Innovation system in Russia – increasing competitiveness

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Russian economics 2006 – on second stage of development

Global Competitiveness Index rankings (2005-2006 comparisons)

GCI 2006

GCI 2005

Среднее значение GCI

GCI
Conceptual basis of social-economic development program in Russian Federation

Competitiveness of people

Competitiveness of business

Competitiveness of Nation
New policy direction - innovation way of economic development

• Plan of development of industry and technology 2006-2007 RF
  • Including development of territorial production clusters

• Main directions of RF policy in the field of innovation system development until 2010:
  • Creating favourable economic and legal environment concerning innovation activities
  • Forming infrastructure of innovation system
  • Creating system of government support of intellectual activity results commercialization

• New concept of Federal program of education development

• Creating Special Economic Zones in Russia

Ministry of economic development and trade of RF
Additional arrangements of acceleration in rates of economic growth

- Development of innovation sphere

- Banks of development

- Support of export

- Development of land market

- Development of mechanisms of mortgage lending

- Reduction of customs duty for technological equipment

- Technological clusters development

- Reduction of administrative barriers
Innovation and technological centers in Russian Federation – points of development

59 ITC in 7 Federal Districts
Zelenograd city - center of high technology, business, education and culture

- **Territory** - **3722 hectares.**
- **Population** - **207,8 ths. inhabitants (44% with Higher education)**
- **Education** – **4 Institutes, 41 general education organizations, 2 Lyceums.**
  
  Common education sphere for multilevel continuous education
- **Science-industrial complexes** - **16 industrial companies.**
  
  **26 industrial research institutes, labour 14,7 ths. people**
- **Small business** – **2900 small companies with overall labour 35 ths. people**
  
  **261 R&D companies,**
  
  **667 industry production and industry oriented companies.**
- **Structure of Innovation business support** –
  
  **University complex MIET (Technological Village).**

  **Center of entrepreneurship development,**

  **Moscow municipal foundation and so on.**
Special economic zones as an instrument for innovation system development

Special economic zone - part of the territory of Russian Federation where special regime of entrepreneurial activity is allowed.


Nowadays there are almost all kinds of economic zones created in Russia

- Technology-innovative
- Industrial-production
- Tourist-and-recreational
- Port SEZ

- Moscow (Zelenograd)
- St-Peterburg
- Moscow region (Dubna)
- Tomsk region (Tomsk)
Strategic orientation for companies in SEZ “Zelenograd”

- Administrative belonging to Moscow – one of the biggest megapolis in the world.
- Compact territory with developed social infrastructure.
- High concentration of intellectual, science-technical and innovation potentials.
- Industrial specialization – electronics, microelectronics, nano- and microsystem techniques, information technologies.
MIET site in SEZ (7 hectares)

- Residents
- Technological Village
- Zelenograd ITC

- Business Incubator 8,000 sq.m. (project)
- Labour retraining center 8,000 sq.m. (project)
- Multi-access centers network 30,000 sq.m. (project)
- Energy Power Source 6 megawatt (project)
- Transfer technology center 10,000 sq.m. (project)
Alabushchevo site in SEZ (150 hectares)

- Administrative-business center with exhibition complex 16 000 sq.m. (project)
- Innovation business center 18 000 sq.m. (project)
- Labour resource retraining center 15 000 sq.m. (project)
- Customs transport terminal 8 800 sq.m. (project)
- Ground areas for building by residents ~ 40 hectares
Moscow state institute of electronic technology (technician university)

Staff

- Number of workers – 1840
- Professors – 450
- Research officers – 550
- PhD – 116
- MBA – 334
- Candidates – 300

Among Officers

State prize laureates - 50
President of RF Prize laureates - 4
Government of RF Prize in the field of education laureates - 2

Currently studying 6100 students

Annual number of graduates is more then 1000 highly-skilled specialists with the highest level of demand on labor market
MIET – Participant of the National Project “Education”

Realization of development model of University as educational, scientific and innovational complex, which is deeply integrated in real sector of economics

Program structure

- System of HR preparation for innovational economics
- Methodical and instrument base for educational and scientific-innovational activity
- Educational and research works in scientific-innovational activity of students and post-graduate students
- Increasing influence on regional development and innovational processes in electronics

RESULTS

- Created multi-level system of continuous professional education
- Formed modern science-educational infrastructure
- Science-educational infrastructure is equipped with the modern equipment
- Educational process corresponds to world standards in quality of education
- Integration in world educational space and innovational industry in the area of electronics
- Start companies on basis of student and youth science collectives are created and develop their activity

Innovation educational program «Modern professional education for Russian innovation system in the field of electronics» (2006-2007 rr.)
Innovational Structure

78 000 sq. m. of innovational complex

2000
Zelenograd Innovation Technological Centre (4200 m2)

2005-2007
Technological Village (24 000 m2)

1998
Innovation centre of new technologies (1500 m2)

2001
Experimental plant “Proton” (9900 m2)

1991
Business Incubator Technopark (400 m2)

1995
11 companies

2005
ITC “Capital-Invest XXI” (18 000 sq.m.)

2005
Voronezh Innovation Technological Centre (20 000 sq.m.)

2006-2026
Technology innovative zone “Zelenograd”

1998
7 companies

2005
60 companies

2000
60 companies

3 companies

19 start-up companies
Joint stock company “Zelenograd innovation-technology center” (JSC “ZITC”)

JSC “ZITC” was set up in 1998 in the framework of interdepartmental program «Stirring up innovation activities in the field of science and technics in RF» with active participation of Ministry of Education and Science of RF and the Foundation for Assistance to Small Innovative Enterprises.

Today Zelenograd ITC is a well-developed infrastructure that includes:

► Office and laboratory premises in total area of 20 000 sq.m. (29 500 sq.m. by 2008)

► Production area – 4 000 sq.m. (6 000 sq.m by 2007)

► HR – 63 workers, 3 Doctors of Science, 10 PhDs, 12 candidates.

Main founders:
► MIET
► Foundation for Assistance to Small Innovative Enterprises
► Center of assistance to scientific and technical businesses in high-school
► Small companies

Activities of ZITC is conducting with support of:

► Ministry of Education and Science of RF
► Foundation for assistance to small innovative enterprises
► Russian Foundation of technological development
► Federal agency of atomic energy
► Federal agency of industry
► Innovation-technological centers of Russia union

PARTNERS:

MIET
JSC “Concern “Sitronics””
JSC «NIIME and plant «MIKRON»
JSC «Russian Electronics»
JSC «Plant «Proton-MIET»
Cadence Design Systems (USA)
Synopsys Inc. (USA)
Compugraphics
Activity directions of the organization

1. Registered and initiated R&D in the field of electronics, microelectronics and information-telecommunication technologies (30%)

2. Apply results of R&D of innovation complex MIET and hi-tech businesses in industry (20%)

3. Development and realization of gap base technology, providing creation of wide range of innovation production (20%)

4. Special incubation of start-up companies (10%)

5. Certification services, high quality management and full complex of consulting services in the field of small business support (marketing, business-planning, project expertise, international activity support, legal services and so on) (5%)

6. Services providing up-to-date technologies and equipment by multi-access centers network (15%)
Collaboration with companies

36 start-up companies are located at the MIET complex territory
Collaboration is conducted with more than 160 companies of Zelenograd

- **Optoelectronics, laser technics**
  (Optolink, NII ESTO (potential resident), Elvis+, Ratios, Zelaks+, Decima, etc.)

- **Electronics instrument-making**
  (Elins, NT-MDT (potential resident), Drive technics (potential resident), etc.)

- **Satellite navigation systems**
  (Lepton, SAIT, Astrosystems, etc.)

- **Hardware-software complexes**
  (ICNT, Elins, Ristar, BIOS, etc.)

- **Specialized VLSI and microelectronic devices**
  (Alpha-chip (resident), IDM, UniqueICs, etc.)

- **Mobile communication and wireless technologies**
  (RKS, Telesystems, Alt, etc.)

- **Telecommunicational systems and information security**
  (Ancud (potential resident), Elvis+, Ratios, Zelaks+, Decima, etc.)

- **36 start-up companies are located at the MIET complex territory**
- **Collaboration is conducted with more than 160 companies of Zelenograd**
Development of world-level native electronic component base infrastructure

Project is accomplishing with support of the Ministry of Science and Education RF and Fund of assistance of development small forms of organizations in science-technology sphere

Designing and producing competitive electronic components base using reliable methods project decisions security

Project partners:

- JSC “Sitronics”
- JSC “Roselektronika”
- Cadence Design Systems, Ltd
- Synopsys, Inc
- Compugraphics, Ltd
- Chartered Semiconductor, Ltd
Project «Promotion of Russian innovational system in the sphere of microelectronics» (IRIS)

Participants:
MIET, Cadence, ZITC, Ruselectronics under the auspices of the Ministry for Education and Science of the Russian Federation.

Targets:

• Creation of basic elements of science-tech, educational and innovation-compatible environment for development of Russian potential in the sphere of designing of modern electronic, micro- and nanoelectronic devices.

• Ensuring necessary conditions for professional workers training and creation of the environment for development of their potential to their own benefit and to the benefit of the Russian economy, science and engineering.

• Creation and development of new and effective mechanisms, that will provide commercialization of the Russian enterprises R&D projects and their introduction to the market.
**Example of successful tenant - Optolink Ltd.**

**Activity:** fibre and integrated optics technology, elements and devices.

**Market segment:** navigation systems and optical fiber communication systems.

**Major developments:**

I. Integrated optics phase modulator on lithium niobate for fibre-optical gyroscope.

II. Manufacturing of optical fibre supporting radiation polarization.

III. Fibre optical gyroscope.

IV. Micromechanical gyroscope.

V. Integrated electro-optic channel switch on lithium niobate for spectral compression systems (DWDM) in optical fiber communication lines.

**Major technological operations:**

I. Metals and dielectrics deposition.

II. Plasmachemical etching.

III. Optical photolithography.

IV. Diffusion.

V. Optical measurements and fibre joining.

VI. Assembling.
International activities of Center of Transfer and Commercialization technology of MIET

China, Beijing-Qingdao
Development Areas

China, Shanghai –
Asian association of business incubation

Germany, techno-centers

China, Sheng-zheng

UK, London, SMEs
MIET – Enterprises Singapore Partnership

Russian incubator @ Singapore:

- Leveraging on expertise of Moscow State Institute
  - Focus on Electronics and other related sectors
  - Focus on assisting Russian enterprises to use Singapore as a spring board to internationalize

- EDB possible support (1+1 year)
  - Co-funding of up to 90%, of which ≥ 70% for manpower costs
  - Support tied to work plan for number of enterprises per year
  - at least 20 p.a. => maximum support of S$200k p.a.
  - at least 10 p.a. => maximum support of S$100k p.a.

- EDB facilitation, if needed e.g. space
We are interested in cooperation with you!

Thank You!

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