National innovation system of Uzbekistan: experience of building and perspectives of regional development

Ministry of Economy,
Republic of Uzbekistan
Akramov Akmal
Republic of Uzbekistan

- Area 447,4 thousand km$^2$
- Population: 29.3 million,
  - including population in working age - 16,3 million.
- Population density - 57.5 persons per 1 km$^2$

Uzbekistan borders with 5 countries with a total population of more than 60 million people.
National innovation system of Uzbekistan

President of the Republic of Uzbekistan

Sources of financing
- funds of state budget;
- fund of financing innovative science-technical activities;
- funds of new technologies and modernization of enterprises;
- own funds of organization;
- grants;
- other funds

Cabinet of Ministers of the Republic of Uzbekistan

Coordinating Working Group on organization and conducting the Republican fair of innovative ideas, technologies and projects

Ministry of Economy

Committee for Coordination of Science and Technology Development (CCSTD)

Informational support of innovation activity
- The Transfer Technology Agency;
- "Science-technical information" SUE;
- Research institutes and Universities;
- Innovation Fair;
- CCSTD, Ministry of Economy, Academy of Sciences, Ministry of Health, ministry of agriculture and water resources,

National and local government authorities

Staffing
MHMSE, Academy of Sciences, Ministry of Health, ministry of agriculture and water resources, Higher education, Research institutes, Sectorial institutes, Higher Attestation Commission

Priorities of science-technical development

Academy of Sciences
MHMSE
Ministry of Health
Ministry of agriculture and water resources

State science-technical programs

Fundamental research programs
Applied research programs
Innovative science-technical programs

Republican fair of innovative ideas, technologies and projects

The system of protection of intellectual property rights
(Agency on Intellectual Property of the Republic of Uzbekistan)

The system of monitoring and coordinating the implementation of state scientific and technical programs and projects

Presidential Decree RU-PP-436 dated August 7, 2006
"On measures to improve the coordination and management of the development of science and technology";
Presidential Decree RU-PP-916 dated July 15 "On additional measures to stimulate innovative projects and technologies into production."

Legislation

Presidential Decree RU-PP-436 dated August 7, 2006
"On measures to improve the coordination and management of the development of science and technology";
• President’s decree dated August 7, 2006 № 436 “On measures to improve coordination and management of science and technology development”;

• President’s decree dated July 15, 2008 № 916 “On additional measures to stimulate innovation projects and technology implementation into production”;

• Decree of the Cabinet of Ministers dated November 10, 2008 № 241 “On measures to strengthen the material-technical base of scientific, R&D institutions and organisations”;

• Decree of the Cabinet of Ministers dated October 15, 2008 № 228 "On improvement of the State Unitary Enterprise Technology Transfer Agency".
Sources of financing scientific and innovative activity:

- sources of state budget of the Republic of Uzbekistan;
- sources of scientific-technical activity financing fund;
- sources of new technologies and company modernization funds;
- internal funds of companies, entrepreneurs and farmers;
- grants (including foreign);
- other sources according to the legislation.
Financing scientific and innovative activity in the Republic of Uzbekistan

**BUDGETARY FINANCING**
27% out of total volume of SSTP financing

57% out of total volume of SSTP financing

16% out of total volume of SSTP financing

**FUNDAMENTAL RESEARCHES**

**APPLIED RESEARCHES**

**INNOVATIVE TECHNOLOGY**

**NON-BUDGET FINANCING**
In the framework of international grants, 35-40% out of budget financing volume

In the framework of international grants, 20-25% out of budget financing volume (including 8-10% in form of scientific equipment)

Sources of economy industry fields, 10-15% out of budget financing volume in form of equipment, materials and payment of other services

Sources of economy industry fields, 45-50% out of budget financing volume
The 5th Republican fair of innovative ideas, technologies and projects will be held in Tashkent 3-5 May, 2012.

More than 110 scientific, educational and R&D institutes will participate in the fair and there will be demonstrated about 600 technologies and developments.

- Industry
- Agriculture
- Public health and pharmaceutics
- Information technologies
- Science and education
THE LARGEST INDUSTRIAL REGION OF UZBEKISTAN

Tashkent city - the largest industrial center in the country

Tashkent region - engineering, chemistry, construction materials, food processing, light industry

Andijan region - Automotive Center

Kashkadarya region - advanced gas-chemical industry

Navoi region - metallurgy, mechanical engineering
The city of Tashkent is the largest scientific center of the country. There are more than 40% of all organizations engaged in scientific research and development and more than 53% workers of science and scientific services. Tashkent, Bukhara, Samarkand regions, these areas a high proportion of research specialists are in Andijan and Ferghana regions.

The structure of number of employees, including researchers and educational workers during 2000-2010 years.
Regional Innovation Clusters

- Scientific Educational Innovation Clusters
- Scientific Industrial Innovation Clusters
Regional Innovation Clusters

SCIENTIFIC EDUCATIONAL INNOVATION CLUSTERS

Decree of the President of the Republic of Uzbekistan dated October 26, 2011 №1631 «On creation of high technology center in Tashkent with participation of Cambridge university of Great Britain»

carrying out pilot and applied scientific studies and development on Center activities on the basis of orders of the domestic and foreign enterprises, the organizations, scientific and educational institutions;

training students studying masters and young scientists selected on a competitive basis to a technique and practice of carrying out applied scientific researches in the field of physics, chemistry, biology, biochemistry and biophysics, geology and geophysics;

preparation of high qualification scientific and scientific-pedagogical personnel and others.
Tashkent State Technical University (TSTU) is a major research center in Central Asia. The University has close scientific contacts with many research centers. Scientific-applied training center of energy- and resource saving of TSTU perform the projects on order enterprises of oil-and-gas sector.
A major scientific, educational and innovative cluster can be considered the Tashkent University of Information Technologies (TUIT) that has branches in the cities of country such as Fergana, Urgench, Karshi, Samarkand, Nukus.

On the basis of TUIT operate several training centers which were formed together with foreign partners.
The main objective of the University is to prepare highly qualified specialists for the automotive, mechanical engineering and electrical industry, energy, industrial enterprises and organizations, civil engineering and construction in accordance with educational programs, adopted at the Turin Polytechnic University, and international requirements for quality higher education goals and objectives of the National Programmer for Training of the Republic of Uzbekistan.
Technopark engineering
University Technology Park is equipped with a real industrial equipment, allowing to carry out practical training and testing of building structures and materials, as well as the study of production processes, including cold treatment of metals.

Technopark building
1. Certification of precast concrete products were in use.
2. Participation in the examination regulations for fixed kinds of products in terms of quality control, testing methods and tools.
3. Scientific and technical and advisory assistance to organizations and enterprises in the implementation of advanced technology, achievement of foreign science and technology.
4. The organization works on quality control and testing of building materials and structures under construction at the site.
5. Development of the Republic’s regulations governing the technical requirements and test methods for building materials and structures, as well as technical specifications for construction products.
6. Performing research in the field of technology, production of building materials and structures, concrete structures, earthquake engineering, and their introduction results
In order to prepare highly qualified personnel at the level of advanced international educational standards, the organization of the conditions for the implementation and effective use of opportunities for young people, especially from the regions of the country, expanding international cooperation in higher education. Was created by the Singapore Institute of Management Development and the International University of Westminster.
JSC “Uzpharmsanoat” includes major research organizations actively implementing innovation. Today, the concern is the structure of the 84 companies and organizations, 3 of them are foreign companies, 15 are joint ventures (JV) and 3 research institutes. Three institutes are:

- Chemical-Pharmaceutical Scientific Research Institute (SRI) named after A.Sultanov (UzKFITI);
- Tashkent SRI of Vaccines and Sera (TashNIIVS);
- SRI "Oriental Medicine" (NIIVM), where successfully employ 15 doctors, 21 candidates and more than 100 researchers.
Uzbek Association of enterprises of electronics, electrical industry and instrument making (the association “Uzeltehsanoat”), which includes such major research and design organizations like SRI of Microelectronics, “Quark” SPC SE, “Photon Design Bureau” SE, “UMT-Radio Ltd.” JV, SPE “ELXOLDING Ltd.” SPC.

NHC “Uzbekneftgaz” incorporates research and design institutes such as JSC “IGIRNIGM”, JSC “UzLITIneftegaz”.

Regional Innovation Clusters

SCIENTIFIC INDUSTRIAL INNOVATION CLUSTERS
Navoi Mining and Metallurgical Plant carries out extensive research by means of Uzbek Scientific Research and Design Institute «OZGEOTEXLITI» being a part of the Plant.

Automotive Cluster in the Andijan region. The basis for the development of automotive cluster is a large company CJSC "GM Uzbekistan“. The number of employees in its amount to 7.6 ths. The Cluster includes more then 90 enterprises that produce about 250 types of products. Considerable part of enterprises is in the Andijan region as well as Fergana region, Tashkent region and Tashkent city.
Institutions that promote innovation at the regional level

- Committee for Coordination of Science and Technology;
- Agency for Technology Transfer under Ministry of Economy of Uzbekistan (ATT);
- Regional centers for innovative activity and transfer of national and foreign technologies under the Council of Ministers of the Republic of Karakalpakstan, hokimiyats (authorities) of the regions;
- Association of Business Incubators and technology parks;
- Chamber of Commerce industry.
• development of mid- and long-term strategy of the innovative growth including, creation of complex of priority high technology and knowledge-intensive productions and sustainable economic development;

• activization of institutional construction in the innovative sphere through formation of technopark and incubator national networks, centers of technology transfer, and also institutes of venture financing;

• development of cooperation ties between the scientific organizations and manufacturing enterprises;

• reduction of tax burdens concerning the innovative commercial and noncommercial structures that develop and implement innovative technology and product.
Recommendations and Conclusions

- Development of innovative entrepreneurship by means of providing the most favorable, economic and financial conditions to boost innovative activity in the sphere of science and production;

- Strengthening the role of private sector in innovative activity and further improvement of system in private sector;

- Development and implementation of regional programs related to training and professional development of innovative sphere representatives;

- Involvement of perspective young people into the sphere of science, innovative entrepreneurship and others;

- Creation of favorable business environment and attractive investment climate when running innovative activity.
THANK YOU FOR YOUR ATTENTION

A. Akramov
Head of Department

phone: (+998 71) 232 64 26
fax: (+998 71) 232 62 78
e-mail: aakramova@mineconomy.uz