THE MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION

SOUTH URAL STATE UNIVERSITY

COMPETITIVENESS ENHANCEMENT PROGRAM OF THE SOUTH URAL STATE UNIVERSITY

Rector of SUSU

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Content 2

Key Performance Indicators and Target Model

1. University Goals and Key Performance Indicators

1.1. University Strategic Goal

At the South Ural State University we endeavor to become a world-class research university with strong entrepreneurial culture and specialization in Supercomputing, Engineering, Natural and Life Sciences. Achievement of this goal will provide University with a rank in top-100 universities according to major global rankings (THE or QS), as well as top-100 positions in the following subject rankings: Computer Science, Mechanical, Aeronautical & Manufacturing Engineering and Materials Science. In line with the goal of becoming a top-100 university, SUSU has set specific strategic goals in Education, Science, Governance, Funding and Infrastructure.

Table 1. Strategic goals by activity

Activity	Strategic goals
Education	- Global leadership in supercomputing and space engineering education - Integration of students and faculty into international community
Science	- Enhancement of the University scientific activity to the world-class level - Achievement of globally recognized scientific breakthroughs in the fields of specialization of the University - World-wide commercial success and recognition of leadership in innovations
Governance, financing and infrastructure	- Diversification of the University funding - Best-in-class operational efficiency - Construction of a new campus according to international standards - Introduction of the new, client-oriented model of the University

1.2. Key Performance Indicators

The University will monitor the progress towards the goal with the help of key performance indicators (KPIs) detailed in Annex 1 to the Program. Annex 1 also contains three additional KPIs aimed to control Master's and PhD's students' share growth, number of joint study programs and programs offered in English language as well as the progress of the University in the Webometrics ranking.

2. University Target Model

2.1. University Mission

The mission of SUSU is to address the most pressing challenges for the sustainable development of humanity through creating, communicating and applying scientific knowledge and educating a new generation of leaders for the 21st century.

2.2.1. Peer Group

To verify the target model parameters and decide on the best practices, a group of benchmarks was selected, consisting of global universities with the same research focus and development goals as SUSU.

Table 2. Peer universities and their positions in QS subject rankings

University	QS-WUR	QS-Materials Science	QS-Computer Science	QS-Aeronautical and Manufacturing	Best practices
Korea Advanced Institute of Science and Technology (KAIST)	51	19	39	26	- Rapid growth in ranking
Tsinghua University	47	11	38	16	- System for recruiting foreign academic staff - Integration of international students
University of Texas at Austin	79	31	22	51-100	- Efficient operation of the world's eighth most powerful supercomputer
Darmstadt University of Technology	269	51-100	101-150	44	- Interdisciplinary research - Concentrating resources on breakthrough technologies
University of Michigan	23	27	51-100	5	- Key role in regional development - Bachelor’s programme organization model in Michigan Engineering: common admission, 2nd year specialization

The selected peer group includes leading world universities that are comparable to SUSU by size and have diversified research portfolios and strong positions in target rankings by subject. More details on the best practices at the benchmark universities are cited in the relevant sections.

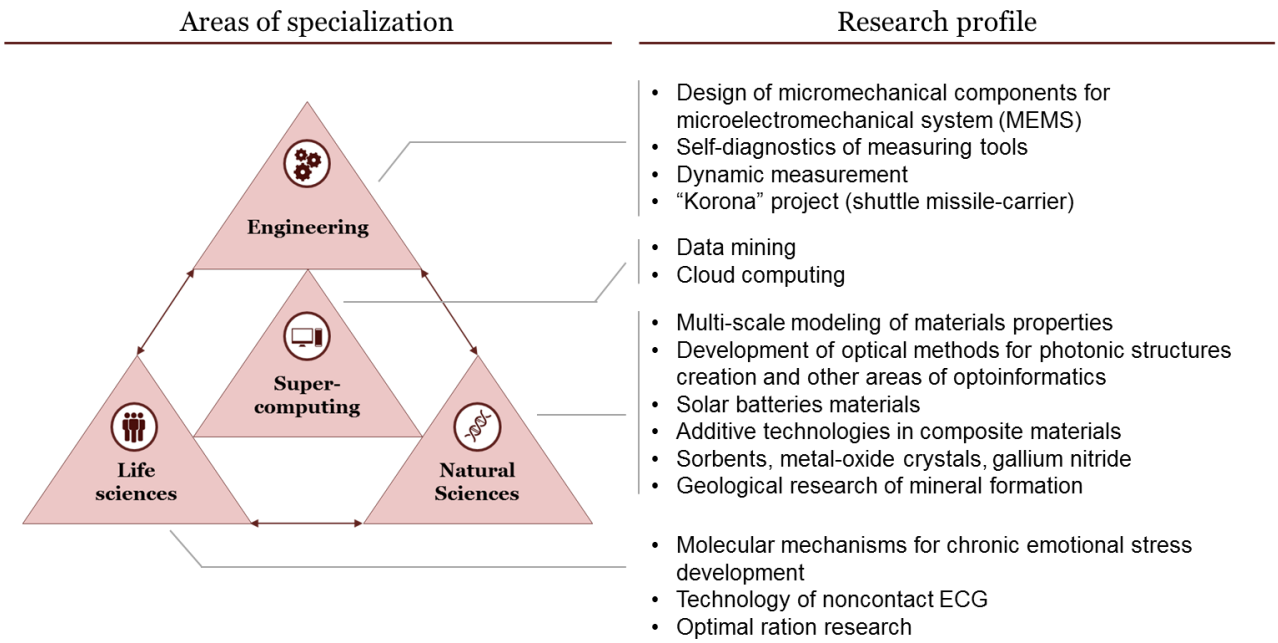
2.2.2. Marketing Strategy

2.2.2.1. R&D Market Strategy

At R&D market the University aims to hire and retain brightest researchers and increase University's fundamental and applied research funding.

Research activities at SUSU can be grouped around four main disciplines, as depicted in the graph below. Research activities in these disciplines complement each other, nurturing a constant flow of fresh ideas and solutions to diverse scientific challenges. Furthermore, all of these fields of knowledge are inherently cross-disciplinary.

Picture 1. Areas of specialization and the University's research profile



The University will focus its efforts on developing cross-disciplinary breakthrough research areas. These areas of research will produce the greatest number of scientific publications and bring the largest part of the University's research budget in 2016-2020. These research areas include:

- Carrier rocket (Engineering)
- Materials for solar cells (Natural Sciences)
- Data mining (Supercomputing)
- Molecular mechanisms in the development of chronic emotional stress (Human Sciences)

In concentrating its resources on developing cross-disciplinary breakthrough research areas, SUSU follows the example of the Technical University of Darmstadt, a participating university in the German Exelence Initiative. The University has built up a strong academic reputation across the selected focus areas. The Technical University of Darmstadt stands out for the exceptionally high quality of its publications compared to a relatively low volume.

In **Engineering**, a critical breakthrough initiative is the Korona (Crown) project, aimed at developing a space shuttle launcher that can put spacecraft into the Earth orbit at minimum cost. This project is one of the most vivid examples of the University's leading-edge cross-disciplinary research, as it requires close collaboration between mathematicians, materials and physical scientists, as well as specialists in tool and instrument engineering, human physiology and supercomputer modelling. These research products rely on the University's unique experience in rocket science. This project is implemented together with Makeyev GRTs, a leading Russian rocket and missile manufacturer. The University also collaborates with other leading organisations in this area, including the Central Research Institute of Machine Building (TsNIIMash) and the S.A. Khristianovich Institute of Theoretical and Applied Mechanics of the Siberian Branch of the Russian Academy of Sciences. Among potential project partners are the China National Space Administration (CNSA), the European Space Agency (ESA) and the US National Aeronautics and Space Administration (NASA), as well as enterprises across a variety of industry sectors potentially interested in launching spacecraft or satellites into orbit.

The University boasts substantial engineering competencies in instrument engineering, diesel engines, and the design of micro-electromechanical systems. Research in these areas is in high demand among Russia's leading heavy engineering enterprises. The University's customers include KAMAZ, Avtovaz, Uralvagonzavod, Urals Diesel Engine Plant, Chelyabinsk Tractor Plant, Urals Design Bureau of Transport Machinery, Automotive Plant Ural, Kurganmashzavod, and others. In 2014,

the total volume of R&D for industry grew more than threefold compared to 2010, reaching a value of approximately RUB 500 million.

A major breakthrough research area in **Natural Sciences** lies in the field of materials science. The University is working on developing **materials for solar cells** (photosensitizers) helping enhance the efficiency of solar batteries and reduce cost of energy generation. The University's research team has already achieved valuable results with both scientific and practical applications. Among the University's key partners in this area are the University of St Andrews and Imperial College London. Potential customers for photosensitizers include Oxford Photovoltaics, Dyesol, Exeger Sweden AB, 3GSolar Photovoltaics, and Fujikura.

Other promising areas of research in materials science include additive manufacturing technology for composite materials (3D printing), sorbents, metal-oxide monocrystals and other materials that enjoy widespread market demand. One distinctive advantage setting the University apart from other research centres is its pioneering use of supercomputing for materials properties modelling.

Besides materials science, the University is also engaged in other Natural Sciences disciplines. The most productive areas in terms of high-quality scientific results are geology and optical information technology. In geological sciences, the University works closely with the Institute of Mineralogy of the Russian Academy of Sciences in Miass, Chelyabinsk Region, while in the field of optics its most significant partner is the Institute of Electrophysics of the Ural Division of the Russian Academy of Sciences.

Research work at the University is funded by domestic and international scientific grants. The University is striving to boost the total volume of international grants through a newly adopted comprehensive system to facilitate grant applications and fundraising from international sources.

In the **Supercomputing**, the major breakthrough area is **data mining**, a technique particularly essential for the comprehensive analysis of Big Data. The

research findings in this area has a potential to revolutionize business models of organisations processing large volumes of information, including mobile phone operators, social media networks, banks to name a few.

The supercomputer is at the very heart of the University's research activities, as it can be used to process highly complex calculations in engineering, natural sciences and IT. The SUSU supercomputer ranks second only in terms of capacity among university supercomputers in Russia and ranks 245th in the TOP500 ranking of the world's most powerful supercomputer systems. SUSU aims at upgrading its supercomputer to advance into top-100 of the ranking by 2020. Besides being instrumental in many research projects, supercomputer is extensively utilized for educational and commercial purposes. Supercomputer-related services already generate sixteen percent of the University's research income.

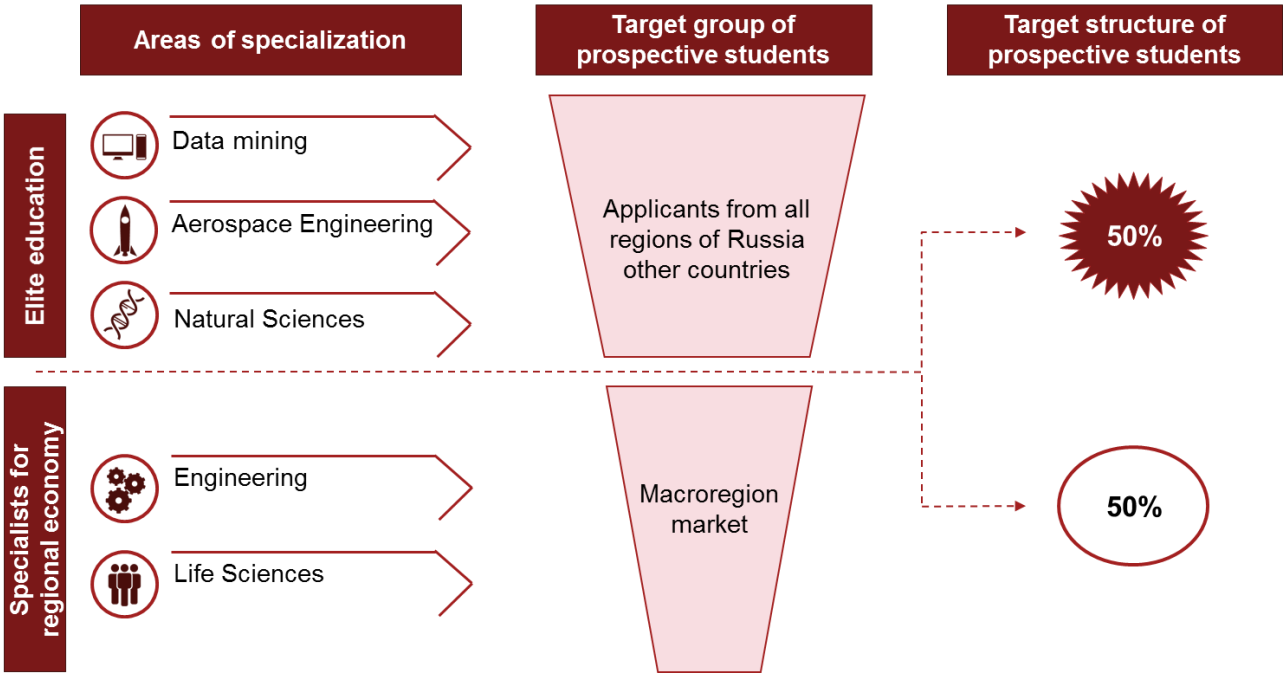
In supercomputing SUSU follows the example of the University of Texas at Austin, ranking 22nd in the QS World University Ranking for Computer Science, home to the world's eighth most powerful supercomputer. Through adopting practices pioneered by the Texas Advanced Computing Center (TACC), SUSU will be able to increase funding and improve the level of supercomputer-powered research.

A major breakthrough research area in the **Life Sciences** is **molecular mechanisms of chronic emotional stress development**. In light of the high incidence of chronic stress-related diseases in major cities and the lack of effective ways for relieving stress, these studies are of great importance for modern society. Although this subject is relatively new for the University, SUSU researchers have already published on this topic in top-rated journals and have established meaningful ties within the academic community. Stress studies represent one of the University's cross-disciplinary research platforms, as they call for joint work among psychologists, biologists, and specialists in measurement and tool engineering. The University is collaborating with leading research organisations in this area, including the Harvard Medical School.

2.2.2.2. Prospective Student Acquisition Strategy

The University aims to recruit best talent both for undergraduate and graduate programs and expand the geography of admissions.

Picture 2. Target model of the market for prospective students



Total amount of SUSU students will be 15000 in 2020, which means a 15% decrease from current numbers. Simultaneously the share of Master's and PhD's students will grow to 40% of the total student population.

The University preferred instruments of recruitment and target audiences differ depending on the region:

- applicants from Chelyabinsk and the Chelyabinsk Region
- applicants from the Southern Urals and Western Siberia macroregion
- applicants from other regions of Russia
- Russian-speaking foreign applicants
- English-speaking foreign applicants

Applicants graduating from schools in the **Chelyabinsk Region** demonstrate a solid academic grounding and knowledge base, as shown by their average Unified State Examination (USE) scores (see table below). SUSU's home macroregion includes several Russian Federation constituent regions, including the Chelyabinsk, Kurgan, Orenburg, Tyumen and Amur regions, the Khanty-Mansiysk and Yamalo-Nenets

autonomous districts, and the Republic of Bashkortostan. SUSU is highly competitive in the local education market in these regions. Applicants from other regions of Russia will be recruited to the University's elite academic programmes.

Picture 3. Applicants for engineering and technical disciplines

	Number of applicants passed exam		Average USE score, 2014	
	Chelya-binsk reg.	Macro region*	Chelya-binsk reg.	Russia
Physics	3 280	12 648	**51,4**	**45,8**
Chemistry	1 371	5 287	**60,6**	**55,7**
Informatics	144	555	**65,6**	**57,2**
Math	13 969	53 867	**46,3**	**39,6**

	Chelya-binsk reg.	Macro region*	Russia
Target group	1 000	3 000	30 000
Target share	20 %	12 %	1,5 %

SUSU can capitalise on its proximity to Russia-Kazakhstan border location and expand the geography of its student admissions. The main international markets where prospective students have been recruited are Central Asia, the Persian Gulf, South-East Asia and China. The University admits foreign students for both Russian- and English-language programmes. More than 200 students are already enrolled in Masters and Bachelor’s degree programmes taught in English.

Table 3. List of current joint and English-language study programs

No.	*Description of joint programme*	*Partner*
1.	Innovation Studies	Lappeenranta University of Technology, Finland
2.	Electrical and power engineering: renewable energy sources	
3.	Fundamental informatics and information technology	
4.	Management	Clark University, United States
5.	Business valuation and corporate finance	Zhejiang Ocean University, China
6.	Marketing	St Mary's University, United States
7.	Flight operation of aircrafts	ChelAvia Training Centre
8.	Physical and chemical continuum mechanics	Zababakhin Scientific Research Institute of Technical Physics

	English-language programmes
	Bachelor's degree programmes
1.	Mechanical engineering automation, Electrical and mechanical engineering
2.	Chemical engineering
3.	Economics and finances, Economics, Financial management, Banking and financing
4.	Commodity science, Food technology, Food products of animal origin
5.	Linguistics
	Master's degree programmes
6.	Database Technology
7.	Economics
8.	Philology

New English-language Master's degree programmes are planned to be launched in the near future:

- **Computer science:** Fundamental Computer Science and Information Technology: Database Technologies; Highload Systems Development; Computer Modelling of Technology and Processing of Composite Materials etc.;
- **Engineering:** Information-Measuring Engineering and Technology in Innovative Industry Projects;
- **Natural Sciences:** Applied Mathematics and Physics; Mathematics; Chemistry, etc.

As SUSU's survey of prospective students shows, the most important recruitment factors are the University's prestige, quality of education, and the overall experience of studying at the University (academic, social life, sports, etc.). SUSU's marketing strategy is focused on leveraging the aspects of the University's value proposition, perceived to be most significant by prospective students.

SUSU's offering includes quality academic programmes in engineering disciplines that are in demand by employers in the regional labour market. The overall experience of studying at SUSU includes a vibrant cultural life, sports events at the University's Olympic-grade athletic facilities, and the opportunity for students to get involved in research projects. Chelyabinsk is a tranquil, liveable city with over one million inhabitants, which boasts highly developed, accessible infrastructure. Adjacent to the

SUSU building lies an old-growth forest that is a natural extension of the University campus.

In line with its marketing strategy, SUSU has organised the Zvezda (Star) National Competition and the Budushee Rossii (Future of Russia) National Engineering Competition organized along with several other academic competitions with more than 140,000 high school students participating. To further its marketing strategy, the University will deploy the following tools:

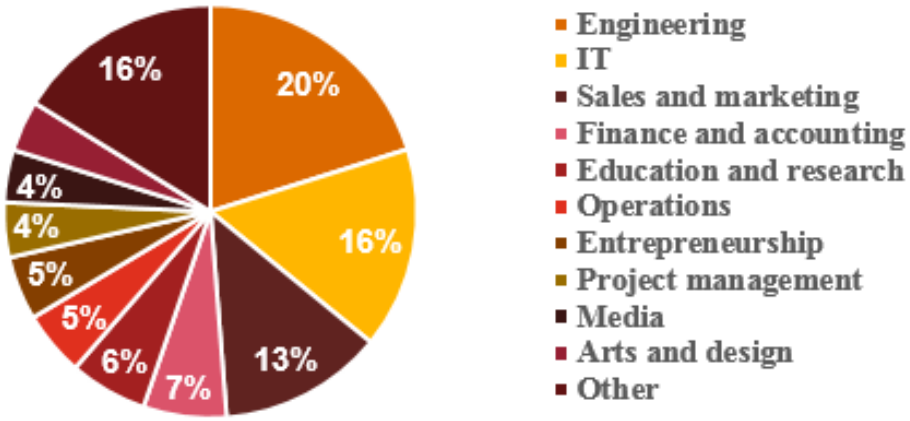
1) Differentiated scholarships for applicants with high USE scores
2) Selective recruitment of applicants from schools with high average USE scores through offering professional navigation and University classes
3) Partnerships with universities without master's degree programmes
4) Development and promotion of massive open online courses (MOOC)

Currently, a shortage of dormitory space is hindering the University's marketing efforts. To resolve this issue, a new world-class dormitory will be opened by 2018.

2.2.2.3. Job Market Strategy

At job market the University aims to expand the potential employers pool for SUSU graduates, attract employers with international brand names to the campus.

Picture 4. Employment of SUSU graduates by industry



Source: LinkedIn

SUSU's engineering and IT graduates enjoy strong demand among national leaders in manufacturing, metals, and tool engineering sectors with major production capacities based in Chelyabinsk Region.

Picture 5. Target employers of SUSU graduates

Direction	Target employers group
Computer science	✓ Kaspersky Lab ✓ Google, Yandex, Mail.ru ✓ Applied Technologies ✓ Microsoft ✓ IBM, GE, DIY ✓ Technological startups
Space engineering	✓ United Aircraft Corporation, Boeing, Airbus ✓ Russian Federal Space Agency, NASA, ESA, CNSA ✓ Vostochny Cosmodrome ✓ Academician V.P.Makeyev State Rocket Centre
Natural sciences	✓ Russian Academy of Sciences (Ural branch) ✓ Universities of China and South-East Asia: Tsinghua, KAIST, Postech , etc. ✓ Mayak Production Association
Engineering	✓ Renault-Nissan, Daimler ✓ Schlumberger, Shell ✓ Fortum ✓ Metran industrial group, Emerson Process Management ✓ Chelyabinsk region industrial corporations, startups
Life sciences	✓ Media companies ✓ “Big Four” companies

2.2.3. IT Infrastructure

The University aims to strengthen its leadership among Russian universities by the use of cutting edge technologies in educational and scientific purposes.

SUSU will develop information technologies in the following key areas:

- Establishing fully functional **Intranet**
- Introducing comprehensive **Learning management system**
- Scaling up of universal access-to-knowledge tool - **Personal Virtual Desktop (PVD)**
- Maintaining free **access to supercomputers** for all students

Currently SUSU's Intranet system Univeris enables direct communication between the administration and staff. In particular, Univeris integrates faculty’s profiles and allow to track scientometric data to monitor their progress toward achieving KPIs. Besides that, automated project management system is used for complex research projects. The SUSU Admissions Office uses the Intranet to receive applications online, to monitor ratings, and to inform applicants of admissions decisions.

SUSU has a MOODLE-based distance learning system. The University will extend this platform to all educational programmes to create a comprehensive **learning management system**.

SUSU Personal Virtual Desktop system leverages the facilities of the high-performance computing cluster. This system provides all students and staff with access to the data cloud, including access to specialised licensed software, and the University's educational services, as well as remote access to research laboratories.

The high level of IT usage for educational and scientific purposes is amply confirmed by the fact that SUSU's supercomputing facilities have an 80% utilisation rate, which is the standard ceiling for shared supercomputer systems. Three hundred and eight internal (departments) and 88 external (organisations) users from 23 countries make use of the supercomputer. 32% of the supercomputer work is done for businesses on a paid basis. In order to ensure that internal and external users enjoy seamless use of the supercomputer, SUSU has implemented a 10G 100% reliable high-speed data transmission project, which ensures massive data transmission at speeds of up to 10 GB/s.

2.2.4. Human Resources

The University HR strategy aims to enhance its staff members' professional skills and boost their productivity, as well as recruit young, world-class academics and administrators.

The University focuses on three areas in developing its human resources:

- International recruiting of faculty and administrators
- Developing the professional skills of its staff
- Improving organisational structure

To recruit world-class academics and administrators, the University is building an **international recruitment system**. The main recruitment tools will include:

- keeping the target audience informed about job opportunities at the University
- stepping up activities within the partnership network of leading global universities
- offering flexible forms of cooperation, both in timing and level of engagement

- putting together a competitive remuneration system that features world-level salaries and social bonuses
- setting challenging research tasks and providing unique scientific equipment

As part of these measures, it will be extremely important to recruit a top-class foreign administrator with a wide network of contacts and to establish an International Scientific Advisory Council. Such measures are vital to success in attracting world-class academics according to the experience of higher educational institutions participating in the 5-100 programme. The University seeks to form a critical mass of international researchers that will provide a wide range of contacts with global research centres and ensure its integration with the international academic community.

SUSU intends to organise its international recruitment efforts based on the experience of the selected benchmark universities. For example, Tsinghua University has had notable success in recruiting professionals to a leading emerging market. Research teams within priority research areas may issue grants that are earmarked exclusively for recruiting foreign professionals. As a rule, cooperation starts with short-term, one-year contracts that can be extended to longer periods.

Below is a list of world-class specialists who are partners of SUSU and whom the University intends to offer engagements in joint research projects or positions as leading researchers.

Table 4. List of leading specialists to be engaged in joint research activities

Associate	Place of employment	Hirsch index
Natural Sciences		
Wolfgang Haase	TU Darmstadt	35
Oleg D. Lavrentovich	Kent State University	42
Maria Yzuel	Universidad Autónoma de Barcelona	23
Lyudmila I. Isaenko	Novosibirsk State University	23
Viktor V. Atuchin	Novosibirsk State University	25
R. Niewa	University of Stuttgart, Pfaffenwaldring 55, Stuttgart, Germany	18
Vladimir G. Tsirelson	D. Mendeleev University of Chemical Technology of Russia	21
S. Ordóñez	Universidad de Oviedo, Department of Chemical and Environmental Engineering, Oviedo, Spain	28
J. García	Universidad de Oviedo, Departamento de Química Orgánica e Inorgánica, Oviedo, Spain	19
V.A. Zibarev	Novosibirsk Institute of Organic Chemistry, Siberian Branch of the Russian Academy of Sciences	17
Prof Derek Woollins	St Andrews University	37

Hugo Bronstein	Imperial College London	20
Bo Iversen	Aarhus Universitet, Department of Chemistry and INANO, Aarhus, Denmark	43
G. Desiraju	Indian Institute of Science, Solid Body and Structural Chemistry	66
Supercomputers		
D. Abadi	Yale University	20
A. Andreyak	Heidelberg University	10
M. Gertz	Heidelberg University	10
V. Voevodin	Moscow State University	19
Human Sciences		
Mohammed R. Milad	Harvard Medical School	29
H. Fred Downey	University of North Texas	21
Eiji Matsuura	Okayama University	39
Ron de Kloet	Royal Netherlands Academy of Arts and Sciences	90
Farid Chemat	Université d'Avignon et des Pays de Vaucluse	32
Sergey Nikitenko	Laboratoire de Sonochimie dans les Fluides Complexes (LSFC)	16
Muthupandian Ashokkumar	University of Melbourne	42
Timothy J. Mason	Coventry University	41
Engineering		
G. R. Desiraju	Indian Institute of Science, Solid State and Structural Chemistry Unit, Bangalore, India	66
V.M. Fomin	Khristianovich Institute of Theoretical and Applied Mechanics SB RAS	24
E. H Dowell	Duke University, Durham, United States	44
A.V. Fedorov	Khristianovich Institute of Theoretical and Applied Mechanics SB RAS	16
Manus Henry	Oxford University	12
D.A. Novikov	Institute of Control Sciences, Russian Academy of Sciences	43
F. Kloke	RWTH Aachen University	22
E. Brinksmeier	Universitat Bremen	28
Cr. Brecher	RWTH Aachen University	12
K. Patra	Indian Institute of Technology Patna	12
E. Dowell	Duke University	44

Another key area for developing talent pool is in **enhancing the professional skills of staff members**. The University will carry out this task by setting up a full-fledged HR function responsible for building individual career progress trajectories as well as developing a coaching system. The University will also intensify academic staff learning by using advanced coaching methods (including with the help of other universities' employees), overseas short-term trips of staff to foreign university intended to observe the work of colleagues on similar positions (shadowing), staff secondments to different organisations, departments, structures for 6-12 months. The introduction of

contracts based on current KPIs will also contribute to strengthening the professional skills of staff members.

The restructuring of the University is of no less importance. This process will include the following measures: improving the organisational structure; expanding authority delegation practices and consolidating units while removing boundaries between them. These measures will enable the University to increase the productivity of its staff and create a solid base for conducting cross-disciplinary research.

2.2.5. Facilities and Equipment

The University aims to modernise its facilities and provide researchers and students with most advanced equipment, essential to reach world-class level in science and education. SUSU has built powerful, up-to-date facilities that include over 10 world-class research and educational centres and laboratories equipped with unique research equipment. SUSU produces 80% of all educational laboratory equipment made in Russia and boasts the country's most complete and advanced educational laboratory complex.

Table 5. List of University facilities and equipment

Laboratory description	Equipment	Unique characteristics
Supercomputer simulation	Tornado SUSU	473.6 TFlops (trillion floating-point operations per second) 244 place in Top-500 supercomputers of the world, 6-th in the Russian Federation
	SKIF-Avrora SUSU	117 TFlops (trillion floating-point operations per second)
Research and Education Center for Experimental Mechanics and Aerospace Engineering	LMS calculation-and-experimental facility	The only one in the country complete complex used for frequency-response analysis and virtual structural tests and tests of aerospace engineering systems
Laboratory for testing of full size diesel engines	A set of HORIBA diesel engine hardware	The only facility in the country designed to test full-sized diesel engines with a capacity of 90-1,800 kW at stationary and transient cycles
Optical interferometry laboratory	Femtosecond laser	The only femtosecond laser available in the Urals region
	Interferential testing infrastructure	Unique infrastructure for Russia. Lab's groundwork is not connected with the groundwork of the building and surrounding area, which enables to use of interferential methods for creating photonic structures and light fields with complex distribution of parameters.

To increase the attractiveness of SUSU as a global research and educational centre, the University will undertake the following efforts:

- Building a 3,000-bed dormitory (the site has been allocated and the building plans drawn up)
- Accommodating 20 research laboratories and technology clusters with premises of at least 40,000 sq. m by 2020
- Constructing an Innovation Centre
- Developing a barrier-free environment across University
- Improving utilities and enhancing the quality of property management mechanisms based on specific return from their use

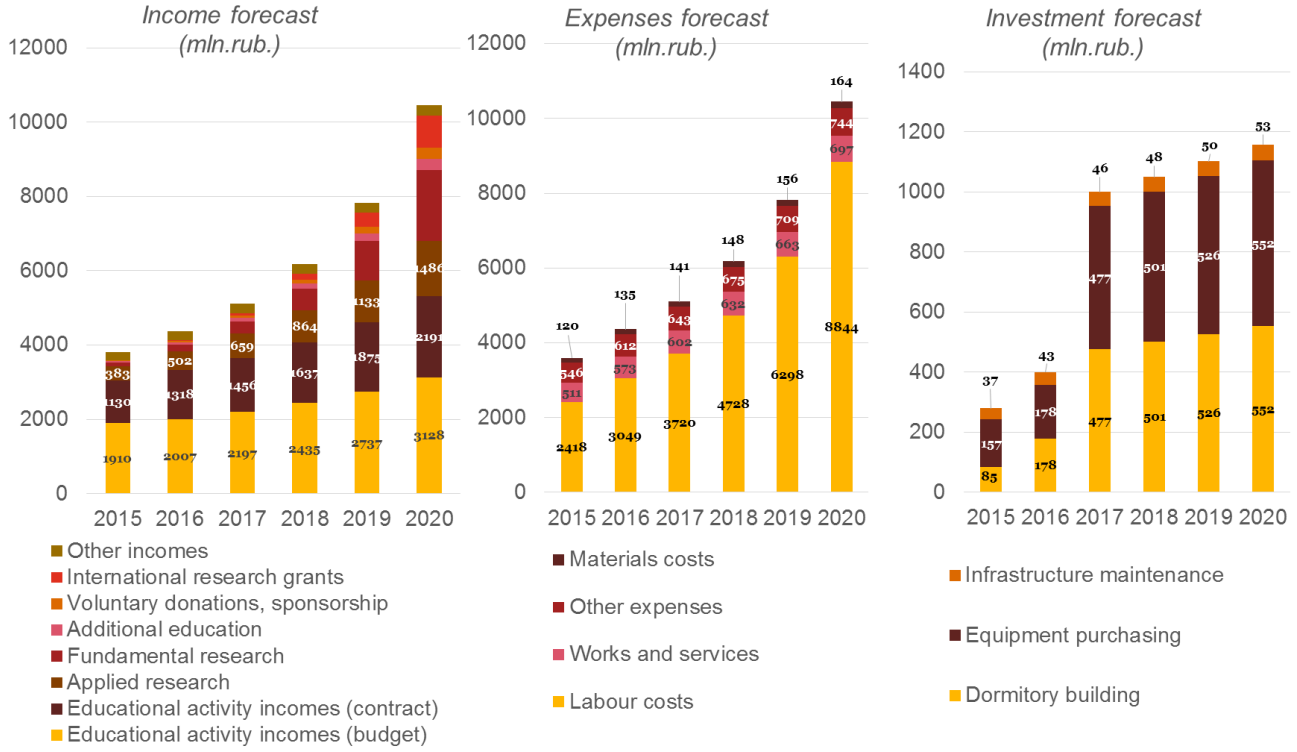
2.2.6. Economic and Financial Model

The University's financial and economic model aims to increase revenues from research activities and diversify sources of financing.

Upon achieving the established goal, SUSU intends to use and enhance its strengths ensuring the University's long-term, sustainable financial development. The University is largely self-sufficient with non-government funding share exceeding 40%. Given its high level of non-budgetary revenues, the University can independently invest in priority development areas. The supercomputer that the University created mainly out of its own funds has been such a priority area for investment since 2000. The target model anticipates:

1) higher revenues from research activities
2) a gradual increase in the average cost of education due to a focus on the most popular segments of the educational market, a higher share of elite education, and a higher share of master's degree programmes
3) faster development of new sources of financing: sponsorship, international grants, vocational training
4) a competitive remuneration system for faculty and administrative staff
5) wider investment resources available at the University through participation in federal and regional development programmes, and by bringing in private investors and partners

Picture 6. Income, expense and investment forecast



2.3. Additional Elements of the Target Model

2.3.1. Regional Development Leadership

The University regional development strategy aims to create a favourable intellectual and business environment in the region and foster investments and jobs creation in the new economy.

University of Michigan provides a perfect example of regional development leadership. It is located in the Rust Belt in the USA and has become an engine of the state economy during the recent industrial crisis. University of Michigan attracts talented people from all over the world and foster development of high growth industries such as IT and medicine. It creates thousands of high quality jobs. In concert with the local and national government it carries out a number of entrepreneurial, supplementary education and social programs. Thanks to the University of Michigan, a state in the middle of the continent has its own place in the global intellectual agenda. Taking into account UoM experience, South Ural State University aims at:

- **Attracting major companies and investments to the region.** The best example is the University's partnership with Emerson. The company invested in R&D and

manufacturing facilities in the region, opening July 2015 a new industrial complex in Chelyabinsk. Traditional Chelyabinsk industries including machine tool building, instrument making, crane building, steelmaking and radiation medicine all benefit from a strong university, increasing their regional production and capacities.

- **New high-tech companies formation.** Engineering companies founded by SUSU graduates work all over the world and cooperate with industrial leaders such as Siemens VAI, SMS-Group, BoschRexroth, Fortum, FUCHS, LINCOLN, Konar.
- **Fostering innovation environment and small business development.** SUSU currently possesses an innovation infrastructure which has enabled to create 58 small innovation businesses over the last five years. These organizations are intended to commercialize University's scientific activities. In order to broaden this sphere SUSU will create an innovation accelerator.
- **Promoting regional intellectual community.** The University hosts open discussions on the regional social and economic development, University's faculty is instrumental in developing regional strategy by participating in expert councils held by Chelyabinsk region government.

2.3.2. Reputation Enhancement Strategy

The University's reputation strategy aims to raise awareness of SUSU among potential applicants, researchers and business partners all over the world and to foster a positive image among these groups.

The University will take the following actions to improve its reputation:

- Rebranding of the University, including developing and implementing new, content-rich brand attributes, and preparing brand books in English-, Chinese- and Russian-language editions
- Boosting awareness of the University in mass media, including developing a system for the integrated promotion of the University in social networks, leading newspapers and magazines, and optimising the University's website
- Improving the University's global academic reputation by stimulating faculty participation in the highest-profile conferences as keynote speakers,

developing a CRM system to maintain contacts with the University's alumni and partners, promoting top-rated journals published by the University, etc.

Currently the University is undertaking a project in expanding Supercomputing Frontiers and Innovations magazine to international level. The editorial board of this magazine includes a number of prominent academics, such as Ian Foster (University of Chicago, Hi=47), Jack Dongarra (University of Tennessee, Hi=42) and Thomas Lippert (Julich Supercomputing Centre, Hi=40); the average H-index of article contributors is 7.

2.3.3. Innovation in Education

The University aims at improving the quality and efficiency of education through implementing new educational models and technologies.

The establishment of the Institute for **Open and Distance Learning** has allowed SUSU to implement innovative technologies in its existing training programmes, as well as to offer a number of Russian- and English-language courses in the massive open online course (MOOC) format aimed at attracting applicants and boosting the University's image.

The University's plans include making its MOOC-format courses available on such leading international forums as edX and Coursera. Among the University’s MOOCs are:

- Advances in Database Systems Development
- Cheminformatics
- Distributed Computing
- Environmental Economics and Natural Resource Management
- Organic chemistry
- Linear Sobolev Type Equations
- Spectral Theory of Differential Operators

The e-Learning 2.0 project enables to bring MOOC technology to a new level due to customization of education process to match each student’s needs. e-Learning tracking records of the thousands of SUSU students are a priceless basis for Big Data analysis. This data will help to determine educational patterns and thus enable to customise course to a student's individual needs.

Developing the University's **LMS system** will allow for efficiently coordinating and managing the University's educational activities by integrating all participants in the training process, ranging from applicants and students right up to the rector's office.

To extend **elite zones** for most talented students at all levels of educational programmes the university plans to establish SUSU Engineering School and SUSU Management School.

For Engineering disciplines the University set as a priority implementing **problem-based and project-based learning** for training young engineers, who will have the necessary educational foundation to devise original, flexible and timely responses to current changes and future challenges both in Russia and globally.

Improving methodological work by training teachers to gain additional skills of using innovative educational methods. Major attention will be focused on linguistic training of staff and IELTS certification. Major improvement will be achieved through implementation of the MOOCs technology. On this stage, the teachers will be encouraged to take and pass MOOC-format courses through edX or Coursera, and eventually to prepare their own MOOCs. Pilot projects experience shows that such initiative significantly improves teaching quality: teachers first get to know the new technology and best practices in teaching and then get the chance to examine themselves, to work under the set scheme, which increases the self-discipline of a teacher.

3. Gap Analysis of Key University's Parameters

Table 6. List of major gaps and corresponding strategic initiatives

Reasons for the gap	Strategic initiatives
The University's brand and international reputation The University's brand is known only within the South Urals region. According to QS Intelligent Unit, in 2014 SUSU improved its academic reputation in one of the specialist subjects by 300 places. However, it has still not broken into the ranking of the world's top 1,000 universities by academic reputation.	
• Remoteness from major global, post-industrial urban areas • The University pays little attention to matters related to brand promotion and awareness-raising activities, both in Russia and internationally • Relatively brief history and the lack of internationally significant breakthroughs and graduates who enjoy across-the-board recognisability	• Rebranding of the University • Intensifying information-related activity, including updating of the SUSU web portal • The University's academic reputation management • Focusing on relevant fields of research that can help the University to gain international recognition
Level of publishing activity	

In 2014, the number of SUSU publications recorded in the Scopus database totalled 203, which is three times as many as in 2010. To reach the level of universities listed in international rankings, however, SUSU must still increase its publishing activity by at least fivefold.	
• The University specialises in research for industry and the defence sector • The University specialises in education; only a small percentage of academic staff is involved in research • Publications in Russian-language journals recorded in the Russian Science Citation Index database that are not included in Scopus and WoS • Faculty lack the skills and background typically associated with publishing activity • Low volume of financing of fundamental research	• Encouraging publishing activity through KPIs and academic grants • Recruiting young academicians from leading Russian and international universities and research centres • Focusing on those areas with the strongest publishing potential • Enhancing the system for searching and applying for Russian and international grants in priority areas
Citation index Regarding the level of academic citations, there is a twentyfold gap between SUSU's position and those of the international citation leaders.	
• SUSU's administration and academic staff pay insufficient attention to the citation index • University traditionally focused on engineering and IT disciplines that have low citation indices • A low level of integration in international research processes • Insufficient world-class results in the most critical areas of knowledge	• Recruiting world-class scholars • Organising joint research initiatives with the world's leading universities and research centres • Training and motivating academic staff to publish in top-rated journals and promote their publications • Focusing on breakthrough areas of research with a high citation potential
The gap between the University's facilities and its needs The University has advanced research and laboratory facilities in a number of areas as well as modern athletic facilities. However, the lack of dormitory space is hindering its further development.	
• The lack of financing	• Building a new dormitory that will meet international standards
The gap between educational programmes and market needs and the latest educational technologies There is a gap of more than 10 points between the average USE score and the established targets. The average salary of SUSU graduates is higher than the average for the region, but lower than the average for Russia as a whole.	
• The University is heavily financially dependent on the number of students in State funded and fee-based seats • The University has only a limited ability to change the structure of enrolment for State funded seats based on market demand	• Implementing new systems for recruiting talented applicants at all levels of training • Expanding the University's offering of joint and English-language programmes • Identifying areas of elite training in engineering, IT, natural sciences and business disciplines • Expanding the use of e-learning technologies (LMS, MOOCS) • Implementing problem-based and project-based learning technologies

3.1. Mandatory Strategic Initiatives

In order to bridge the discovered gaps SUSU has developed a strategic initiatives system (see Figure 7). Mandatory strategic initiatives' directions are aimed at key elements of the Program execution:

- Effective University Governance:
    - Concentrating resources on breakthrough areas and abandoning less effective areas
    - Transforming the governance system to achieve the target KPIs
- Talented human resources recruitment:
    - Recruiting and developing key staff, increasing teaching quality
    - Recruitment of talented students and PhD candidates
- Increased University governance effectiveness and new human resources quality will enable:
    - Production of world-class intellectual products

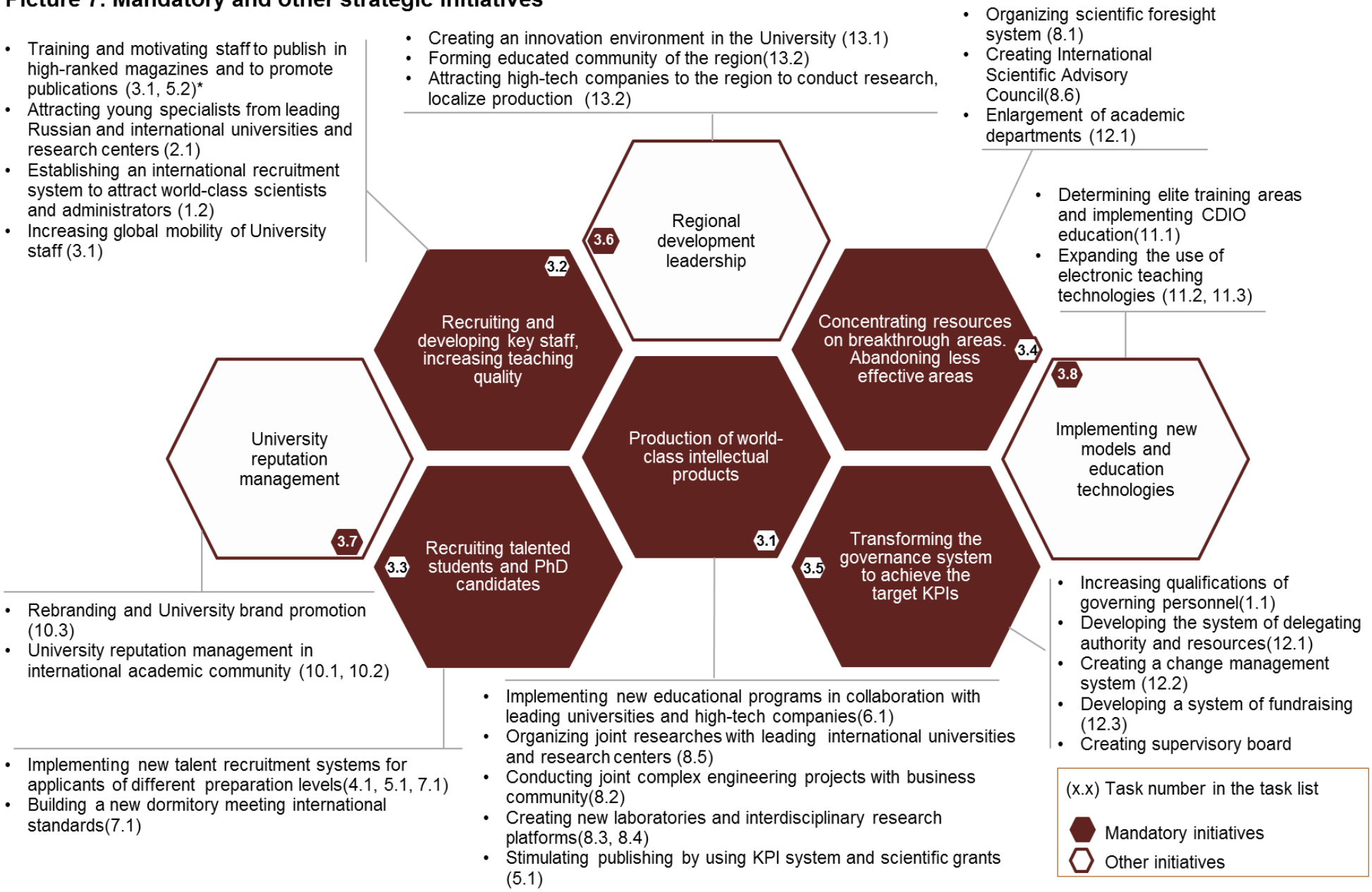
Intellectual products portfolio integrates, in its turn, the educational and research activity results of the University.

3.2. Additional Strategic Initiatives

SUSU has developed three additional strategic directions, playing a key role in University transformation to the target model:

- Regional development leadership
- University reputation management
- Implementing new models and education technologies

Picture 7. Mandatory and other strategic initiatives



4. Change Management

The objective of the change management strategy is to transform the University and build a positive organisation.

The University will take actions in the following five areas:

- Effective leadership from senior management
- Support and development of change leaders
- Institutionalising changes
- Targeted multichannel communications
- Fostering a high-achievement culture

President's and Rector's visible leadership will be ensured through direct communications with University staff as well as through personal example of new models of behaviour. The Programme 5-100 Project Office will help managers of the key academic and administrative units to develop personal communication plans according to the needs of a specific audiences.

The role of change agents will be intensified through creating a highly motivated team representing various functional vertical structures, which will support the process of developing and implementing a full range of change management activities. During the development of this program activity-specific working groups have already been set up, with an overall team complement of 35 people. Subsequent stages will see an expansion of the team's key personnel, as well as training in communication and leadership skills.

To institutionalize the change, a Program Management Office will be established; the necessary changes will be introduced in the University's organisational structure and an International Scientific Council and other external expert bodies will be created. Individual development roadmaps for each University department and division will be a key tool for institutionalising changes.

The implementation of **targeted multichannel communications** implies that critical messages will be delivered to their target audiences through the most effective media channels. Among the most important means of communication, we would highlight the production of video clips, leveraging SUSU's in-house TV channel and other University media, as well as individual communications via the University's intranet.

SUSU has selected ETH Zurich as a model organisation to emulate with a **corporate culture** that attracts the best and brightest students and faculty from all over the world. The values that ETH Zurich exemplifies (circle of excellence, academic freedom and autonomy, cutting red tape, and a global outlook) serve as a benchmark for developing change areas in SUSU's organisational culture.

A corporate culture focused on self-improvement, acceptance of risks, and high achievement already constitutes an integral part of SUSU. In the 1990s, Chelyabinsk Polytechnic Institute's (Now SUSU) academic and scientific programmes were brought to a new level, while a “humanities wing” was added. Since its reconstruction in 2003, the institute's newly renovated main building, which dominates the city skyline, has become a symbol of the University's transformation and its ambitions for the future. The Chelyabinsk Polytechnic Institute has become a classical university. The year 2000 saw a new stage in the University's development. Relying on its own funds, SUSU initiated an investment programme to create a high-capacity supercomputer, which has since become the centre of academic and scientific life at the University. As a result, in 2010 SUSU was granted the status of a “national research university”. Currently, SUSU is facing new challenges and the University's staff is determined to make every effort to meet them.

1. Mandatory Activities

Activity 1. Establishing a succession pool for senior university management, attracting specialists with experience in international and Russian Universities and research organizations

1.	Task 1.1		Implement a system for training succession pool for the University's staff and advanced training for senior staff, including English language training			
	Target indicator		*Number of employees included in the staff succession pool for filling senior positions at the University*		*People*	
	2016	2017	2018		2019	2020
	5	10	20		25	30
	Workstreams		• Implement an incentive system for University employees and units that factor in the results of advanced training • Implement a system of micro grants for advanced training • Implement a coaching and experience-sharing system, “buddying” tools, secondment and shadowing practices, including cooperation with partner universities in Russia and abroad • Create a system for developing professional communication skills • Implement best practices from the 5-100 Programme for university language training • Enhance project management skills and develop functionalities of the Project Management Office for research projects	Cost estimate (total and subsidised)	149,0	94,0
	Year	Key deliverables:			Fee estimate	Including subsidised
	2016	• Progress has been made in all the workstreams			14.5	7.0
	2017	• 50% of administrative staff are covered by the advanced training system, including 20% who have received certificates of English-language proficiency at least at the upper			25.0	15.0

		intermediate level			
	2018-2020	• 100% of administrative staff are covered by the advanced training system, including 40% who have received certificates of English-language proficiency at least at the upper intermediate level		109,5	72,0
2.	Task 1.2	Implement an international recruitment system			
	Target indicator	*Number of employees appointed to senior positions with a track record of working at leading universities and/or research organisations in Russia or internationally*		*person/year*	
	2016	2017	2018	2019	2020
	1	2	3	4	5
	Workstreams	• Establish a Headhunter Office and recruit an internationally reputable administrator to run it • Introduce the institution of "brand ambassador" • Recruit graduates of the Global Education programme as replacements for senior executive positions	Cost estimate (total and subsidised)	376,0	376,0
	Year	Key deliverables:		Fee estimate	Including subsidised
	2016	• Progress has been made in all the workstreams • Internationally reputable administrator recruited		28.0	28.0
	2017	• Recruited foreign specialists have been integrated into the team and their initial performance has been favourably appraised by employees		60.0	60.0
	2018-2020	• A competition has been organised for filling positions with international level specialists, with at least 2.5 qualified candidates for each position		288.0	288.0

Activity 2. Recruiting more youthful faculty members and researchers with time spent and know-how gained in academic and research spheres, in leading international and Russian Universities and research organizations

1.	Task 2.1	Create a University system for international recruiting and hiring junior academic staff			
	Target indicator	*Percentage of foreign professors, lecturers and researchers in the overall number of academic staff, including Russian academics with PhDs from foreign universities*		*%*	
	2016	2017	2018	2019	2020

	1	2	3		5	10
	Workstreams		• Create a grants system to attract foreign junior academic staff • Include the KPI measuring the presence of foreign academics into the KPI system of structural units • Conduct an active informational campaign for hiring postdoctoral fellows	Cost estimate (total and subsidised)	705.0	705.0
	Year	Key deliverables:			Fee estimate	Including subsidised
	2016	• The "first wave" of hiring of foreign junior academic staff has been completed			52.5	52.5
	2017	• "Second wave" of young scientists recruited and hired • At least 30% of University structural units participate in the international recruitment campaign (file requests, hold interviews and hire candidates)			112.5	112.5
	2018-2020	• Hiring external, including foreign, postdoctoral fellows has become a routine practice; a competition has been organised for filling positions with at least three qualified candidates for each position • At least 60% of structural subdivisions participate in the international recruitment campaign			540.0	540.0

Activity 3. Putting into force a number of international and internal academic mobility programs for faculty and researchers (internships, advanced training, professional re-training, exchange programs, etc.)

1.	Task 3.1		Organise advanced training programmes for academic staff for international work			
	Target indicator		*Percentage of University academic staff members (out of the total number of University academic staff) who have participated in academic mobility programmes*		%	
	2016	2017	2018		2019	2020
	1	3	4		5	6
	Workstreams		• Implement best practices from the 5-100 Programme for university language training • Introduce a motivation system for implementing academic mobility programmes • Create and introduce a search system for academic	Cost estimate (total and subsidised)	580.0	470.0

		mobility programmes and organise partnerships for such programmes			
	Year	Key deliverables:		Fee estimate	Including subsidised
	2016	• Progress has been made in all the workstreams		50.0	35.0
	2017	• 25% of academic staff are covered by the advanced training system, including 15% who have received certificates of English-language proficiency at least at the upper intermediate level		95.0	75.0
	2018-2020	• 50% of academic staff are covered by the advanced training system, including 40% who have received certificates of English-language proficiency at least at the upper intermediate level		435.0	360.0

Activity 4. Improvement of tertiary education – postgraduate programs and doctorates

1.	Task 4.1		Ensure the development of the academic postgraduate model; implement a system of measures for enrolment of alumni from Russian and foreign universities for postgraduate studies		
	Target indicator		*Percentage of alumni from other universities enrolled in the University's postgraduate programmes*	*%*	
	2016	2017	2018	2019	2020
	1	2	3	4	5
	Workstreams		• Implement a system of pre-postgraduate research grants for recruitment of external applicants • Organise open international scientific contests among students and a Summer School for young researchers • Implement integrated master's and postgraduate academic study programmes • Ensure a system of grants for internships at leading research organisations and universities • Institutionalise dual postgraduate studies programmes, including a dual supervisory model • Introduce the principle of mandatory paid research work and papers for postgraduates	Cost estimate (total and subsidised)	290,0	235,0
	Year	Key deliverables:		Cost estimate,	Including subsidised

			RUB million	
	2016	• Progress has been made in all the workstreams • The number of applications for postgraduate studies at South Ural State University has increased by 50%	25.0	17.5
	2017	• 50% of postgraduates perform paid work • At least 30% of enrolled postgraduates have been recruited from other universities • At least 25% of postgraduates are engaged in projects with external organisations	47.7	37.5
	2018-2020	• 80% of postgraduates perform paid work • At least 50% of postgraduates have been recruited from other universities • 10% of top SUSU postdocs receive work offers in their profession from Top-100 universities	217.5	180.0

Activity 5. Supporting undergraduates, graduates, interns and young faculty members and researchers

1.	Task 5.1		Implement a system of grants to support young academic staff and students, as well as to ensure international academic mobility			
	Target indicator		*Percentage of intern researchers and young academic staff who have received support out of the total number of intern researchers and young academic staff at the University*		%	
	2016	2017	2018		2019	2020
	5	8	11		14	15
	Workstreams		• Implement target grants for recruiting Russian students with high Unified State Examination (USE) scores as well as foreign students • Support young academic staff and students by providing grants for scientific projects and academic mobility • Create an academic mobility function for recruiting foreign specialists • Create “mobility windows” in educational programmes for students and postgraduates • Create a consortium of universities for the 5-100 Programme to implement Russian and international	Cost estimate (total and subsidised)	282,0	282,0

			educational paths			
	Year	Key deliverables:			Cost estimate, RUB million	Including subsidised
	2016	• Progress has been made in all the workstreams			21.0	21.0
	2017	• Increased percentage of highly motivated students: 30% increase versus 2015 • Applications for mobility programmes, at least 300			45.0	45.0
	2018-2020	• Increased percentage of highly motivated students: 100% increase versus 2015 • All students attending elite programs engage in scientific work			216.0	216.0
2.	Task 5.2		Ensure increased citation indices for the University's faculty			
	Target indicator		*Average citation index per academic staff member, calculated based on the aggregate number of articles recorded in the Web of Science and Scopus databases*		-	
	2016	2017	2018		2019	2020
	0.7	1.0	2.3		5.2	11.6
	Workstreams		• Ensure access to full-text databases and informational resources • Enhance the system for motivating academic staff to publish articles in high-impact academic journals and speak at top-rated conferences and forums • Establish an Academic Writing Office • Create a system for promoting the results of scientific work, including electronic pre-press of research papers in English in the public domain, as well as creating authors' profiles in informational systems • Incentivise the recruitment of foreign co-authors • Quarterly posting of top-listed publications in top-rated journals to the University's website	Cost estimate (total and subsidised)	Total: 309,5	Subsidised: 282,0
	Year	Key deliverables: Increased citation indices for the University's academics and scientists in internationally recognised journals			Cost estimate, RUB million	Including subsidised
	2016	• Progress has been made in all the workstreams			24.75	21.0
	2017	• Percentage of publications in first-quartile magazines is at least 20% • Percentage of publications with foreign co-authors has doubled versus 2015			50.0	45.0
	2018-2020	• At least 300 publications in the top 10% by citation index; at least 50 publications in the			234,75	216,0

		top 1% by citation index • At least 50% of academic staff members actively publishing in WoS and Scopus-ranked journals				
2.	Task 5.3		Develop and implement a system for managing student loyalty (Student Journey)			
	Target indicator		Net Promoter Score, NPS		% %	
	2016	2017	2018		2019	2020
	20	30	40		55	65
	Workstreams		• Create and implement a system for monitoring students' level of satisfaction • Implement an appraisal system for administrative staff • Implement a loyalty enhancement programme under the slogan “I love SUSU”, which would include in particular: – developing internal communications for students; – developing corporate media outlets; – developing and implementing an event management function; – setting up and introducing a Rector's Blog in social networks; – creating a bilingual navigation system.	Cost estimate (total and subsidised)	Total: 168,5	Subsidised: 141,0
	Year	Key deliverables:			Fee estimate	Including subsidised
	2016	• Progress has been made in all the workstreams • Percentage of highly loyal audience in overall student body was 15%			14.25	10.5
	2017	• Percentage of highly loyal audience in overall student body was 30%			27.5	22.5
	2018-2020	• SUSU has established a reputation as one of the best universities in the Urals region in terms of its cumulative experience as a centre of education and learning • A steady inflow of alumni donations and contributions to the endowment fund has been ensured			126,75	108,0

Activity 6. Development of joint educational programs with leading international and Russian Universities and research organizations

1.	Task 6.1		Introduce and promote international programmes carried out in collaboration with leading universities, research organisations and top-ranked high-tech companies			
	Target indicator		*Number of higher educational programmes and additional professional programmes developed and implemented in collaboration with leading Russian and foreign universities and/or with leading Russian and foreign research organisations*		*Units*	
	2016	2017	2018		2019	2020
	5	8	12		16	20
	Workstreams		• Develop forms of networking cooperation with leading foreign and Russian universities, research organisations and high-tech companies • Global promotion of master's and postgraduate programmes in breakthrough areas of the University's research efforts • Obtain international accreditation for key educational programmes	Cost estimate (total and subsidised)	Total: 290,0	Subsidised: 235,0
	Year	Key deliverables:			Fee estimate	Including subsidised
	2016	• The number of applications for master's programmes conducted in foreign languages has increased by 35%			25.0	17.5
	2017	• The total number of students attending joint programmes and programmes conducted in foreign languages has exceeded 500 people • The competition for joint programmes and programmes in foreign languages has exceeded 2.5 students per space			47.5	37.5
	2018-2020	• Several of the University's key programmes in computer science and engineering have been recognised internationally			217,5	180,0

Activity 7. Recruiting foreign students to study in SUSU, including joint (double degree) programs with international Universities

1.	Task 7.1		Implement a set of measures for recruiting students from leading foreign universities, including promotion and development of a bilingual environment			
	Target indicator		*Percentage of students from leading foreign universities recruited to the University (in the overall student body)*		*%*	
	2016	2017	2018		2019	2020
	0.2	0.4	0.7		0.8	1.0
	Workstreams		• Conduct University roadshows and field admissions commissions and participate in other universities' events • Create infrastructure for a bilingual environment; develop the linguistic and cross-cultural competencies of employees • Promote a grants system for recruiting foreign students	Cost estimate (total and subsidised)	Total: 290,0	Subsidised: 235,0
	Year	Key deliverables:			Fee estimate	Including subsidised
	2016	• Progress has been made in all the workstreams			25.0	17.5
	2017	• Students from at least 15 partner universities are studying at SUSU • Students from foreign universities show a high level of satisfaction			47.5	37.5
	2018-2020	• The University has become a genuinely international multicultural platform with a bilingual environment			217,5	180,0

Activity 8. Fundamental and applied scientific research in collaboration with Russian and international organizations

- R&D projects with the involvement of leading Russian and foreign researchers as project leaders and/or projects in collaboration with advanced scientific organisations, including with the option of setting up structural units at participating universities;
- R&D projects together with Russian and international high-tech organisations, including with the option of setting up structural units at participating universities.

1.	Task 8.1		Arrange a scientific foresight system to determine fast-track development areas for the University			
	Target indicator		*Existence of scientific foresights*		*Yes/No*	
	2016	2017	2018		2019	2020
	Yes	Yes	Yes		Yes	Yes
	Workstreams		• Assess technological trends and development scenarios in top-priority development areas of the University with the involvement of international experts; search for promising technological and business niches • Set up a scientific and technical foresight service	Cost estimate (total and subsidise)	Total: 210,7	Including subsidised 164,5
	Year	Key deliverables:			Fee estimate	Including subsidised
	2016	• The foresight plan has been prepared, the mechanisms have been determined, and the experts have been brought in			18.55	12.25
	2017	• The scientific foresight has been prepared and published • The foresight results have been broadly covered in Russian and international media			34.65	26.25
	2018-2020	• The scientific and technological foresight is regularly updated			157,5	126.0
2.	Task 8.2		Ensure development of applied market-oriented scientific research and development			
	Target indicator		*Number of University-based R&D projects implemented together with Russian and international high-tech organisations, including with the option of setting up structural units at the University*		*Units*	
	2016	2017	2018		2019	2020

	50	*75*	*100*		*125*	*150*
	Workstreams		• Implement a system for conducting a market analysis of the needs of the applied research and development market for further initiation of R&D projects • Set up “one-stop shop” services for working with the business community • Develop cooperation with the business community to implement projects in breakthrough areas at the regional, Russia-wide and global levels	Cost estimate (total and subsidised)	Total: 210,7	Including subsidised 164,5
	Year	Key deliverables:			Fee estimate	Including subsidised
	2016	• Progress has been made in all the workstreams			18.55	12.25
	2017	• The number of key clients (major customers) has increased by 50%			34.65	26.25
	2018-2020	• The volume of applied research has exceeded RUB 1 billion per year			157,5	126.0
3.	Task 8.3		Ensure the establishment of new cross-disciplinary scientific platforms and the further development of existing ones			
	Target indicator		*Number of R&D projects implemented with the involvement of leading Russian and foreign researchers as project leaders and/or projects jointly with leading Russian and foreign scientific organisations on the basis of the University, including with the option of setting up structural units at the University*		*Units*	
	2016	2017	2018		2019	2020
	5	10	15		20	25
	Workstreams		• Organise temporary creative groups to perform advanced research based on cross-disciplinary scientific platforms • Develop infrastructure for scientific and educational centres and laboratories for such temporary creative groups	Cost estimate (total and subsidised)	Total: 164,5	Including subsidised 164,5
	Year	Key deliverables:			Fee estimate	Including subsidised
	2016	• Progress has been made in all the workstreams			12.25	12.25
	2017	• At least 50 academic staff members and 15 external employees, including from institutes of the Russian Academy of Sciences, are involved in activities conducted on cross-disciplinary platforms			26.25	26.25
	2018-2020	• At least 10 publications have been released in top 1% journals on specialised topics,			126.0	126.0

		according to SNIP				
4.	Task 8.4		Set up international laboratories in breakthrough areas based on an open tender led by prominent Russian and foreign researchers			
	Target indicator		*Average citation index per academic staff member, calculated based on the number of articles posted in the Web of Science and Scopus databases*		-	
	2016	2017	2018		2019	2020
	0.7	1.0	2.3		5.2	11.6
	Workstreams		• Implement a grants system to recruit foreign researchers in the management of joint projects, laboratories and centres • Set up a system for searching and maintaining applications for international grants, as well as for training SUSU scientists in preparing applications for international grants	Cost estimate (total and covered subsidised)	Total: 906,85	Subsidised: 865,65
	Year	Key deliverables:			Fee estimate	Including subsidised
	2016	• Key mechanisms have been launched, at least 15 applications for setting up laboratories have been received, and at least 50 applications for international grants have been submitted			53.3	49.0
	2017	• At least 60 academic staff members are working in laboratories supervised by recruited researchers and at least 60 academic staff members have experience in filing applications and dealing with international grants			139.65	131.25
	2018-2020	• At least 30% of academic staff members have worked in international laboratories and/or have experience in dealing with international grants			711.9	680.4
5.	Task 8.5		Arrange work and perform scientific research in leading Russian and international laboratories, as well as ensure partnerships with leading international organizations and institutions of the Russian Academy of Sciences			
	Target indicator		*Number of R&D projects implemented with the involvement of leading Russian and foreign researchers as project leaders and/or projects jointly with leading Russian and foreign scientific organisations on the basis of the University, including with the option of setting up structural units at the University*		*Units*	
	2016	2017	2018		2019	2020
	5	10	15		20	25
	Workstreams		• Perform research together with leading global researchers, including through short-term visits to SUSU and partner organisations	Cost estimate (total and subsidised)	Total:	Including subsidised

		• Establish mirror laboratories together with leading Russian and global universities • Expand cooperation and partnership with leading international organizations • Set up consortia and laboratories with institutes of the Russian Academy of Sciences		179.9	164.5
	Year	Key deliverables:		Fee estimate	Including subsidised
	2016	• At least 10 leading scientists have visited SUSU to perform joint research		14,35	12.25
	2017	• At least 100 SUSU academic staff members participate in joint projects • At least 30 researchers have been invited from institutes of the Russian Academy of Sciences for cooperative projects		29.05	26.25
	2018-2020	• The percentage of publications with external co-authors has increased up to 80%		136,5	126,0
6.	Task 8.6	Set up an International Research Board (IRB) with the involvement of leading foreign experts			
	Target indicator	*Number of meetings per year*		*Units*	
	2016	2017	2018	2019	2020
	1	2	2	2	2
	Workstreams	• Ensure effective cooperation of the IRB with SUSU staff • Media coverage of the IRB's activities	Cost estimate	Total: 126,35	Including subsidised 126,35
	Year	Key deliverables:		Fee estimate	Including subsidised
	2016	• A scientific board of 15 international-level scientists has been set up; the first in-person meeting has been held		24.5	24.5
	2017	• The IRB is up and running and operating as planned		26,25	26,25
	2018 – 2020	• 80% of employees are aware of the IRB's activities; the IRB's work is covered by international media		75,6	75,6

2. Mandatory additional activities

Activity 9 (mandatory additional): Change the University's organisational and management structure

1.	Task 9.1		Introduce changes in the University's organisational and management structure		
	Target indicator			*position*	
	2016	2017	2018	2019	2020
	Workstreams	1) Develop a Programme Implementation Action Plan (roadmap) and obtain approval for it from the Russian Federation Ministry of Education and Science 2) Develop draft regulations and internal regulatory documents and obtain approval for them from the Russian Federation Ministry of Education and Science. Such regulations and documents should provide for: a) Changing the type of institution from a federal publicly funded institution to an autonomous government institution; b) Putting in place a procedure for appointing the Rector as the Founder, which will initially involve holding a competitive selection process in the form of an open international competition c) Introducing amendments to the University Charter and to the Rector's and Provost's existing employment contracts, which will enable the achievement of the target performance indicators specified in the approved development programmes. 3) Submit financial statements prepared in accordance with International Financial Reporting Standards (IFRS) and their verification by an auditor 4) Provide data and obtain positions in at least one of the following two international ratings: QS, THE. 5) Establish academic activity performance criteria and, based on these, introduce starting from 2016 fixed-term contracts with faculty members and administration staff		Total	Subsidised –
	Year	Key deliverables:		Fee estimate	Including subsidised
	2015	• Academic activity performance criteria established • Action Plan and draft regulations and internal regulatory documents on key organisation changes in the University developed and submitted to the Ministry of Education and Science			
	2016	• Programme Implementation Action Plan (roadmap)			–

		• Change in the type of institution to an autonomous government institution; the efficient re-allocation of functions between the University's Academic and Supervisory boards • Rules of the procedure for appointing the Rector as the Founder, which initially involves conducting a competitive selection process in the form of an open international competition • Financial statements prepared in accordance with International Financial Reporting Standards (IFRS) have been submitted • Standard format for fixed-term contracts with faculty members and managerial staff, complete with a list of key performance indicators		
	2017	• Submit financial statements for the current year in accordance with International Financial Reporting Standards (IFRS) and their verification by an auditor • Sign fixed-term contracts with faculty members, complete with a list of performance criteria for their academic activity		–
	2018-2020	• Submit financial statements prepared in accordance with International Financial Reporting Standards (IFRS) and their verification by an auditor; sign fixed-term contracts with faculty members, complete with a list of performance criteria for their academic activity • Positions in at least one of two global rankings (QS and THE) received		–

3. Additional activities suggested by the University and financed through other sources

Activity 10. Introduce the University's reputation management system

1.	Task 10.1		Develop and implement a set of measures to enhance the University's reputation in the international academic community			
	Target indicator		*Increase position in the Webometrics rating*		*position*	
	2016	2017	2018		2016	2017
	100	200	300		400	500
	Workstreams		• Implement a single CRM system to interact with alumni, business partners and government authorities • Prepare an annual report on the University's activities in both Russian and English versions, and distribute it among the international academic community, employers, government authorities and other interested parties • Work with international ratings agencies • Organise a system of targeted communications with international partner universities	Cost estimate (total and subsidised)	Total: 44.0	Including subsidised -
	Year	Key deliverables:			Fee estimate	Including subsidised
	2016	• Progress has been made in all the workstreams			6.0	-
	2017	• Regular contacts are maintained with at least 1,000 representatives of the global academic and business communities			8.0	-
	2018-2020	• SUSU is ranked among the top 200 universities by the academic reputation of the QS target rankings by subject			30.0	-
2.	Task 10.2		Develop a system of measures aimed at including University journals in the Scopus and WoS databases and transforming them into highly rated publications			
	Target indicator		*Number of University journals included in the Scopus and WoS databases*		*Units*	
	2016	2017	2018		2019	2020
	1	*2*	*2*		*3*	*3*

	Workstreams	• Bring the quality of University publications up to the level of publications in journals with a high impact factor • Recruit foreign scientists with high Hirsch indices to write articles for publication in University journals • Recruit leading scientists to serve on the editorial boards of journals; arrange double-blind peer reviews • Upgrade the English version of scientific journals' websites	Cost estimate (total and subsidised)	Total: 22.0	Including subsidised -
	Year	Key deliverables: Increase the number of University journals in Scopus		Fee estimate	Including subsidised
	2016	• Progress has been made in all the workstreams		*3.0*	-
	2017	• SUSU's academic journals are among the top 50% according to SNIP by subject area		*4.0*	-
	2018-2020	• At least one SUSU journal is among the top 10% according to SNIP by subject area, while at least three journals are among the top 25% according to SNIP by subject area		*15.0*	-
3.	Task 10.3	Carry out the re-branding of the University and ensure further brand promotion			
	Target indicator	*Number of positive references to the University in leading Russian media outlets*		*Units*	
	2016	2017	2018	2019	2020
	100	150	200	250	300
	Workstreams	• Develop and implement new content-rich brand attributes • Prepare a brand book for the University in English-, Chinese- and Russian-language editions • Implement a University brand awareness programme in the global educational environment • Carry out a comprehensive programme, under the slogan “I love SUSU”, aimed at interactively engaging consumers with the SUSU brand • Produce and place world-class advertising and marketing materials • Launch the University's new website • Create the University's Social Media Zone (a system for the integrated promotion of SUSU in social networks) • Implement the OPEN SUSU PR project (set up the	Cost estimate (total and subsidised)	Total: 44.0	Including subsidised -

		University's public relations, news management, media relations and social networks functions)			
	Year	Key deliverables:		Fee estimate	Including subsidised
	2016	• Progress has been made in all the workstreams • Decision on the University's re-branding has been taken		6.0	-
	2017	• The University re-branding programme has been carried out, a multiple-fold increment in key activity metrics in media, Internet and social networks has been ensured		8.0	-
	2018-2020	• The University's new brand, intended to have a strong emotional appeal for its target audience, has been created; a high level of brand awareness has been ensured in Russia and worldwide		30.0	-

Activity 11. Implement new educational models and technologies

1.	Task 11.1		Implement new educational models		
	Target indicator		*Number of students and postgraduates enrolled for new educational programmes*	*People*	
	2016	2017	2018	2019	2020
	50	150	400	800	1500
	Workstreams		• Implement problem-based learning and project-based training technologies under the CDIO standard • Develop and implement a system of micro grants to improve linguistic skills based on the Cambridge Press project with NUST MIS&S • Create elite training zones • Form a unified educational environment for bachelor's studies with a free course selection mechanism available to students • Reduce the percentage of in-class work while increasing the share of independent student work; introduce a tutoring system	Cost estimate (total and subsidised)	Total: 33,0	Subsidised: -

	Year	Key deliverables:	Fee estimate	Subsidised
	2016	• Progress has been made in all the workstreams • The SUSU Higher School of Engineering is functioning as an elite training zone	4.5	-
	2017	• The SUSU Higher School of Management has been established as an elite management training zone • At least 25% of the University's students are covered by various educational initiatives (English, elite training, project-based approach and a high proportion of elective subjects)	6,0	-
	2018-2020	• Education in engineering disciplines corresponds to the best practices followed at the benchmark universities (Korea Institute of Science and Technology, University of Michigan) • The high quality of education at the University has been ensured, while retaining access to education for school graduates in the southern Urals region	22,5	-
2.	Task 11.2	Improve automated systems for educational process management, including the LMS (Learning Management System), etc.		
	Target indicator	*Percentage of University courses covered by the LMS*	*%*	
	2016	2017	2018	2019	2020
	20	40	60	80	100
	Workstreams	• Expand the functionality of Univeris, the corporate IAS • Expand use of the LMS across the educational process to cover all University courses	Cost estimate (total and subsidised)	Total: 44.0	Subsidised: -
	Year	Key deliverables:	Fee estimate	Subsidised
	2016	• A pilot project for expanding application of the LMS to cover basic educational programmes has been launched	6.0	-
	2017	• All faculty members can use the LMS in delivering their courses	8.0	-
	2018-2020	• The LMS is actively used by all lecturers and students at the University; a high assessment of the system's operational quality has been ensured	30.0	-
3.	Task 11.3	Ensure further development of e-training and distance learning technologies		
	Target indicator	*Number of massive open online course (MOOC)-format courses offered by the University on international platforms*	*Units*	
	2016	2017	2018	2019	2020

	3	8	16		24	24
	Workstreams		• Develop Russian- and English-language MOOC courses on the leading Russian and international platforms (such as Coursera, edX, Lektorium) • Implement a system for motivating faculty members to master new educational technologies • Set up remote schools for foreign applicants • E-Learning 2.0: customisation of on-line education through a Big Data-based supercomputer analysis of educational patterns	Cost estimate (total and subsidised)	Total: 110.0	Subsidised: -
	Year	Key deliverables:			Fee estimate	Subsidised
	2016	• Progress has been made in all the workstreams			15.0	-
	2017	• The University has a smoothly functioning technology for producing MOOC courses, which enjoys strong interest on the part of faculty members in MOOC development and application in the educational sphere			20.0	-
	2018-2020	• Several University courses have been included in global top subject lists • The University is the national leader in implementation of customised on-line educational technologies			75.0	-

Activity 12. Upgrade the system for managing and diversifying the University's funding sources

1.	Task 12.1		Consolidate academic structural units; develop a system for delegating authority and resources			
	Target indicator		*Percentage of structural units with an integrated performance index of less than 50% of the average by all structural units*		%	
	2016	2017	2018		2019	2020
	40	35	25		20	15
	Workstreams		• Implement a system for monitoring demand for educational programmes and discontinue those training areas for which there is no demand • Optimise the content and structure of the University's academic load • Eliminate overlapping and duplicate structural units	Cost estimate (total and subsidised)	Total: 22.0	Subsidised: -

		• Re-allocate the authorities of employees and develop a system for delegating resources and powers • Construct an innovation centre			
	Year	Key deliverables:		Fee estimate	Including subsidised
	2016	• Progress has been made in all the workstreams and solutions for the University's structural optimisation have been prepared		3.0	-
	2017	• Major initiatives for consolidating structural units and pilot projects for upgrading educational practices have been launched		4.0	-
	2018-2020	• The target model has been implemented by the number of students, academic staff members, structural units and their key problems, as well as the level of structural units' independence and interaction		15.0	-
2.	Task 12.2	Create a change management system			
	Target indicator	*Percentage of employees who are aware of the 5-100 Programme in the total number of staff units*		%	
	2016	2017	2018	2019	2020
	50	65	80	100	100
	Workstreams	• Set up a project management office for the 5-100 Programme • Create and implement a system of internal PR communications aimed at providing informational support for institutional changes • Create and implement a management system to support transformation processes aimed at developing and supporting internal change agents	Cost estimate (total and subsidised)	Total: 88.0	Subsidised: -
	Year	Key deliverables:		Fee estimate	Including subsidised
	2016	• The project management office for the 5-100 Programme has been set up; the change management plan has been launched		12.0	-
	2017	• The number of active supporters of the University's transformation exceeds 20% of the total number of employees • All projects under the 5-100 Programme are implemented as part of systematised project management procedures		16.0	-
	2018-2020	• 60% of University staff take part in transformation processes and 5-100 Programme		60.0	-

		projects • At least 80% of 5-100 Programme projects are implemented on time and within the established budget, with target KPIs met			
3.	Task 12.3	Develop a system for raising funds from business and University alumni, including by establishing an endowment fund			
	Target indicator	*Number of active donors*		*People*	
	2016	2017	2018	2019	2020
	10	*20*	*40*	*60*	*100*
	Workstreams	• Develop and implement a system of measures for establishing regular cooperation with business partners on a mutually beneficial basis • Create the SUSU Target Capital Fund and the Fund's Supervisory Board • Generate a package of sponsor support offerings	Cost estimate (total and subsidised)	Total: 11,0	Subsidised: -
	Year	Key deliverables:		Fee estimate	Including subsidised
	2016	• Progress has been made in all the workstreams		1.5	-
	2017	• The donation volume has doubled versus 2015		2.0	-
	2018-2020	• The University raises significant funds from donors		7.5	-

Activity 13. Promote the University's role as the regional development leader

1.	Task 13.1	Create an innovation development accelerator at the University; develop support mechanisms for innovative entrepreneurship			
	Target indicator	*Number of small innovation-driven enterprises established*		*Units*	
	2017	2018	2019	2017	2018
	5	*5*	*5*	*5*	*5*
	Workstreams	• A system for commercialising the University's innovations based on symmetric interaction with the business community • Youth business incubator	Cost estimate (total and subsidised)	Total:	Subsidised:

			• Create and support the production and technology complex for performing research, development and technological work to produce prototypes • Implement programmes to develop student entrepreneurship aimed at addressing socially significant issues in the region, based on the SIFE (Students in Free Enterprise) Platform	688.0	-
	Year	Key deliverables:		Fee estimate, million RUB	Including subsidised
	2016	• Progress has been made in all the workstreams		*12.0*	-
	2017	• At least 500 people (students and employees of the University as well as representatives of the regional business community) are involved in entrepreneurship development projects		*16.0*	-
	2018-2020	• There have been at least three mega-successful, significant start-ups launched with the involvement of the University or by SUSU alumni		*660,0*	-
2.	Task 13.2		Ensure the University's leadership role in the region		
	Target indicator		*Number of references to the University in the context of regional development*	*Units*	
	2016	2017	2018	2016	2020
	150	200	250	150	100
	Workstreams		• Develop the Kindness energy student volunteering project to carry out socially significant projects in the city and across the region • Implement the Green House project, a SUSU-based, international cross-cultural initiative (major image, cultural, awareness-raising and educational events, including at the regional level) • Develop a system of professional contests for students with the involvement of the general public and potential employers • Deliver a series of open lectures by prominent speakers and public opinion leaders • Host social and political discussions at the University on pressing issues related to the region's development	Cost estimate (total and subsidised)	Total: 22.0	Subsidised: -

	Year	Key deliverables:	Fee estimate, million RUB	Including subsidised
	2016	• Progress has been made in all the workstreams	3.0	-
	2017	• More than 10,000 people have taken part in public events organised by the University	4.0	-
	2018-2020	• The University has become one of the region's key brands, together with the Traktor Ice Hockey Club, ChelPipe, Chelyabinsk Tractor Plant (ChtZ), Magnitogorsk Iron and Steel Works (MMK) and others.	15.0	-

Activity 14. Recruit talented students from all regions of Russia

1.	Task 14.1		Develop and implement a new system for recruiting talented applicants to the University			
	Target indicator		*Average Unified State Examination (USE) score among University students enrolled in full-time bachelor's and specialist's degree programmes with federally funded tuition*		*Average Unified State Examination (USE) score*	
	2016	2017	2018		2019	2020
	67	69	72		75	78
	Workstreams		• Develop a University-based system of academic conferences, competitions and contests for applicants to bachelor's and master's degree programmes • Implement a system of field exhibitions/presentations of the University • Develop and implement new forms of professional navigation • Build a campus	Cost estimate (total and subsidised)	Total: 933,0	Subsidised: -
	Year	Key deliverables:			Fee estimate, million RUB	Subsidised
	2016	• Progress has been made in all the workstreams, the number of applicants has increased by 10%			4.5	-
	2017	• The high quality and diversification of enrolment for elite training courses have been ensured			6.0	-
	2018-2020	• The percentage of highly motivated applicants is 50% among all students enrolled; the share of non-resident students is 50%			922.5	-

Appendix 1. ***KPIs***

KPIs							
№	**Mandatory KPIs**	**UOM**	**Target values**				
			2016	2017	2018	2019	2020
1.	Position in global university rankings						
1.1.	Rank in THE	Rank			701+	650-700	450-500
1.2.	Rank in QS	Rank		701+	650-700	450-500	250-300
1.3.	Rank in QS «Computer Science» subject ranking	Rank				350-400	300-350
1.4.	Rank in QS «Mechanical, Aeronautical & Manufacturing Engineering» subject ranking	Rank			250-300	250-300	200-250
1.5.	Rank in QS «Materials Science» subject ranking	Rank					150-200
2.	Number of articles in the Web of Science and Scopus after eliminating duplication per academician/researcher	Number	0,5	0,8	1,3	2,1	3,4
2.1.1.	Number of articles in the Web of Science per academician/researcher (5 years)	Number	0,3	0,4	0,7	1,2	2,0
2.1.2.	Number of articles in the Web of Science per academician/researcher (3 years)	Number	0,2	0,3	0,6	1,0	1,6
2.2.1.	Number of articles in the Scopus per academician/researcher (5 years)	Number	0,5	0,7	1,2	1,9	3,1
2.2.2.	Number of articles in the Scopus per academician/researcher (3 years)	Number	0,4	0,6	0,9	1,5	2,5
3.	Average citation index per researcher/academician measured by the total count of articles included in the Web of Science and Scopus databases with elimination of their duplication	Number	0,7	1,0	2,3	5,2	11,6
3.1.	Average citation index per researcher/academician measured by the total count of articles included in the Web of Science database	Number	0,3	0,5	1,2	2,9	6,8
3.2.	Average citation index per researcher/academician measured by the total count of articles included in the Scopus database	Number	0,6	0,9	2,1	4,7	10,6

KPIs							
№	**Mandatory KPIs**	**UOM**	**Target values**				
4.	Proportion of foreign professors, academicians and researchers in the total headcount of researchers and academicians, including Russian nationals holding a PhD from foreign universities	%	1	2	3	5	10
5.	Proportion of foreign students enrolled in the main educational programs of the University (including students from the CIS countries)	%	9	10	12	14	18
6.	An average USE (Unified State Examinations) score of full-time students enrolled at the University with their tuition to be paid out of the federal budget under bachelor and specialist degree programmes	score	67	69	72	75	78
7.	Proportion of revenues from non-budget sources in the structure of the University's revenues	%	45	45	45	45	45
Additional KPIs							
1.	Share of master's degree and postgraduate students in total	%	27%	30%	35%	38%	40%
2.	Number of educational programmes implemented in partnership with leading international universities and research organisations	Number	5	8	12	16	20
3.	Cumulative rise in Webometrics ranking	Ranks	100	200	300	400	500

Methodology for calculating additional indicator 1 (AI_1).

The additional indicator – **"Share of master's degree and postgraduate students in total"** (**AI_1**) – is calculated as follows:

$$AI_1 = \frac{Q1 + Q2 + Q3}{Q4} * 100\%$$

where

Q1 –Full-time master degree students as of 31 December of the reporting year;

Q2 – Full-time postgraduate students as of 31 December of the reporting year;

Q3 – Full-time tertiary specialists as of 31 December of the reporting year;

Q4 – Full-time students as of 31 December of the reporting year.

Calculation of the "Share of master's degree and postgraduate students in total" indicator includes specialists under the QS rating methodology (source: http://www.iu.qs.com/university-rankings/definitions/#toggle-id-5).

The additional indicator – **"Number of educational programmes implemented in partnership with leading international universities and research organisations"** (**AI_2**) – is calculated using the following method:

The number of educational programmes implemented in partnership with leading international universities and research organisations and additional professional programmes developed and implemented starting from 2016 using a network format in partnership with leading Russian and foreign universities and/or leading Russian and foreign research organisations and/or with the involvement of the world's leading scientists in a given field of science as of the reporting date, in delivering in-class instruction; each programme is factored in only once.

The additional indicator – **"Webometrics rating cumulative gain"** (**AI_3**) – is calculated using the following method:

The Webometrics ranking methodology is available on the official website: http://www.webometrics.info/en/Methodology.

The ranking of universities evaluates how a university operates on the basis of its website analysis, and is calculated using the following four indicators: Presence Rank (Web-space size, 1/6 of the overall indicator); Openness Rank (Publication activity, 1/6 of the overall indicator); Excellence Rank (Scimago version of the publication activity, 1/6 of the overall indicator); and Impact Rank (Number of external links to SUSU web-space sites, ½ of the overall indicator). The highest university ranking available in two Webometrics rankings during the reporting year will be selected as the reporting indicator.

Executive team

1) Vyatkin G.P. – President
2) Shestakov A.L. – Rector
3) Vaulin S.D. – Vice-Rector for Research and Innovation
4) Radionov A.A. – Vice-Rector for Academic Affairs
5) Katochkov V.M. – Vice-Rector for International Affairs
6) Boykova L.I. – Vice Rector for Economic and Financial Issue
7) Keller A.V. – Head of acting scientific and innovation activity Division
8) Okolnishnikova I.Y.– director of institute of economics, trade and technology.
9) Kundikova N.D. – Physics Faculty Dean
10) Avdin V.V. – Chemistry Faculty Dean
11) Deev A.V. – Head of International Cooperation Division
12) Demin A.A. – Head of Open and Distance Education Institute
13) Denisova L.A. – Deputy Chief Accountant
14) Dzenzelyuk N.S. – Economics and Project Management Department Assistant, professor
15) Dyakonov A.A. – Machine Building Technology Department, professor
16) Keller Al. Vict.– Mathematics, Mechanics and Computer Science Faculty Dean
17) Popov M.Y. – Deputy Head of Educational Methodology Division
18) Radchenko G.I. – Computational Mathematics and Computer Science Faculty Dean
19) Savelyeva I.P. – Head of Marketing and Management Department
20) Sapozhnikov S.B. – Distance Learning Engineering and Economics Faculty Dean
21) Saphonov E.V. – Aerospace Engineering Faculty Dean
22) Shestakova L.I. – International Education Institute Director
23) Bulat V.V. – Director, PwC Advisory

Sources links

1. QS web-site (QS World University Rankings) http://www.topuniversities.com/university-rankings
2. ARWU web-site (Academic Ranking of World Universities) http://www.shanghairanking.com/
3. THE ranking web-site http://www.timeshighereducation.co.uk/world-university-rankings/
4. Rosstat web-site http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/population/demography/#
5. Korea Advanced Institute of Science and Technology (KAIST) web-site http://www.kaist.edu/edu.html
6. Tsinghua University web-site http://www.tsinghua.edu.cn/publish/newthuen/index.html
7. University of Texas at Austin web-site http://www.utexas.edu/
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16. QS «Benchmarking service report – South-Ural State University» report