Explanatory Note

to the 2014 report on the implementation of the Activity Plan on the Implementation of the Program of Competitive Growth («Road Map») of the federal state autonomous institution of higher education

«National Research Tomsk State University» for 2013-2020

(1st stage – 2013-2014)

This report reflects the progress and results of implementation of the Activity Plan on the implementation of the program of competitive growth of the federal state autonomous institution of higher education «National Research Tomsk State University» among the world’s leading education and research centers in the year 2014.

In order to achieve the goals set in the program for 2014, the emphasis was placed on the development of mechanisms of engagement and development of key personnel and involvement of the latter in the transformation processes, including the University management, and implementation of the change management model.

Within the framework of implementation of 37 events planned in the Activity Plan there are 17 goals and 92 projects aimed at 7 key development areas were being carried out.

The most significant results that have been achieved are: forming of project teams, engaging over 830 employees in the implementation of research, educational and organizational projects, attracting 93 international scholars and specialists to the university, as well as 21 postdocs and 181 employees of the RAS and the RAE institutes, establishing 3 and developing 2 interdisciplinary centers of excellence, and developing and implementing 8 master’s and postgraduate joint programs with international universities.

In 2014 TSU rose 100 points in the QS World University Rankings (WUR) and took the 491-500 position. The University also reached TOP-100 QS University Rankings: BRICS (47th position, 6th among Russian universities) having improved its standing by 11 positions. TSU ranks 33rd in QS University Rankings: Emerging Europe and Central Asia 2014/2015 and is in the top decile of the best universities, according to Interfax national university rankings (8th position among institutions of higher education in Russia, 9th position in 2013).

Key factors for competitive growth of the University in the course of the program’s implementation are the internationalization of activity, international recognition of its results, and improvement of effectiveness.

A vast set of internationalization tools was used in 2014. In educational activities the emphasis was placed on development of master’s programs and postgraduate programs, establishment of a multilingual environment, holding of international summer schools, development of student academic mobility programs, attracting of talented prospective students, and development of online learning and e-learning.

8 joint master’s and postgraduate programs with international universities were additionally developed and implemented in 2014. Thus, during the period of the report, 26 joint international educational programs at various levels of higher professional education, 10 international educational programs resulting in obtaining two diplomas, 10 exchange programs, and 6 joint PhD programs were being carried out at TSU.

122 courses in English for the training of bachelor and master students were developed and are being implemented. A center of international and public accreditation of educational programs, a center for development of the quality of education, and a department of international accreditation of educational programs were established. Jurgen Abendschein, a famous German specialist in the area of quality assessment and scientific director of the Institute of Applied Quality Science at the Ludwigshafen University (Germany) was invited to take up the post of director of the latter.

Public accreditation of three educational programs was conducted. The procedure of international accreditation of a master’s program by the Foundation for International Business Administration Accreditation (FIBAA) was successfully completed.

In order to create favorable living and working environment for international students and postgraduate students, the system of coaching by student volunteers as a part of «Development of adaptation system of international students of TSU» project was organized; 62 students were involved, and a center for the adaptation and support of international students and postgraduate students was established. Moving into a new residential complex with accommodations for international students at Buyanovskiy Street 3d is in progress. The total number of international students studying intramurally is 1307; the proportion of international students studying in concentration programs in the total number of students is 11.3%. With the purpose of attracting international students, the University took part in education exhibitions in Spain (AULA 2014, February 19-23), Vietnam (RCSC in Hanoi, March 10-15, November 6-7), Mongolia (16th International Education Exhibition, March 22-23), Tajikistan (Days of Education, Science and Culture of Tomsk Region in Republic of Tajikistan, June 9-14), Czech Republic (EAIE Conference 2014, September 16-19), China (China Education Expo, September 24), and Indonesia (World Education Expo Indonesia-2014, October 1-11).

A competition for a grant for postgraduate education at TSU in 2014-2015 among foreign students was held within the framework of implementation of «Internationalization of postgraduate training programs/PhD and doctoral programs» project. 19 foreign postgraduate students were awarded grants for studying at TSU. Altogether there are 43 foreign postgraduate students; 35 of them entered a postgraduate program in 2014.

20 University postgraduate students studied in postgraduate programs of scientific centers at foreign universities (USA, France, Switzerland, Sweden, Czech Republic, Spain, and Brazil).

9 summer schools with international participation and involvement of international experts and leading scientists were held; the total number of participants was over 500 students and postgraduate students. In 2014, 712 TSU students received support for taking part in academic mobility programs. These students studied and completed thematic internships at 30 universities around the world. At the end of 2014, the total number of TSU students who took part in international events was over 12% of the total enrolled at TSU.

For the purpose of development of eLearning environment, 502 electronic training courses were developed. All developed training courses are added to the common database of electronic resources of the university, which is available on the educational web portal Electronic University (<http://edu.tsu.ru>). The first mass online courses of TSU: «Genius. Talent. Mediocrity», «Sketches of Siberia. Tomsk», and «Russian language as an instrument for successful communication» were developed and posted in the multimedia library of educational project Lektorium»([www.lektorium.tv/mooc](http://www.lektorium.tv/mooc)).

There are over 530 participants from the Netherlands, Scotland, Norway, Vietnam, Bulgaria, Poland, Czech Republic, Serbia, Hungary, Greece, Taiwan, China, India, Kazakhstan, Uzbekistan, Ukraine and Russia registered for the course «Sketches of Siberia. Tomsk», which started at the end of November. There are already over 900 participants registered for the «Genius. Talent. Mediocrity» course which begins in February 2015.

English infrastructure is being created within the framework of the project on development of multilingual environment. Employees of faculties and services of the University took a test of English proficiency; the English language program for senior management and university employees is being carried out; a center of academic writing and a center of linguistic competence were created; two English speaking clubs are held weekly; and there are 3 translation centers in the areas of social-humanistic, physics-mathematical and natural sciences.

Creation of an appealing internal environment is aimed at attracting and retaining leading academic employees, including those from leading international universities. A system of international recruiting is being created. A database which contains information on all foreign scholars who are considered for prospective cooperation or employment based upon requests from the Centers of Excellence, laboratories and departments of TSU has been created. Currently there are 178 foreign specialists from the leading universities in the world entered in the database. In a panel session of the Foreign Specialists Recruitment Committee, employment of 123 of foreign specialists was considered. At the end of 2014, there were 93 foreign scholars and leading specialists employed at the Centers of Excellence, laboratories and departments of the University.

In order to carry out professional development programs for the employees of the University there were 78 scholars and professors from the leading universities of the world invited. Altogether 1929 University employees upgraded their skills during the year 2014.

For attracting young academic employees, including those from the leading foreign universities, an open international grant competition among young academic staff was conducted, and 21 postdocs were employed. A new wave of the competition has been announced with 10 new vacant positions.

An ambitious program of academic mobility of academic staff, which the Center for Academic Mobility of TSU was created to carry out, is aimed at familiarization with international standards for research and teaching activities, establishment of international partnerships, and implementation of network research and educational projects. In 2014 555 TSU employees took part in programs of mobility, which included 40% of young employees who completed 349 internships and also participated in 448 conferences in Russia and abroad (71 universities and scientific centers from 46 countries).

An Internet-lyceum based on distant profession-oriented schools was created to attract talented prospective research-oriented students to the University. The training process there is based on remote technologies. Various scientific, popular science, and creative activities for secondary school students are held. There are 5 distant schools for gifted-child development. 1236 secondary school students completed training in programs of the Internet-lyceum in 2014.

In 2014 initiative transregional Internet-based competitions for secondary school students were conducted: «Cultural Revolution», «Studies spread before the eyes: the best mobile app for a pupil», V Trans-regional Internet-based academic competition «I am a journalist»; and a virtual «Science-class» that is functioning, «Consultant» module. Overall, there were over 10,000 secondary school students attracted to the projects and campaigns devoted to TSU on its educational web portals.

The University actively seeks its prospective students in the Tomsk Region and Siberian Federal District interacting with the system of basic education of the Tomsk Region by carrying out network projects with schools. In order to improve the effectiveness of cooperation with the schools the position of Deputy Vice-rector for Academic Affairs was inaugurated. By order of the administration of Tomsk Region, TSU is responsible for the development of a substantive conception of an interuniversity lyceum and of Tomsk’s Museum of Science and Technology.

For the recruitment of talented Russian and international prospective students with a strong motivation to study at Tomsk State University, some projects were carried out in 2014: «Students’ Admission Committee», «I am at TSU», and «Enactus»; field academic competitions and field summer schools were held regularly and 27 youth science clubs operated.

Average USE scores of prospective students who entered TSU rose from 69 points in 2013 to 72 in 2014 while the average score in Russia fell.

In order to attract gifted students from abroad to TSU, a new format of summer schools «Getting to know TSU, the city and culture» was adopted. Students from Vietnam, China, Germany and the US participated in those summer schools.

The international expertise of the projects, the attracting of key scientists, the competition-based procedures of supporting the projects, and the system of professional development of academic staff are all aimed at the cultivation of the University’s image in the international academic milieu. In April 2014 a session of the International Academic Board of TSU was held. For 5 days leading experts discussed and defined research priorities of the University, and discussed research projects and projects of the 5 Centers of Excellence and 20 laboratories. Meetings of International Academic Boards in the areas of focus of the Centers of Excellence were held from September to December. Councils of the Centers were established, strategic planning of the development of the Centers and foresight on priority areas with the involvement of the experts from Higher School of Economics were carried out, and priorities and goal for the next period were considered and approved.

A competitive mechanism of resource allocation is aimed at increasing the efficiency of research activity. For the support of fundamental and applied research in accordance with the program’s priorities the D. I. Mendeleev TSU Scientific Fund was created. Competitions for the implementation of research projects of world-class laboratories, pilot research projects, and projects (grants) of postdocs in 2015 were announced within the framework of the fund. Filed applications underwent independent external expertise. A competition for academic mobility grants was also announced.

Reinforcement of staff structure, evaluation, stimulation and training of scientific staff led to enhancement of efficiency of research, and expansion in the number and quality of publications. The number of scientific articles published by the University employees in 2014 is 1130 (Web of Science and Scopus). Moreover, more than 200 articles were accepted for publication to the journals indexed in the Web of Science and Scopus citation indexes. The total number of published articles increased more than two and a half times in comparison with the previous year.

In 2014 Russian experts carried out a set of training seminars for the academic staff of the University: «International standards of publications and journals»; «Proceedings of scientific conferences as a source of increase of publishing activity of a university: Possibilities of promotion of proceedings of scientific conferences of TSU in international systems of scientific citation Web of Science and Scopus»; «Scientific conferences as a potential for sustainable growth of research activity in a modern university: Analysis and development prospects of conferences of TSU in terms of progress in 5-100 project»; and «Scientometrical methods and practices for the analysis of publications of a scholar/faculty/university».

An interactive two-day master class «Academic writing and publication in the leading journals» was held in TSU in December 2014. The master class was given by the editors of a top-rated British journal Nature, Peter Gorsuch and Bart Verberck. In the master class, strategies and techniques of support of researchers in the improvement of their academic writing skills and promoting of their publications to the leading publishing houses were discussed. Some unique courses such «Academic Writing» and «Academic English» (the developer and instructor is J. Kollantai, University of Berkeley, USA) are delivered. The courses are held entirely in English. The number of course participants is 125 people.

4 TSU journals were sent in for registration in the Scopus citation index. Access to the electronic databases Elsevier: ScienceDirect, Illunine8, SciVal, Scopus, BCC Research, [Thomson Reuters](http://ip-science.thomsonreuters.com/) [Web of Science Core Collection](javascript:;), InCites, Journal Citation Report, and Essential Science Indicators was open to University staff.

In order to strengthen competitiveness, TSU has focused on the creation and development of five Centers of Excellence. Three new interdisciplinary Centers of Excellence were created in 2014 – Center of Semiconducting Materials and Technologies, Center of Excellence in the Area of Cognitive Research and Center of Excellence in the area of High Technologies in Medicine. These centers ensure a world-class level of educational and scientific activities of the University and an increase of worldwide acceptance of the results of research conducted at TSU. Leading foreign experts are the chiefs and the researchers of the Centers of Excellence. The Centers are oriented toward network organization of research and participation in international research.

6 new laboratories were established in the framework of priority areas of University development. These include the Laboratory of Nanostructured Surfaces and Coatings, the Laboratory of Catalytic Studies, the Nanoelectronics and Nanophotonics Laboratory, the International Laboratory of Cognitive Studies and Psychogenetics, the Laboratory of Social and Anthropological Studies, and the Laboratory of Biogeochemical and Remote Methods of Environmental Monitoring. Taking into account the infrastructure projects, the total amount of funding of research activities at TSU in 2014 was more than 2 billion rubles.

Among the most significant scientific and technical projects and grants realized by the University in 2014 are:

* the grant of the Government of the Russian Federation (4) for government support of scientific research, carried out under the supervision of leading scientists at Russian institutions of higher education in the areas of Earth sciences and related ecological science, cognitive psychology, history and archeology, and biological sciences.
* Complex projects within the Government Decree of the Russian Federation RF №218 «Development of technology and production of low-toxic carbamide-formaldehyde resins for environmentally friendly wood-based panels» (federal budget resources - 180 million rubles) and «Development of high-performance catalyst of isobutene dehydrogenation to isobutylene and organization of its industrial production» (federal budget resources - 150 million Rubles).
* 8 projects being carried out within the framework of the Russian Scientific Foundation;
* 20 projects being carried out in the Federal Target Program «Research and development in priority areas of scientific and technological complex of Russia for 2014-2020» of the Ministry of Education of Russia (including 6 large projects with funding of about 45 million Rubles in a 3-year period);
* 16 projects being implemented, within the basic part of government task of the Ministry of Education and Science of the Russian Federation, and 20 projects are carried out within the competitive part of the government task of the Ministry of Education and Science of the Russian Federation;
* Grants of Russian Foundation for Basic Research and Russian Foundation for Humanities (178);
* Grants of the President of the Russian Federation for supporting of young Russian scientists (9) and leading scientific schools (4).

The largest engineering, chemical and technological center beyond the Urals was established by TSU. This center is equipped with modern equipment, allowing synthesis and purification of a wide range of chemicals and testing of plasma-chemical and polymer technologies.

There are currently 47 small innovative enterprises based on University intellectual property (36 of them on the basis of the Federal law № 217) and 10 enterprises were opened in 2014. From the results of RVC (Russian Venture Company) competition the University domestically implements acceleration program (BioTechMed) within the framework of competition of technological start-ups GenerationS-2014.

In 2014 TSU participated in 40 international and national exhibitions, among which 28 exhibitions were international, 5 domestic, and 7 interregional. 280 exhibits were presented, among them 110 at international exhibitions. TSU received 32 awards, 18 of them at the international exhibitions (exhibition’s top prize, 12 medals and 5 diplomas). In 2014 TSU held several international conferences; also as host it organized the international conference Triple Helix, the international conference «Russia and the EU: Cooperation in the areas of science and education», and the National Forum of Young Scientists U-NOVUSB.

One of 6 Russian scientific and educational centers of development of science, technology and education in the area of defense and security of the state was established within the cooperation with the Military-Industrial Commission under the Government of the Russian Federation. It was established in order to create advanced scientific and technological potential, and develop the scientific basis for industrial technologies, components and materials for weapons, and military and special equipment.

In order to train specialists for coordinating research projects with large companies and international partners, TSU established an institute of key managers. TSU established the office of legal support of TSU intellectual property abroad, which is headed by British lawyer F. Selita. It is aimed at promoting and protecting TSU intellectual property abroad. Such offices as the office of innovation activity, the office of application programs and the office of strategic partnerships form the front office, providing links with the market, orders and investment, diversification of sources of income.

Increased effectiveness of the program realization at this stage was ensured by implementation of elements of the matrix management model, a combination of elements of shared governance and commitment to the professionalization of management, involvement of personnel in the processes of transformation and university management, and formation of an effective contract with managers and scientific and pedagogical workers. The framework arrangements for the program of University transformation were conducted on the principles of project management; commitment to results; service creation; and commitment to internal and external customers.

The Office of Strategic Management managed the process of transformation, coordinated the implementation of strategic initiatives, supported project-based process of implementation of the action plan through preparing, launching, monitoring and supporting projects, forming project teams, and managing their interaction with the services and structural divisions of the University. 92 projects have been implemented.

The University in cooperation with the international consulting firm PwC audited management processes and organizational structure in order to reorganize the structure, increase efficiency of business processes and define the Key Performance Indicators. The University management structure was reorganized after consideration of prepared proposals. In 2014 the University management team was refreshed, as well as the composition of Vice-rectors, who were completely changed along with their functions and distribution of powers and responsibilities. More than 20 departments, offices and services were created and reorganized, among them: Personnel Development Office, the Office of Strategic Management, the Office of Information Policy, the Office of Innovation Activity, the Office of Strategic Partnership, the Center of Academic Mobility, the Center for Promotion of Publication Activity, the Center of International Educational Programs, the Information and Analytical Center, and others. It was done in order to develop the front-office of university management, support project management, creating a system of services to ensure efficient operation of scientific and pedagogical staff of the University.

The University became an autonomous educational institution. The Supervisory Board created is headed by Harry Minch, Plenipotentiary Representative of the President of the Russian Federation in the State Duma of the Federal Assembly of the Russian Federation.

55 inefficient wage rates of academic staff workers were reduced within the framework of optimization of main activity. The University continues comparative analysis of global best practices in university management. In May, the TSU delegation visited MIT and Purdue University; in June, a delegation headed by the TSU Rector studied the best practices of university management in the Netherlands at five universities included in the top 100 (Erasmus Universiteit Rotterdam, The Eindhoven University of Technology, Utrecht University, Maastricht University, Wageningen University and Research Centre). In October, the delegation visited the UK King's College, City University, Goldsmiths College (London Universities), and University of Sussex. In November a delegation headed by the Rector visited Lund University (Sweden). Representatives of the TSU management team visited National Taiwan University (NTU), University of Minnesota and University of Arizona (US) to strengthen partnerships and explore the best managerial decisions. Particular attention was paid to the study of the best practices of TSU’s reference universities in accordance with the Program for Improving Competitiveness: Utrecht University, Lund University and National Taiwan University. In order to study the experience of effective transformation of City University of Hong Kong, all TSU top managers took advanced training. The plan template of strategic development of University divisions was developed in cooperation with invited expert Kevin Downing.

TSU is implementing a program of improvement of managerial competence of the University’s managers. Representatives of the management team were trained at the Moscow School of Management SKOLKOVO, and the top TSU managers participated in managerial skills training. 5 strategic two-day sessions were held, aimed at clarifying and updating the target model of the University and its positioning. At a meeting on November 19, 2014, the University’s management staff discussed the issues of the Program’s implementation and the prospects of its realization in 2015-2016. Commitment to the professionalization of management is combined with the involvement of key staff in the discussion of the key decisions and involvement in the implementation of the Program projects. More than 1000 employees participated in the important communication activities, meetings with laboratory staff, strategic sessions, public meetings of the international board, open seminars and so on. The number of employees involved in implementation of Program projects is more than 830.

Within the framework of the project «Development of innovation-active environment for supporting change management process on an ongoing basis» for solving problems, such forms of employees involvement are utilized as public seminars on change management, organization of project work, analysis and expert groups in divisions, open expert analytical seminars involving external experts and consultants, and training seminars and programs in the area of innovation in education, science and university management. During the reporting period more than 70 activities were held. They are related to implementation of the Program for the Improvement of International Competitiveness. Moreover, stimulation and activation of innovative activity of the scientific and pedagogical workers are realized through competitive/grant mechanisms, as well as through the formation and distribution of the bank of initiatives by TSU employees in key areas of development. Grants contests were held, and from 24 submitted applications 14 projects were supported and are now implemented. These projects are aimed at spreading best practices in organization of education and research activities.

The aims of realization of the project «Development and implementation of a program of analytical support of change management» are an analysis of the processes of change at TSU and support of these processes through research.

One of the ways to involve employees was participation in activities on formation of a personnel reserve of scientific and pedagogical workers, and administrative and managerial staff. The core of the program is the School of Project Leadership, created to support the project management at the University through the selection and development of talented young managers, under the supervision of a leading business coach from St. Petersburg. The program was attended by over 50 employees.

The Key Performance Indicators were developed on the basis of competency models of research and teaching staff and administrative and managerial staff. These Key Performance Indicators are the basis for changes in the merit system, timing (1-5 years) and conditions of awarding contracts with the scientific and pedagogical workers, and the definition of quality of work of Vice-rectors and heads of educational and research divisions. All heads of educational and research divisions work under efficient contract. The models of competency were developed for 100% of research and teaching staff and for 75% of managerial staff, and now more than 70% of research and teaching staff and all heads of educational and research divisions work under effective contracts.

Within the framework of strategic initiative «Increasing of the attractiveness of the University and Tomsk City to enhance competitiveness» are activities aimed at interacting with the local community, improving the scientific and educational, social and cultural environment of the city. The University provides public access to the infrastructure of TSU for residents and visitors of Tomsk city: the research library, the botanical garden, university cultural center (concerts of the TSU Choral Chapel, the TSU violin ensemble, jazz band «TSU-62»), and TSU’s sports facility.

A conceptual design of planning and development of the university campus was developed, providing construction of new educational and laboratory buildings with the connection of the buildings to form a single integrated structure.

The University implemented the educational project Open University, developed in the framework of non-formal learning and contributing to the development of social partnership of the University and the growth of its authority in the city of Tomsk. The complementary enrichment programs were attended by over 2100 residents. Active information policy aims to improve the reputation of TSU and international promotion of the University. The University developed the platform and architecture of the TSU brand, oriented toward international promotion of TSU. Within the framework of the promotion of the University, TSU has conducted a press tour for journalists in Germany, Great Britain, Vietnam, China and Indonesia and conducted joint activities with media partners (QS, RIA Novosti). The university together with the RIA Novosti (RIA Tomsk) organized a teleconference «Tomsk-London», which was attended by teachers, students and university staff.

Websites of partner universities provide information about TSU employees who participated in activities of the University, as well as links to the TSU site. TSU is expanding public relations activity on the Internet: the University is present in several social networks http://www.linkedin.com/, Instagram, Google+, In Contact, Facebook, Twitter, and YouTube.

Within the framework of the program are formed the best practices to ensure the stability and efficiency of its implementation, including the creation of innovation-active environment, supporting change management process on an ongoing basis; formation of the design of the control loop; and increasing the attractiveness of TSU as an institution creating regional scientific, educational, and cultural environment.

Implementation of the Road Map in 2014 was complicated by the following factors:

1) Restricting the use of subsidy funds for the project implementation framework defined in Decree of the Government of the Russian Federation on March 21, 2012 № 211, which narrows the areas of strategic initiatives;

2) The lack of mechanisms and procedures for operational correction of the Action Plan of the implementation of program for improving competitiveness (Road Map) in terms of the redistribution of amounts of funding among strategic initiatives, activities that would enhance the effectiveness of their implementation;

3) Insufficient basic level of financing of educational activities of leading universities within the state tasks that are not oriented to solution of the issue of international competitiveness;

These problems are not critical to the achievement of goals and implementation of the Project for Improving Competitiveness, but they reduce the rate of transformation of the University and the effectiveness of the measures to conduct it.

In general, the implementation of the first stage of the project was aimed at increasing the involvement of University staff in implementation of the Program Road Map, for internationalization and improving the efficiency of the University, and the international recognition of its results. TSU’s focus was on the concentration of talented researchers, teachers, students, and administrators, the creation of favorable environmental conditions, and the introduction of elements of shared governance in conjunction with the project-based process of carrying out of the Program’s events. These create motivation for employees’ involvement and a stable base for the project of intensive transformation of the University.