

*Materials of conference***PLACE AND ROLE OF HIGHER SCHOOL SCIENCE IN FORMATION OF REGIONAL INNOVATION POTENTIAL**

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The innovation potential of a region involves a formed system of the judicial and business stimulation of the innovation activity and immediately the potential of innovation developments of Higher School, enterprises of small and medium business on regional business life branches' modernization. As in other spheres the innovation potential development can be carried out by two probable scenarios – pessimistic (inertial) and optimistic (active) ones. The realization of the last, allowing accelerating the processes of the regional innovation business life development considerably, is the most advantageous. In connection with this the development and realization of regional enterprises' and organizations' innovation potential extended reproduction governmental stimulation measures and also the concentration of financial resources of the regional budget on the support of priority projects making a synergistic effect for the whole regional business life (power engineering and saving, communications, nanotechnologies, human resources development, etc.) are required. As the maximal sustainable growth rate can be achieved only when introducing innovations, it sets the problem of the passage from the simulation investment growth to the innovation one, of the "innovative quality" infusion to the business life of the region.

The Rostov Region – the main scientific and industrial area with the highest concentration of Higher School and sectoral research in the South of Russia – desperately needs the integrated into the national one regional innovation system formation process finalization.

Due to the spontaneous (self-development of scientific and industrial institutions and small enterpot) and organized (implementation of regional and federal purpose-oriented programs, creation of legal environment and elements of innovation infrastructure, etc.) formation of the innovation potential a favourable situation for the innovation sector share increase in the economy of the Rostov Region emerged; the base of the sector being made up of scientific educational institutions (universities, research institutes, design centers), industrial institutions, small innovation enterpot. An important factor characterizing the innovation activity is the positive dynamics of the investment appeal rating innovation component. Thus, in 2005, according to the "Expert RA" rating agency's estimates the Rostov Region gained the 11th place among 89 subjects of the Russian Federation on the innovation potential.

The Rostov Region has got a well-developed scientific and technological component of the innovation potential:

- 95 organizations carrying out research and development works (54 scientific and 15 engineering organizations, 14 higher education institutions, 12 technological subdivisions in industrial institutions);

- 87 state and non-state higher and secondary professional establishments, 350 educational institutions of staff training and retraining;

- 3 industrial estates, RAS research center, a range of department and intersectoral information centers, consulting firms, etc.

- the SFU technology transfer center.

The higher school innovation potential is characterized by a high activity. Thus, the Southern Corporate University (SCU), having combined the RSU, TRSTU, SRSTU (SPI), executed research and development works to the amount of 500 million rubles in 2005, the Multi-Access Center of the SCU on nanotechnologies (80 million rubles) was created. In 2006 the TRSTU received 324 million rubles for the innovative education development, and the Southern Federal University creation within the framework of the RF National Education Program guarantees the attraction of additional financing in the amount of 3 billion rubles in 2007 and 2 billion rubles every year in the following two ones. The Rostov Technology Transfer Center (RTTC) combining the potential of the SFU, SRSTU (SPI), DSTU, providing the innovation commercialization through transferring to industrial institutions. However, the innovation breakthrough provision requires the development and implementation of the region's innovation potential extended reproduction mechanisms. The current situation is characterized by an independent development of the applied science and production and caused by the lack in the Rostov Region of the innovation conducting network as a necessary infrastructural component of the extended reproduction of the region's innovation potential providing the market high technology production demand satisfaction by joint efforts of research, commissioning organizations and industrial institutions. The main structural elements of the innovation potential extended reproduction system are:

- the knowledge production subsystem – higher school science, first of all;

- the professional training and educational sphere providing the human potential formation;

- the innovation production and service subsystem;

- the innovation infrastructure including the channels of innovation potential reproduction financial provision.

As an innovation infrastructure system forming part organizationally providing regional innovation potential extended reproduction we offer the creation

of the Regional Innovation Center (RIC) of the Rostov Region – an organization, with which the Rostov Region Authority, on a competitive basis, will make a government contract and which will be committed to work on the innovation process organization in the region. The RIC activity is aimed at the regional innovation processes' activating and overcoming the effects of the preserved trend of the system investment-innovation crisis. The RIC renders expert, information-marketing, analytical and other services. The RIC is called to coordinate the activity of technology transfer centers (TTC), engineering and patent centers (EPC), innovation-technology centers (ITC), industrial parks and other innovation activity subjects financed at the expense of the regional budget.

The holding block groups of the regional innovation infrastructure are the existing and actively developing on the higher school basis academic scientific-innovation complexes, in which the environment for commercial development of innovations in scientific and technological and educational spheres. At the infant stage an important mechanism of the venture capital procurement into the regional innovation system is the creation of the Innovation Fund in the partnership with the Rostov Region Authority.

At the present time the institutional-legal framework of the innovation potential extended reproduction and its use to a large extent consists of general enunciations not letting develop initiative in the priority activities on this basis. For the purpose of legislation concreteness promotion in the innovation sphere it is advisable to fix the priority of getting a state support by the innovation-active enterprises and organizations. For example, even the increased by the RF CB amount of budgetary resources used not in a competitive basis doesn't allow the SFU scientists to get more than 100 000 rubles per quarter on the won intra-university grants.

It goes without saying that it is necessary to adopt a legislative act on innovation activity. Thereupon it is offered:

- to limit the public sector of science with the institutes carrying out the research of the world's level or servicing the public administration and state-financed organizations – healthcare, education, ecology, defence and safety, etc.;
- to give the research institutes retained their scientific potential to higher school for the purpose of research universities formation;
- to create advanced research centers on a competitive basis;
- to pass from subsidization to crediting with the innovation promotion;
- to create technology transfer centers in research institutes and universities;
- for the innovation activity stimulation:
 - a) to release the profit aimed at the new technologies' implementation and research and develop-

ments' financing from taxation within the regional wage limits;

b) to support the creation of small science-intensive firms with concessional taxation within the regional wage limits;

c) to apply accelerated amortization of tangible and intangible assets;

d) to provide public and private insurance of investments into innovation activity;

e) to assist mass creation of small starting firms by the seed capital assignment (by the experience of the SBIR American program), tax concession, rendering judicial and information support;

- to make provisions in the regional budget estimates for science and innovation managers' training regional program implementation or to specialize the managers' training in the SFU and RSEU in this sphere on the Federal program.

Within the active innovation development scenario's framework the priority development of "knowledge production" environment, the research sector competitiveness and priority area developments provision, the creation of effective innovation infrastructure and stimulation of large-scale engineering modernization of economy branches are needed. For the active scenario realization it is required:

- the concentration of budgetary and extra-budgetary resources meant for research and development works' and science-intensive projects' financing in priority area;

- the provision of new high technologies and their demand information dissemination to enterprises and organizations of non-financial sector of economy.

Taking into account the being formed development trends there is a probability for the Rostov Region to raise its role as a knowledge (not technologies) provider. In this case the positive effects from the produced knowledge will mainly fall at foreign economies or other subjects of the RF. The entrepreneurial sector demand promotion for innovations will be generally manifested by the expansion of foreign and other-regional technologies' imports by local companies, that will elevate the "impoverish" risk development. In this case the innovation sector development capitalization will take place mainly out of the region (in Moscow, St.-Petersburg, abroad).

The shortage of qualified managers, patent specialists and lawyers for the realization of intellectual activity objects (IAO) use effective policy in scientific organizations and enterprises restricts the IAO involvement into the economic turnover. The basis for the educational programs implementation should become educational science-based innovation complexes. Together with educational and scientific units the innovation and business structures should be included in the higher school structure. The integration of scientific, educational, innovative and productive activities, natural-scientific and humanitarian training will allow developing and implementing of

the multilevel specialists' training innovation educational programs based on the cross-disciplinary and instrumental technologies of competences formation in the academic process.

The SFU creation on the basis of the RSU, the win of the TRSTU in the national competition of higher professional education innovation programs, etc., testifies to the competitiveness of the Don universities at the national level, and in a range of directions (neurocomputers, bioengineering, and others) – at the international one. In connection with this it is necessary to support the innovation educational products' development and the new technologies' application in the academic and research processes. The development of scientific-academic-production infrastructure (student engineering departments, technoparks, scientific university laboratories, etc.) and educational innovations will provide the passage from the delivery of highly specialized knowledge to cross-disciplinary and complex one, that will result in the retuning of the university environment to the formation of necessary in the innovation economy competences (according to a complex analysis of changing social-economic processes, the skills of organization and running projects, effective search and analysis of different information, practical managerial skills, the ability to research work and practical use of the fundamental and applied research results).

A special attention should be paid to cross-disciplinary directions of specialists' training and retraining for working in the sphere of high technologies. It is important to attract youth to innovation management, to add the disciplines revealing the ways of transformation of the results of investigations into merchandise articles to all education programs of universities. The professional development and training in the sphere of economics and management is carried out at the SFU (faculties of economics, faculty of high technologies, higher business school), SRSTU (NPI), RSEU (RINE) and other universities.

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INTEGRATED INFORMATION SYSTEM OF CONTINUING PROFESSIONAL EDUCATION PROGRAM EXECUTION MONITORING

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The entry of Russia into Bologna process sets the problem of the continuing professional education work systematization measures carrying out: the continuing professional education (CPE) guidelines regis-

ter creation, the generalization of jurisdictional educational institutions' work results for the purpose of revelation of development trends of the specified activity direction and the process's dynamics correction in accord with the purposes of the realized higher professional education complex development programs.

The results of the work on the integrated monitoring system and information technologies development providing the organization and statistical observation of the Russian higher professional education institutions' faculty's advanced vocational training and realization of continuing professional education programs by them are considered below. The work's actuality is determined by the fact that nowadays the total faculty strength of all higher professional education institutions makes more than 220 thousand people; therefore in the advanced training system about 45000 places are distributed annually, that needs the creation of integrating information record, control and process optimization system. The most important purposeful problem of the specified information system is the computer-assisted creation and support of the integrated informative space in Russia in terms of continuing professional education.

In the system's development phase the analysis, the type definition of relevant information for federal data base forming-up and the unification of information flows structural units were carried out. Nine main statistical reporting forms were developed and the parameters determining the statistical reporting outputs were offered: the organization type, reporting form (advanced training form), fiscal year, variable parameters, etc.

In the next phase the automation processes' software support was developed:

- operational data collection from remote subjects;
- provided information monitoring;
- provision of operational statistical information;
- final reporting forms formation.

The information system bundled software is meant for the information accumulation unification and automation in the sphere of continuing professional education, and also for carrying out the monitoring for the purpose of coordination of extended institutions' and higher education institutions departments', implementing the continuing professional education programs, activities. The created software is designed for the formation of the integrated database on the sponsoring extended education activities institutions' work and the provision of the following functions support:

- information storage in the common distributed database with the information integrity procedures provision;
- accumulation, storage and maintenance of structured information records;