the RF regions and municipalities the right to make lists of special properties to be leased to small businesses;

(j) adopt relevant legislation as soon as possible, including lists, documents and conditions for applying simplified licensing procedures (Article 9, Paragraph 6 of the federal law of 8 August 2001, No. 128-FZ, ‘On Licensing of Certain Activities’) in order to simplify licensing procedures for small- and medium-size enterprises.
The federal law, ‘On Banks and Banking’, and relevant bylaws should also be amended to systematically cover specific features of micro-financial activities of non-bank depositary and credit organisations, and developed a programme to increase the range of retail financial services and improve remote banking system, paying particular attention to the development of micro-financial organisations as structures operating in regions where regular banks are poorly represented and providing services to start-up entrepreneurs and clients that are traditionally unattractive to banks.

In the field of credits provision for small businesses, an overall national system of government regulation and self-management of credit co-operatives should be developed. Relevant amendments to banking laws, legislation on non-profit organisations and credit co-operation to cover specific features of legal status and operations of non-bank depositary and credit organisations should be made. There is also a need to allow the establishment of second- and subsequent-level credit co-operatives, taking into account the specific features in the establishment and operations of co-operative banks and in the development of private micro-financial organisations.

There also could be undertaken measures to develop a special goal-oriented programme to support small businesses, introduce procedures for calculating tariffs to connect small businesses to engineering communications and a set of regional-level measures to prevent discrimination against small-scale retailers at the regional level.

Another big issue is development of human resources for SMEs. Creation of conditions favourable for highly-skilled professionals is on the agenda along with organisation of staff training and upgrading at Russian educational institutions, particularly in the following fields:

(a) credit, consumer and agricultural co-operation;
(b) special taxation regimens for small business;
(c) micro-financial activities;
(d) financing of small and medium-size businesses’ projects;
(e) venture funding;
(f) creation and development of regional production clusters, industrial and technological parks, business-incubators;
(g) co-ordination and implementation of state programmes for supporting development of small and medium businesses.
There should be efforts from the government to encourage training of managers specialising in development of SMEs, including short workshops for top-level government officials (heads of regional administration, federal and regional ministers and department heads) and training courses for mid-level management and civil servants.

Training programmes aimed at increasing skills among SMEs have already been implemented. This activity has to be further developed with respect to:

(a) summarising and classifying educational institutions’ experience of developing relevant curricula and methodologies;
(b) setting up a partnership network for training small business staff, including small and independent training institutions (virtual departments, research and education unions and centres, etc.);
(c) developing relevant modular curricula and methodologies for training adequately skilled professionals;
(d) initiating development of unified standardised curricula for schoolchildren and university students, beginner entrepreneurs, financial consultants, and small- and medium-size business staff (that should include training in legal issues related to SMEs); and
(e) disseminating best regional practices for setting up staff training system for small business.

At the regional level specific mechanisms for supporting SMEs should be developed. In this respect there is a need to promote dissemination of regional experience in supporting small and medium entrepreneurship and improved access for SMEs to financial and credit resources, and summarise and classify best regional practices in the field of supporting small businesses. It is essential to develop programmes to support small business, including those that provide guarantees and assistance in securing loans; extend the network of regional traditional, innovative and student business-incubators’ promote more intense development of the venture funding infrastructure for financing SME projects, including business angels,19 private and private–public venture funds; and support small S&T enterprises.

Amendments to regional legislation should be developed and implemented to prevent discrimination against small businesses
that operate in the consumer market by large retail networks, and to prevent preferential treatment to such networks. This is essential to ensure equal and fair competition between small and network retail formats. St Petersburg can be taken as a case in point and a moratorium introduced on compulsory privatisation of floor space rented by small businesses from public authorities until appropriate amendments to federal legislation are adopted. Following Moscow’s example it would be interesting to introduce wide-spread registries of ‘honest small businesses’, and offer them certain breaks and preferences (e.g., reduced rent).

Notes

1. All calculations in US$ are made as follows: first, the figure is converted from Russian roubles to US$ at the exchange rate that is equal to the purchasing-power parity of that period (taken in accordance with Russian Federal State Statistics Services [Rosstat] data and the estimations of the Institute for Statistical Studies and Economics of Knowledge, Higher School of Economics, Moscow); second, the figure in US$ of the respective period is adjusted to US$ of 2010 by using Gross Domestic Product [GDP] deflator (in accordance with Organisation for Economic Co-operation and Development [OECD] data). The exception is Chapter 4 where the figures are taken in absolute terms.

2. We use data from the Rosstat, which was obtained from observations designed in accordance with the methodology developed by the Institute for Statistical Studies and Economics of Knowledge, Higher School of Economics, Moscow.

3. For detailed definitions, see OECD and Eurostat (2005).

4. The number of joint R&D projects with the participation of enterprises employing up to 49 people reached 360; between 50 and 99 people, 367; between 100 and 199 people, 585; and between 200 and 499 arrived at 1,087 joint projects in the year 2006. The number of enterprises participating in joint R&D projects and employing up to 49 people was 80 in 2006 (from 53 in 2004); the figure doubled in firms employing between 50 and 99 people — from 40 in 2004 to 88 in 2006. The figures in the year 2006 for those employing between 100 and 199 people, and between 200 and 499 people were 139 and 230 respectively.

5. The number of enterprises employing up to 49 people that acquired new technologies was 98 in 2004, 83 in 2005, and 125 in 2006; the
corresponding number for those employing between 50 and 99 people was 86 in 2004, 91 in 2005, and 135 in 2006; for those employing between 100 and 199 people was 136 in 2004, 144 in 2005, and 210 in 2006; and for those employing between 200 and 499 people was 244 in both 2004 and 2005, and 330 in 2006. The number of enterprises employing up to 49 people that transferred new technologies was 14 in 2004, 15 in 2005, and 21 in 2006; the corresponding number for those employing between 50 and 99 people was 6 in 2004, and 16 in both 2005 and 2006; for those employing between 100 and 199 people was 18 in 2004 and 2005, and 21 in 2006; and for those employing between 200 and 499 people was 17 in 2004, 18 in 2005, and 28 in 2006.

15. This is an equivalent of 900 billion Russian roubles planned to be received in 2015. To convert it to US$ the PPP for 2008 is taken as an exchange rate.
16. This is an equivalent of the total of 2,850 billion Russian roubles planned to be received from 2008 to 2015. To convert it to US$ the PPP for 2008 is taken as an exchange rate.
17. This is an equivalent of 180 billion Russian roubles planned to be received from export in 2015. To convert it to US$ the PPP for 2008 is taken as an exchange rate.
19. A business angel or informal investor is an affluent individual who provides capital for a business start-up, usually in exchange for convertible debt or ownership equity.

References


### Table 3A: Selected Results of a Survey of SME Personnel

<table>
<thead>
<tr>
<th>Question</th>
<th>Distribution of Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you generally happy with where small business has arrived in the last 20 years?</td>
<td>2% — yes; 31% — probably yes; 33% — probably no; 29% — no; 5% — can’t say</td>
</tr>
<tr>
<td>What were the more important contributions of SEs during the last 20 years (several answers were allowed)?</td>
<td>63% — growth of consumer goods market; 63% — providing jobs, promoting self-employment; 61% — promotion of private initiative; 37% — creation of competitive environment in the economy; 24% — increased tax proceeds to all government budgets</td>
</tr>
<tr>
<td>How is SME’s role in the economy going to change in the next year or two?</td>
<td>3% — will be much more important; 17% — will remain the same; 2% — will be much less important; 52% — will be growing; 5% — will be decreasing; 21% — can’t say</td>
</tr>
<tr>
<td>How would you describe the current situation for SME development?</td>
<td>3% — good; 41% — satisfactory; 49% — bad; 7% — can’t say</td>
</tr>
<tr>
<td>How important do the regional authorities think the development of SMEs is?</td>
<td>9% — very important; 29% — rather important; 39% — practically not important at all; 23% — can’t figure it out</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How many of the public authorities demonstrate (provide) the following?</th>
<th>Many (%)</th>
<th>About Half (%)</th>
<th>Few (%)</th>
<th>Nobody (%)</th>
<th>Can’t Say (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-quality Service</td>
<td>2</td>
<td>14</td>
<td>58</td>
<td>24</td>
<td>2</td>
</tr>
<tr>
<td>Unbiased Decisions</td>
<td>3</td>
<td>13</td>
<td>52</td>
<td>29</td>
<td>3</td>
</tr>
<tr>
<td>Professional Staff</td>
<td>3</td>
<td>22</td>
<td>56</td>
<td>16</td>
<td>3</td>
</tr>
</tbody>
</table>

Would it be possible to be a successful entrepreneur if the following is true?

<table>
<thead>
<tr>
<th></th>
<th>Impossible (%)</th>
<th>Difficult (%)</th>
<th>Possible (%)</th>
<th>Can’t Say (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>You Never Give Bribes</td>
<td>38</td>
<td>46</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>You always Comply with the Letter of the Law</td>
<td>43</td>
<td>42</td>
<td>11</td>
<td>4</td>
</tr>
</tbody>
</table>

(Table 3A continued)
(Table 3A continued)

<table>
<thead>
<tr>
<th>Question</th>
<th>Distribution of Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>How ready would you say SMEs are to work in the market economy?</td>
<td>Small Enterprises: 3% — very ready; 44% — averagely ready; 49% — not ready; 4% — can’t say</td>
</tr>
<tr>
<td></td>
<td>Medium-size Enterprises: 5% — very ready; 53% — averagely ready; 20% — not ready; 22% — can’t say</td>
</tr>
<tr>
<td>How is SME’s competitiveness going to change in the next few years?</td>
<td>34% — will grow; 13% — will decrease; 22% — won’t change; 31% — can’t say</td>
</tr>
<tr>
<td>How would the following indicators of SME activities change in the next two to three years?</td>
<td>Will Grow (%)</td>
</tr>
<tr>
<td>Diversifying into New Spheres/Industries</td>
<td>54</td>
</tr>
<tr>
<td>Number of SMEs</td>
<td>51</td>
</tr>
<tr>
<td>Number of Innovative SME</td>
<td>47</td>
</tr>
<tr>
<td>Participation in Social Programmes</td>
<td>32</td>
</tr>
<tr>
<td>How would you describe your company’s (organisation’s) financial position?</td>
<td>13% — good; 66% — satisfactory; 8% — bad; 13% — can’t say</td>
</tr>
<tr>
<td>Do you envisage your company will grow in 2008?</td>
<td>55% — yes; 19% — no; 6% — probably will shrink; 20% — can’t say</td>
</tr>
</tbody>
</table>