Ministry of Education and Science of Russian Federation

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Deputy Minister of Education and
Science of the Russian Federation

_____ A.B. Povalko

«____»_____2016

«APPROVED»

Rector of
South Ural State University

_____A.L. Shestakov

«____»_____2016

Roadmap for
the Competitiveness Enhancement Program of
South Ural State University
for 2016-2020
(1st stage – 2016-2018)

Chelyabinsk, 2016

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22) Shestakova L.I. – International Education Institute Director
23) Bulat V.V. – Director, PwC Advisory

The body of this document consists of _____ pages.

This document contains _____ appendices.

The appendices consist of _____ pages.

Rector of the University

_____(**Aleksandr Leonidovich Shestakov**)

[signature, seal]

Content

Executive team 2
Content 3
I. Key Performance Indicators and Target Model 4
I.1. University Goals and Key Performance Indicators 4
I.2 University Target Model 6
1. University Mission 6
2. Peer Group 6
3. Marketing Strategy 7
3.1.R&D Market Strategy 7
3.2.Prospective Student Acquisition Strategy 14
3.3.Job Market Strategy 17
4.IT Infrastructure 18
5.Human Resources 19
6.Facilities and Equipment 22
7.Economic and Financial Model 24
8. Additional Elements of the Target Model 25
8.1. Regional Development Leadership 25
8.2. Reputation Enhancement Strategy 27
8.3. Innovation in Education 27
I.3. Strategic Initiatives 30
II. Implementation Plan for the Competitiveness Improvement Program 45
1. Plan Indicators 45
2. Implementation Plan for the Competitiveness Improvement Program for the Period 2016-2020 47
III. Appendix ..... ***Ошибка! Закладка не определена.***
Appendix 1. Funding ..... ***Ошибка! Закладка не определена.***
Appendix 2. Methodology for calculating additional indicators 80
Sources links 82

I. Key Performance Indicators and Target Model

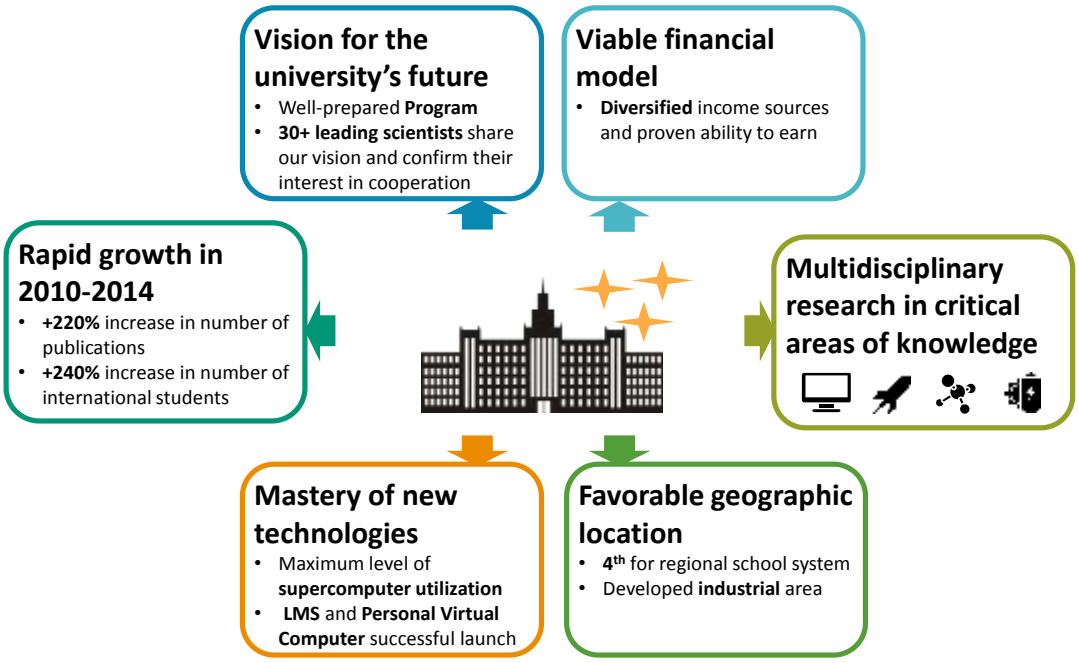
I.1. University Goals and Key Performance Indicators

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

Picture 1. SUSU Competitive advantages



The University will monitor the progress towards the goal with the help of key performance indicators (KPIs) detailed in the table below. In addition to seven obligatory KPIs it 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.

Table 2. Obligatory and additional 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
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 programs	score	67	69	72	75	78
7.	Proportion of revenues from non-budget sources in	%	45	45	45	45	45

№	Mandatory KPIs	UOM	Target values				
	the structure of the University's revenues						
Additional KPIs							
1.	Share of master's degree and postgraduate students in total	%	27%	30%	35%	38%	40%
2.	Number of educational programs 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

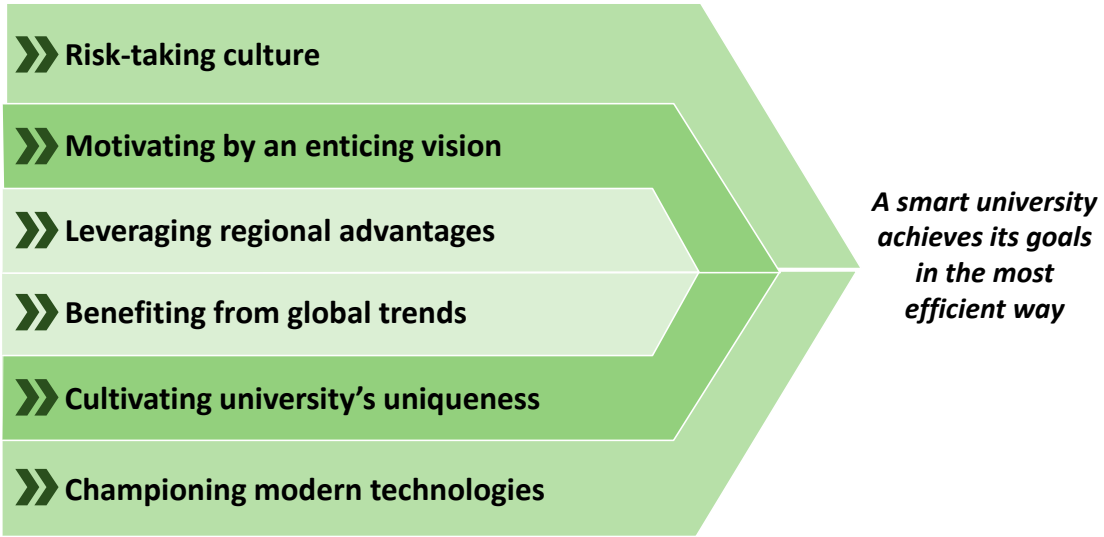
I.2 University Target Model

1. University Mission

The mission of SUSU is to create, communicate and apply scientific knowledge and educate a new generation of leaders, capable of solving global problems of sustainable development.

The University strives to achieve its goals in the most efficient way by making the most of "smart" solutions. The SMART University Concept relies on the inherent strengths of SUSU's corporate culture and represents the integrative foundation of the University's target model.

Picture 2. Key characteristics of Smart University



2. Peer Group

The reason for selection of a peer group is to pick up the best practices to enhance efficiency and improve University' standing among the best world universities.

Table 3. 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 program 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.

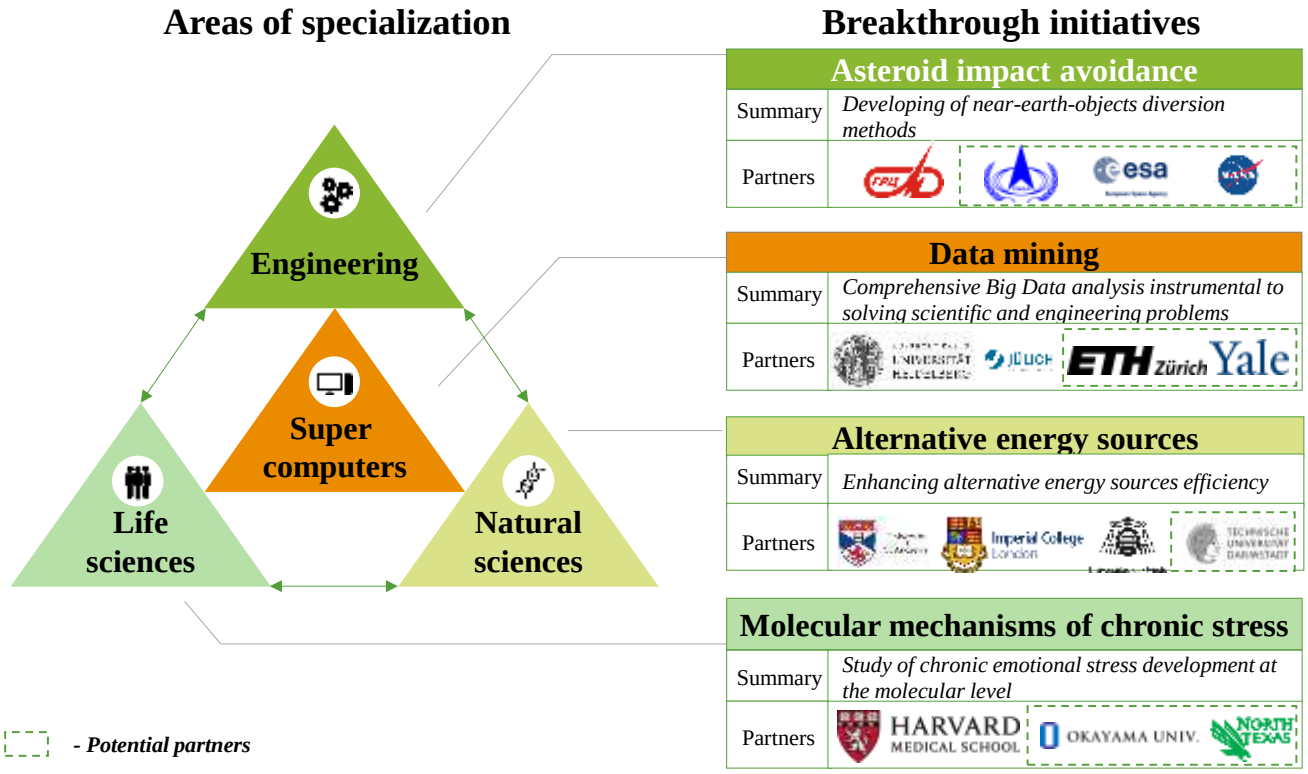
3. Marketing Strategy

3.1. 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 3. 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:

- Asteroid impact avoidance (Engineering)
- Alternative energy sources (Natural Sciences)
- Data mining (Supercomputing)
- Molecular mechanisms in the development of chronic emotional stress (Human Sciences)

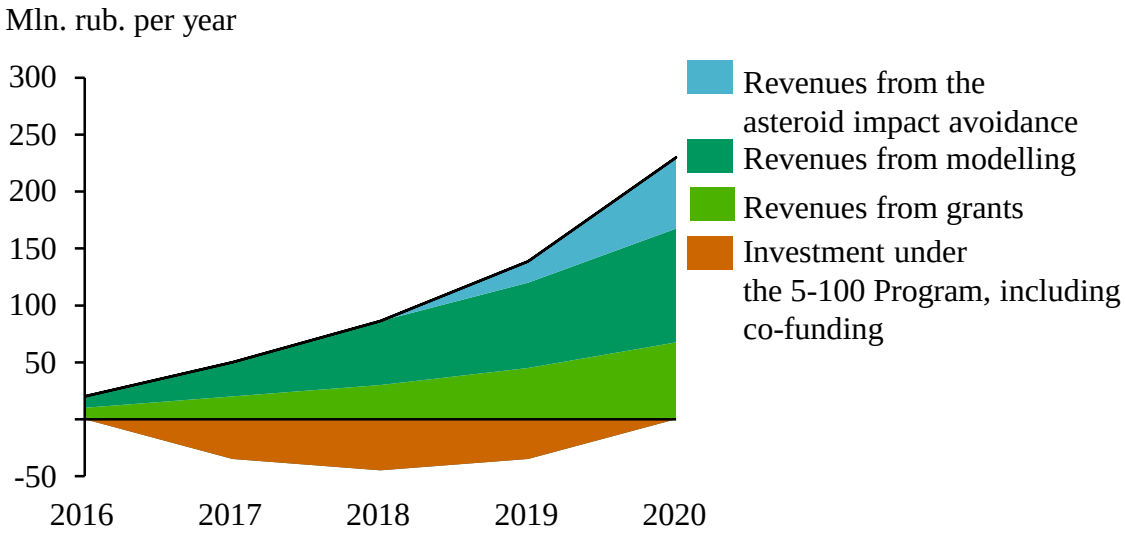
In concentrating its resources on developing cross-disciplinary breakthrough research areas, SUSU follows the example of the Technical University of Darmstadt, a participating university in the German Exelence Initiative. The University has built up a strong academic reputation across the selected focus 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 Aeronautical Engineering, in particular – development of asteroid impact avoidance means. Asteroid impact avoidance is a global challenge for humanity which importance for Chelyabinsk and SUSU is highlighted by the recent large asteroid impact[1]. SUSU is working on various space vehicles capable to change asteroid trajectory and prevent impact on the Earth, as well as the means to launch these vehicles into space. 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. Importance of this problem will also foster collaboration with other leading Russian and international organisations in this area, including the Central Research Institute of Machine Building (TsNIIMash), S.A. Khristianovich Institute of RAS, China National Space Administration (CNSA), the European Space Agency (ESA) and the US National Aeronautics and Space Administration (NASA).

The University prioritised the area of aerodynamics and supercomputer-aided modelling of aerodynamic problems. Currently, Russian rocket scientists make virtually no use of modelling, relying instead on a large number of real-life tests. This leads to overspending on R&D, delays in the development of new rockets and a large number of launch failures, which foster an unfavourable media image for the industry. Developing new technologies and bringing supercomputer modelling services to market will give new impetus to the industry and will turn SUSU into a leader in the field of rocketry and rocket design. To achieve the targeted market position the University engages in proactive marketing of its new modelling technologies, participates in high-profile industry projects and offers courses in modelling for rocket scientists. The target annual revenue in this market could potentially reach about RUB 100 million.

[1] In 2013 a large asteroid smashed into the Chelyabinsk region. The asteroid’s shock wave broke more than 2000 windows in SUSU building.

Picture 4. Funding for Aerospace Engineering

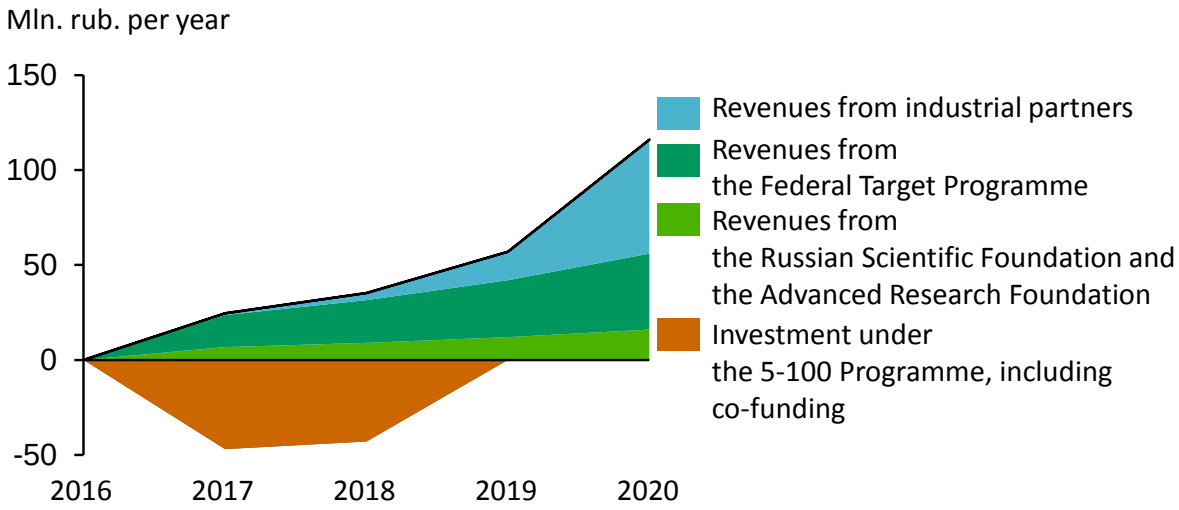


The University boasts substantial engineering competencies in instrument engineering, diesel engines, and the design of micro-electromechanical systems. Research in these areas is in high demand among Russia's leading heavy engineering enterprises. The University's customers include KAMAZ, Avtovaz, Uralvagonzavod, 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 **alternative energy sources.** One of the workstreams in this area is materials for solar cells (photosensitizers) helping to enhance the efficiency of solar batteries and reduce cost of energy generation. Studies in this field are very popular now and more than 6000 scientific papers are published annually. 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 centers is its pioneering use of supercomputing for materials properties modelling.

Picture 5. Funding for alternative energy sources



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.

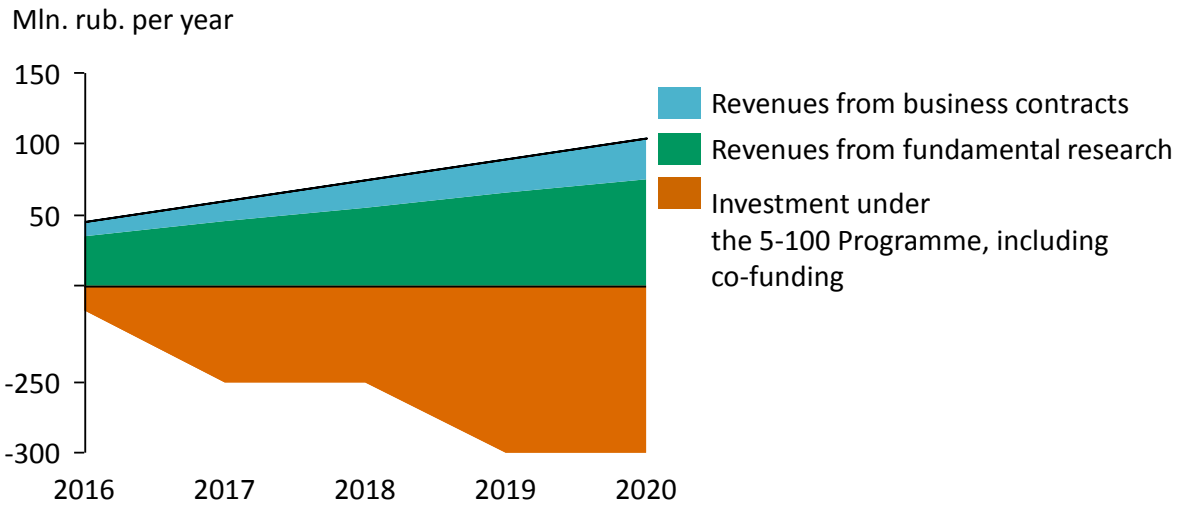
Research work at the University is funded by domestic and international scientific grants. The University is striving to boost the total volume of international grants through a newly adopted comprehensive system to facilitate grant applications and fundraising from international sources.

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. Supercomputer is also used to provide University's partners with calculation on a commercial basis. Currently supercomputing revenues constitute 16% of the R&D budget.

Picture 6. Funding for Supercomputing



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, Leiden University, Edinburg University and New York University.

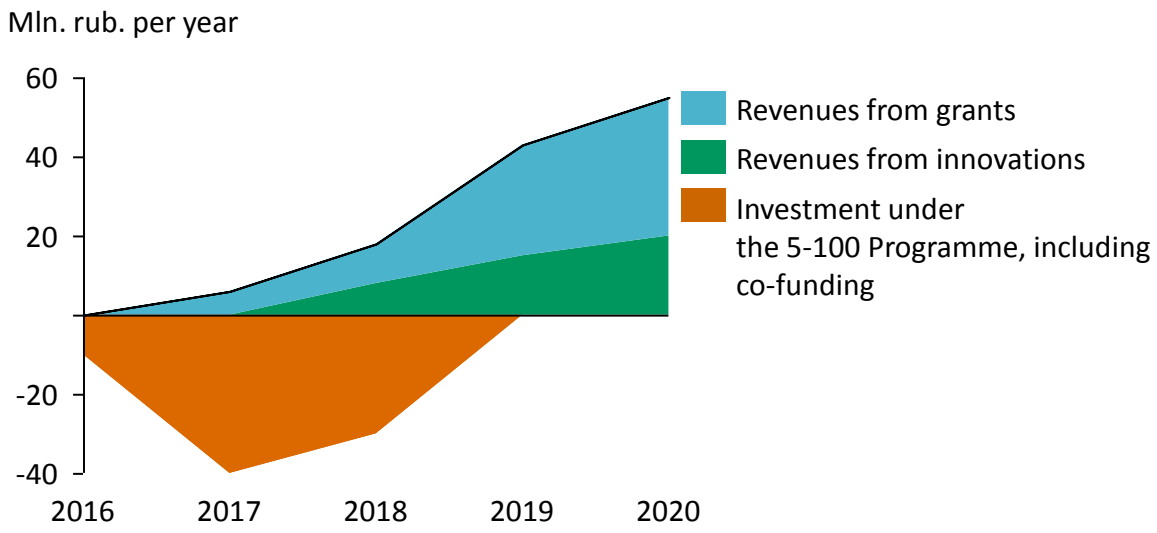
The achievements of the University's research team in this field provide grounds for optimism, namely the discovery of a drug tolerance mechanism in cases of post-

traumatic stress disorder (PTSD) related to abnormal hepatic microsomal oxidation. This is a global priority; to date no other research center with a focus on PTSD has succeeded in obtaining similar data. This breakthrough opens up the possibility of developing holistic approaches to PTSD treatment, encompassing the following:

- non-medical therapy impacting hepatic microsomal oxidation (hypoxic training, moderate physical activity, etc.);
- development of special medicines that are made efficacious through bypassing the damaged liver and brain-blood barrier;
- elaboration of functional nutrition and diets to heal PTSD and depression.

These R&D outcomes will become the basis for innovative products that can then be patented.

Picture 7. Funding of Molecular Stress

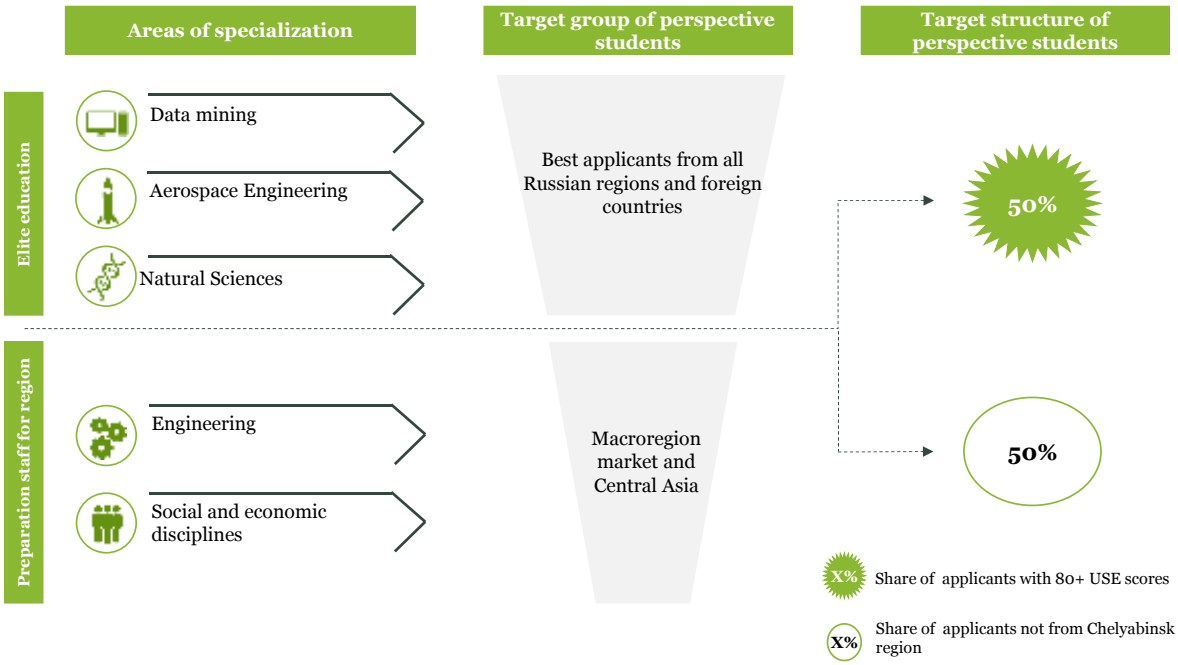


Short-term plans include the establishment of a University-based research center with a dedicated focus on studies in this field. Establishing the center will require an upfront investment of about RUB 30 million, after which recruiting international scientists will require expenditures of about RUB 25 million per year. Starting from 2018-2019, the center is expected to attain sustainable financial self-sufficiency due to grant awards from local and international sources, and the commercialisation of innovations.

3.2. Prospective Student Acquisition Strategy

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

Picture 8. 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

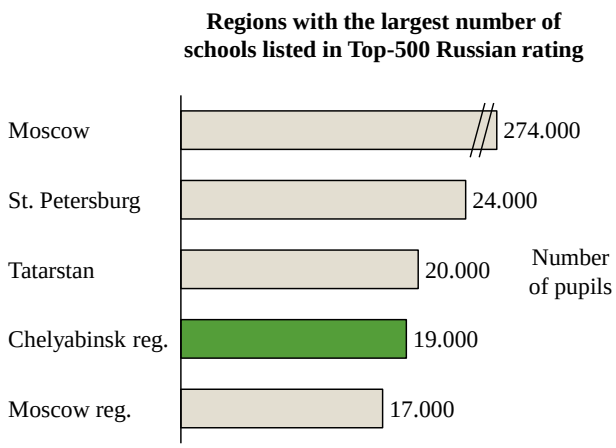
Applicants graduating from schools in the **Chelyabinsk Region** demonstrate a solid academic grounding and knowledge base, as shown by their average Unified State Examination (USE) scores (see table below). SUSU's home macroregion includes several Russian Federation constituent regions, including the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

Picture 9. Applicants for engineering and technical disciplines

	Number of applicants passed exam	
	Chelyabinsk reg.	Macro region*
Physics	3 280	12 648
Chemistry	1 371	5 287
Informatics	1144	4411
Math	13 969	53 867
Applicants with high USE scores	~ 1 000	~ 3 000
Target group	20 %	12 %

*Number of applicants to engineering disciplines with high USE scores is estimated on the basis of Ministry of Education statistics



*Source: RIA news – «Best schools in Russia 2015»

Source: High School of Economics's monitoring, University's data

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 programs. More than 200 students are already enrolled in Masters and Bachelor's degree programs taught in English.

Table 4. List of current joint and English-language study programs

No.	*Description of joint program*	*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 Center
8.	Physical and chemical continuum mechanics	Zababakhin Scientific Research Institute of Technical Physics

	English-language programs
	Bachelor's degree programs
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 programs
6.	Database Technology
7.	Economics
8.	Philology

New English-language Master's degree programs 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 programs 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 200,000 high school students participating. To further its marketing strategy, the University will deploy the following tools:

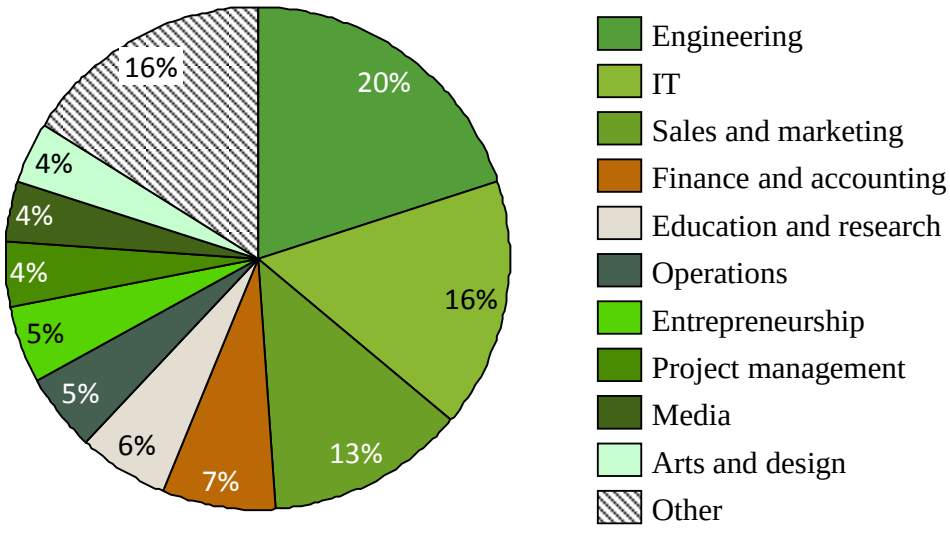
1) Differentiated scholarships for applicants with high USE scores
2) Selective recruitment of applicants from schools with high average USE scores through offering professional navigation and University classes
3) Partnerships with universities without master's degree programs
4) Development and promotion 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.

3.3. 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.

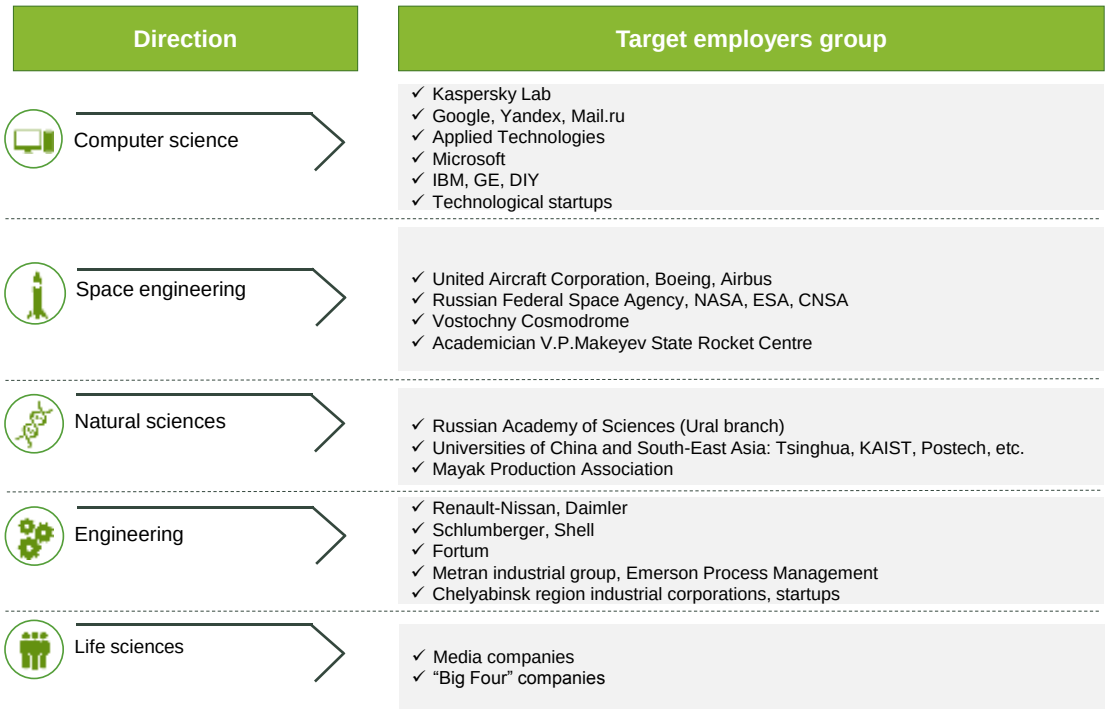
Picture 10. Employment of SUSU graduates by industry



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 11. Target employers of SUSU graduates



4. 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:

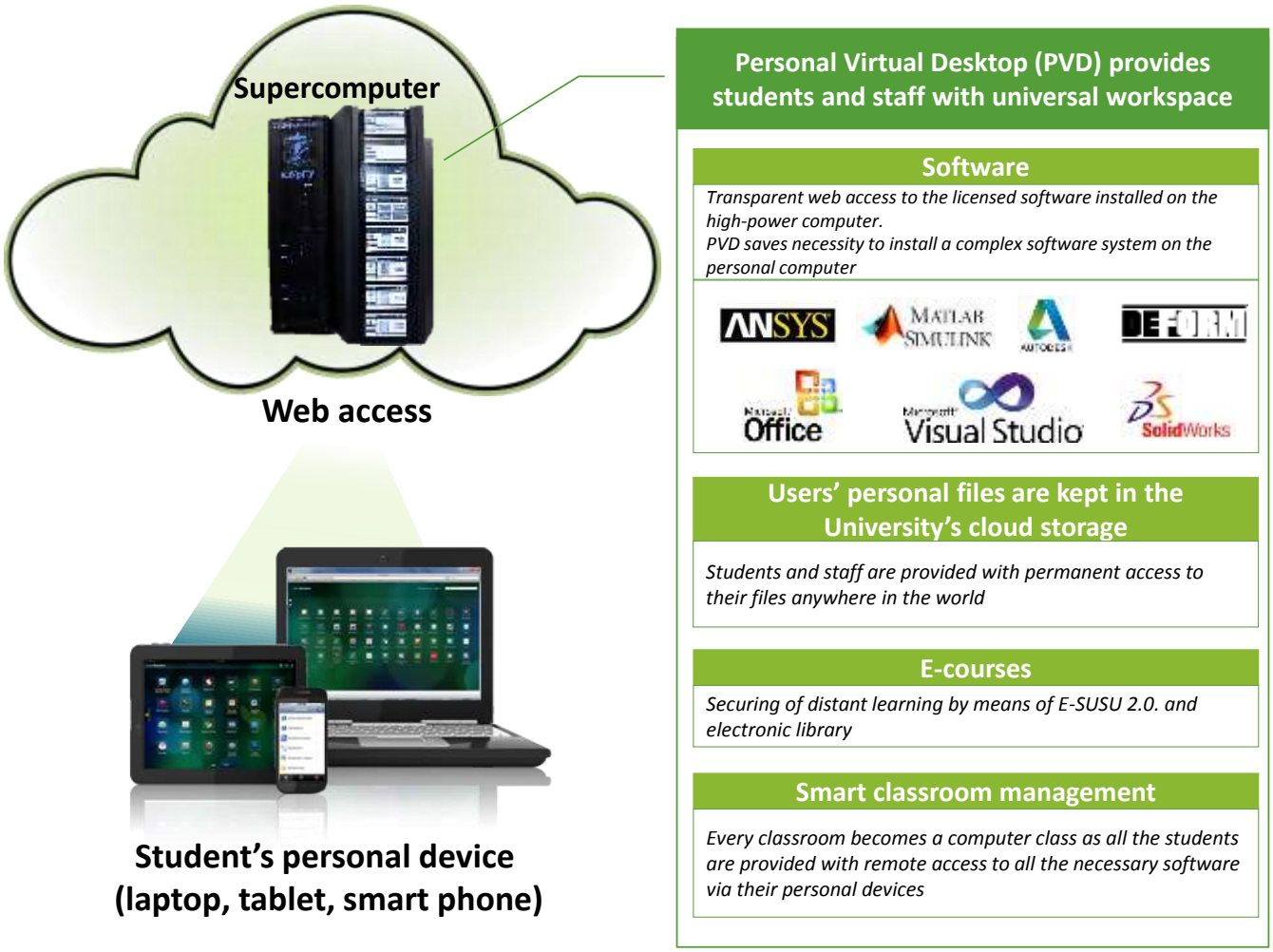
- Establishing fully functional **Intranet**
- Introducing comprehensive **Learning management system**
- Scaling up of universal access-to-knowledge tool - **Personal Virtual Desktop (PVD)**
- Maintaining free **access to supercomputers** for all students

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.

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.

Picture 12. Personal virtual computer



5. *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 program. The University seeks to form a critical mass of international researchers that will provide a wide range of contacts with global research centers 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 5. 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
T. Ludwig	Technische Universität München	31
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
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.

6. 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 centers 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 6. 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

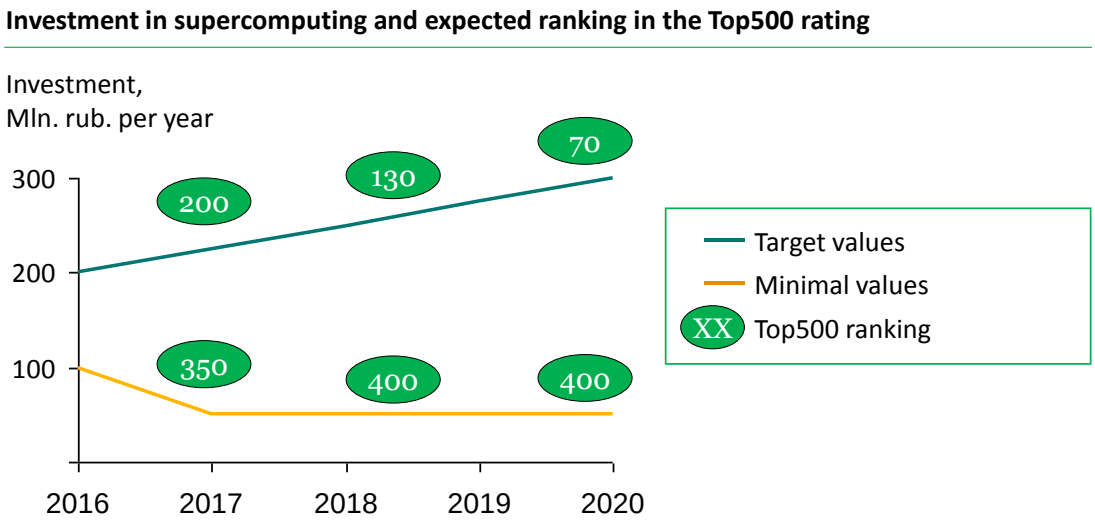
Optical interferometry laboratory	Femtosecond laser	The only femtosecond laser available in the Urals region
	Interferential testing infrastructure	Unique infrastructure for Russia. Lab's groundwork is not connected with the groundwork of the building and surrounding area, which enables to use of interferential 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 center, 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 Center
- Developing a barrier-free environment across University
- Improving utilities and enhancing the quality of property management mechanisms based on specific return from their use

The SUSU supercomputer ranks 349th in the TOP500 rating of the world's most powerful supercomputer systems. SUSU plans to make further investments worth more than RUB 1 billion in its supercomputer with the goal of breaking into the rating's top 100 supercomputers by 2020. Plans call for further upgrading the supercomputer's capacity in partnership with high-tech industrial companies. Estimated investment for this project totals RUB 250 million per year. Among SUSU's potential partners are Makeyev GRTs, Uralvagonzavod, KAMAZ, the Institute of Research and Development in Mechanical Engineering, RSC Technologies, and others. The University will raise the necessary funds either through direct investment or through the establishment of a target endowment fund for the supercomputer. If the University continues to develop its supercomputer further solely using its own funds, the results will not be so outstanding. It will only be sufficient to maintain the SUSU supercomputer in TOP500 ranking.

Picture 13. Investment in supercomputer and rank in Top500



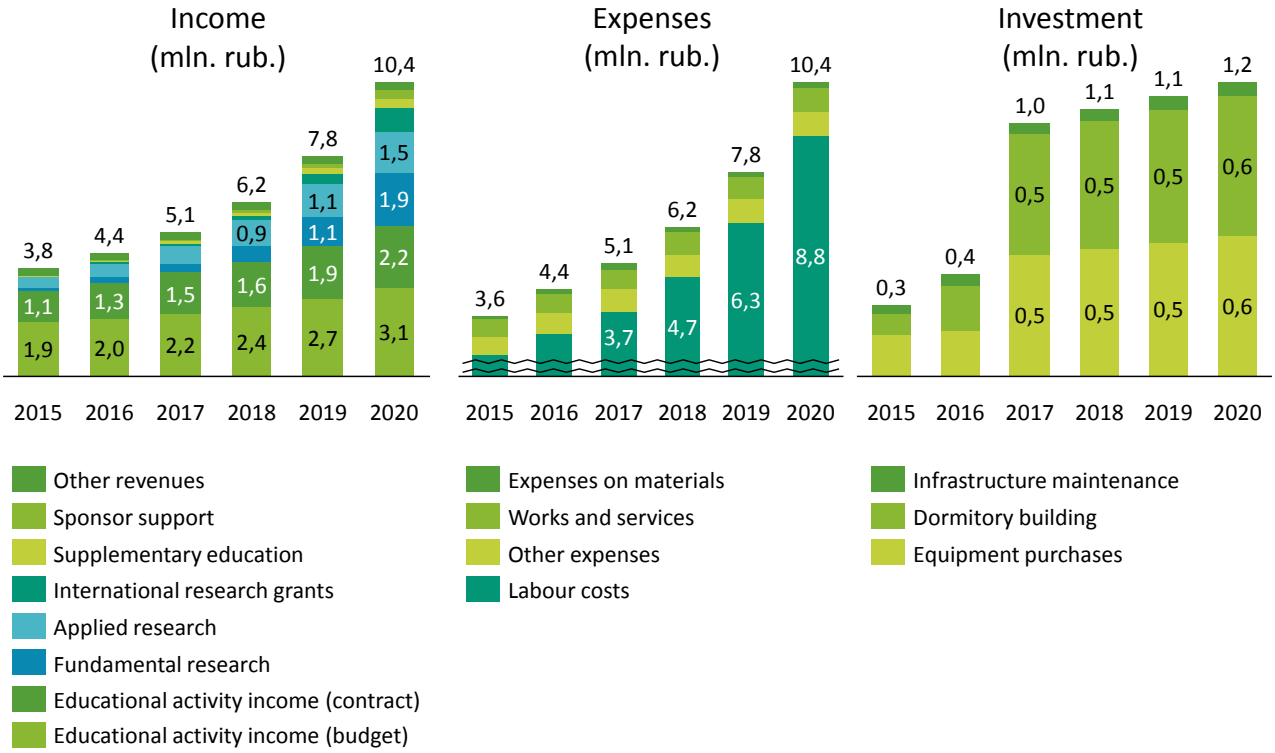
7. Economic and Financial Model

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 programs
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 programs, and by bringing in private investors and partners

Picture 14. Financial-economic model



8. Additional Elements of the Target Model

8.1. 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.

Chelyabinsk is Russia's eighth largest urban center with a population of 1.5 million inhabitants. With its manufacturing facilities, the Chelyabinsk Region represents one of the country's biggest industrial clusters, ranking sixth nationwide in per capita industrial output. The University is at the heart of the regional economic and social infrastructure, helping to spur diversified economic growth and contributing to a higher quality of life for the region's population.

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. The annual revenues of SUSU's innovation belt already stand at RUB 700 million. SUSU's innovation belt specialises, among other things, in the production of training equipment for Russian universities and schools, with the University enjoying an aggregate domestic market share of 80%.
- **Solving the region's environmental issues.** SUSU's R&D outcomes have helped to foster the sustainable development of the region. For example, SUSU researchers recently developed absorbents that immobilise heavy-metal ions and radioactive nuclides. Such absorbents provide protection from industrial contamination at minimal cost. Another example of new products for sustainable development are heat meters for measuring individual heat energy consumption. A pilot project for implementing this technology in Chelyabinsk households has led to reduction of heat energy consumption by 20%.
- **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 and participate in expert councils held by Chelyabinsk region government.

8.2. 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 Center, Hi=40); the average H-index of article contributors is 7.

8.3. Innovation in Education

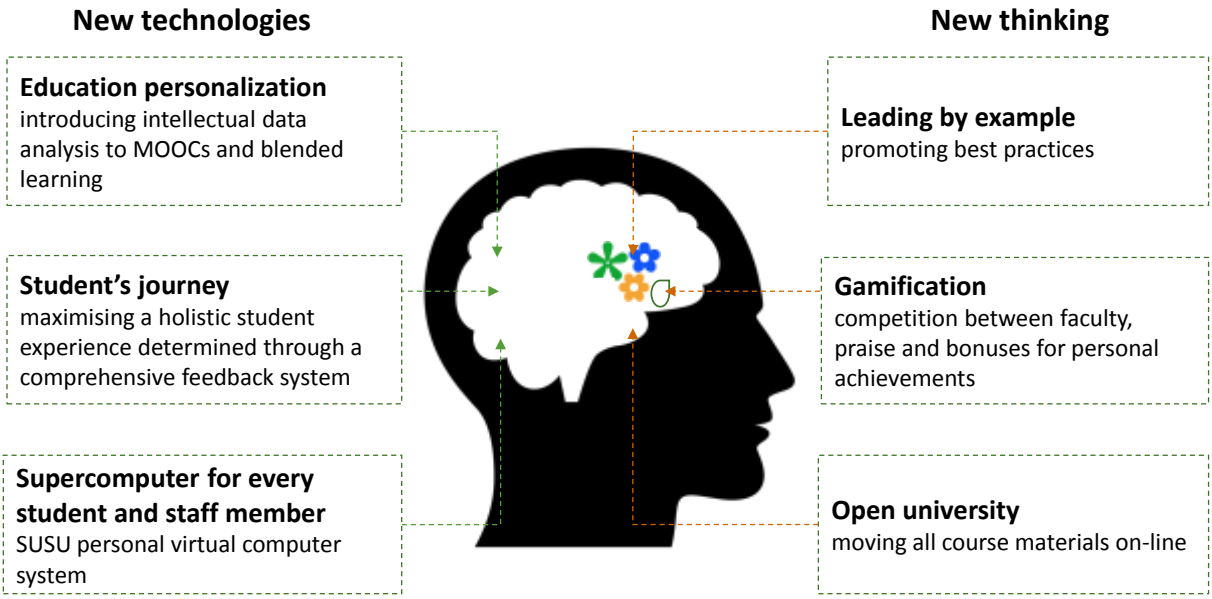
The University aims at improving the quality and efficiency of education through implementing new educational models and technologies.

The establishment of the Institute for **Open and Distance Learning** has allowed SUSU to implement innovative technologies in its existing training programs, 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.

Picture 15. Innovations in education



Among the University's MOOCs are:

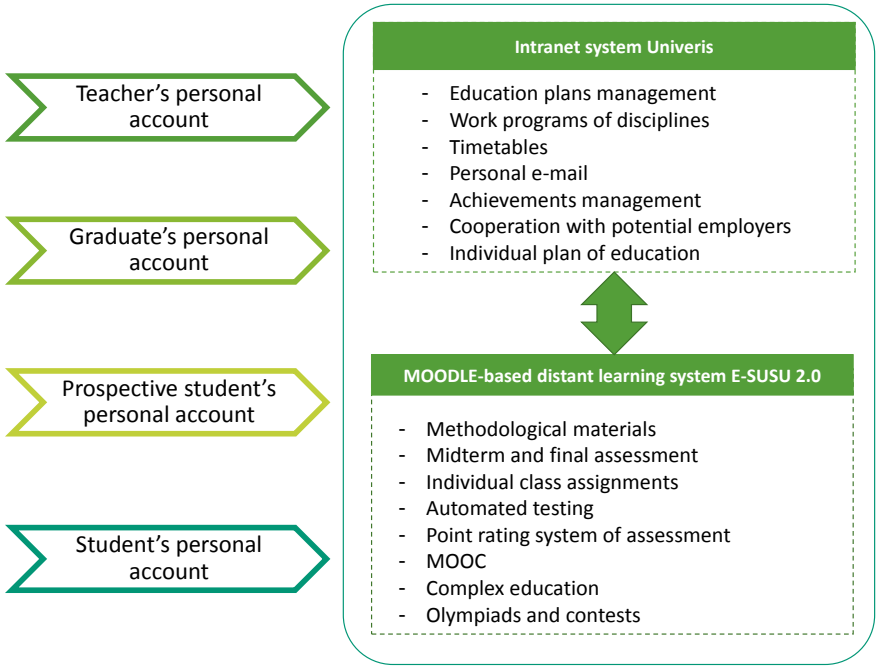
- Advances in Database Systems Development
- Cheminformatics
- Distributed Computing
- Environmental Economics and Natural Resource Management
- Organic chemistry
- Linear Sobolev Type Equations
- Spectral Theory of Differential Operators

SUSU has a MOODLE-based distance learning system, called E-SUSU 2.0. In the short term, the University plans to upgrade it to a complete Learning Management System (LMS). LMS will encompass all educational programs and will help to guide and support students through all stages of their education and subsequent career growth.

At the admissions stage, the LMS will offer career guidance (interactive modelling of future career options), and will allow for participating in academic competitions, enrolling in pre-admission courses and submitting online applications.

For the University, the LMS will provide a rating of applicants and an opportunity to recruit young talent.

Picture 16. Learning Management System



Throughout the educational process, the LMS can become a virtual personal manager for the student, providing access to such information as curriculum, class schedules, academic performance and personal career path. This "smart" learning system will help to reveal student's weaknesses and gaps in the process of mastering various disciplines. It will also suggest how to overcome them by redirecting the student to disciplines or sections studied earlier.

When used by the teaching staff, the LMS will help to improve the learning process by introducing modern interactive teaching techniques and means for achieving better communications with students, as well as offering tips on self-development. The integration of graduates' personal accounts into the University's LMS will help SUSU keep in touch with them, as well as to improve employer engagement and develop vocational training programs.

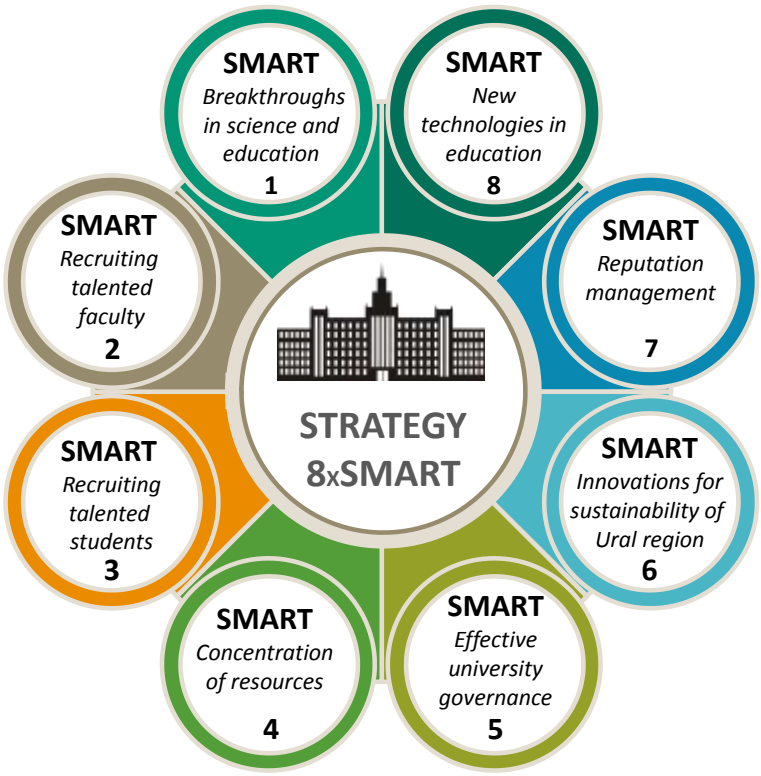
SUSU strives to **improve quality of education** by training teachers and disseminating innovative educational methods. Major attention will be focused on linguistic training of staff and IELTS certification. Major improvement will be achieved through implementation of the MOOCs technology. On this stage, 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 show 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 and to work under the innovative schemes.

I.3. Strategic Initiatives

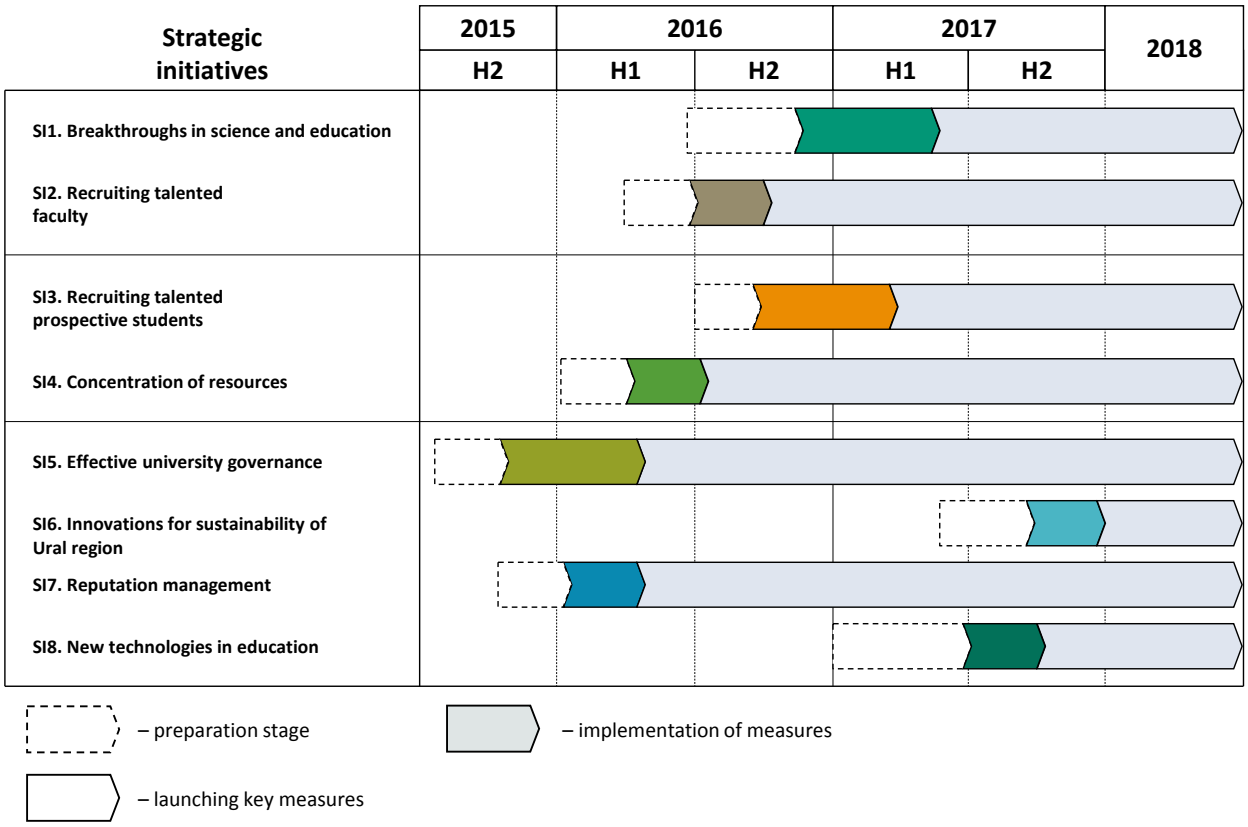
To implement the target model, the University has adopted the 8xSMART Strategy, which integrates all Roadmap's strategic initiatives and focuses on implementing the most efficient means of achieving university's objectives.

Picture 17. The 8xSMART Strategy



For the first half of 2016, the University has prioritised the launch of SI5 and SI4 activities, i.e. rolling out the Program management system, transforming the University governance system, and concentrating resources on breakthrough areas while withdrawing from less effective areas. Also high on the agenda is SI7, aimed at building up the University's reputation, since the outcomes of this initiative will impact all activities incorporated in the Roadmap.

Picture 18. Strategic initiatives launch schedule



Notes to the Picture: The initiating stage comprises of the project manager appointment and project charter development for each major activity within the initiative. The planning and organizing stage encompasses the development of the project plan, the project's presentation at the Program Steering Committee and project team mobilizing for each major activity of the initiative.

In the second half of 2016 - first half of 2017, SUSU will launch the main strategic initiatives, SI1, SI2, and SI3, aimed at recruiting talent to the University (students, young faculty members, and leading faculty members), carrying out breakthrough research, and introducing competitive educational products. This stage will be followed by the launch of additional strategic initiatives SI6 and SI8, focused on innovation-driven activities in the region and new educational technologies implementation. Certain activities of each initiative may be launched before the date shown in the Picture, provided a qualified project manager and well-thought-through project management plan are presented to the Programme Steering Committee. The launch dates of key activities are specified in the description of each initiative further in this section. A complete list of activities, featuring KPIs for each activity, is presented in Section II, the University Competitiveness Enhancement Programme Roadmap (the "Roadmap").

SI1. Breakthroughs in Science and Education

SI1 aim: to achieve globally recognised breakthroughs in research and education in SUSU's fields of specialisation.

To achieve this goal, SUSU will focus on four knowledge areas, which lay the foundation of the four Strategic Academic Units (StrAUs). Each unit integrates research projects and educational programs.

- **Engineering.** A leading breakthrough initiative is cross-disciplinary aerospace research, aimed at asteroid impact avoidance. To enhance research competencies, the University will promote an Aerospace Engineering Master's degree program to the national educational market.
- **Supercomputing.** A major breakthrough area is represented by a research project focused on data mining, a technique that is particularly essential for the comprehensive analysis of Big Data. In the supercomputing area, the educational component is represented by the development of an English-language Master's degree programme in Data Mining, which will be intensively promoted domestically and internationally.
- **Natural Sciences.** A major breakthrough research area is the development of alternative energy sources including materials for solar cells (photosensitisers), which will help enhance the efficiency of solar batteries and reduce the cost of power generation. As part of SI1 implementation, SUSU will introduce English-language programs in applied mathematics, physics, chemistry and materials science.
- **Life Sciences.** A major breakthrough research area is the study of molecular mechanisms of chronic emotional stress development, which represents a health problem for residents of large modern urban centers.

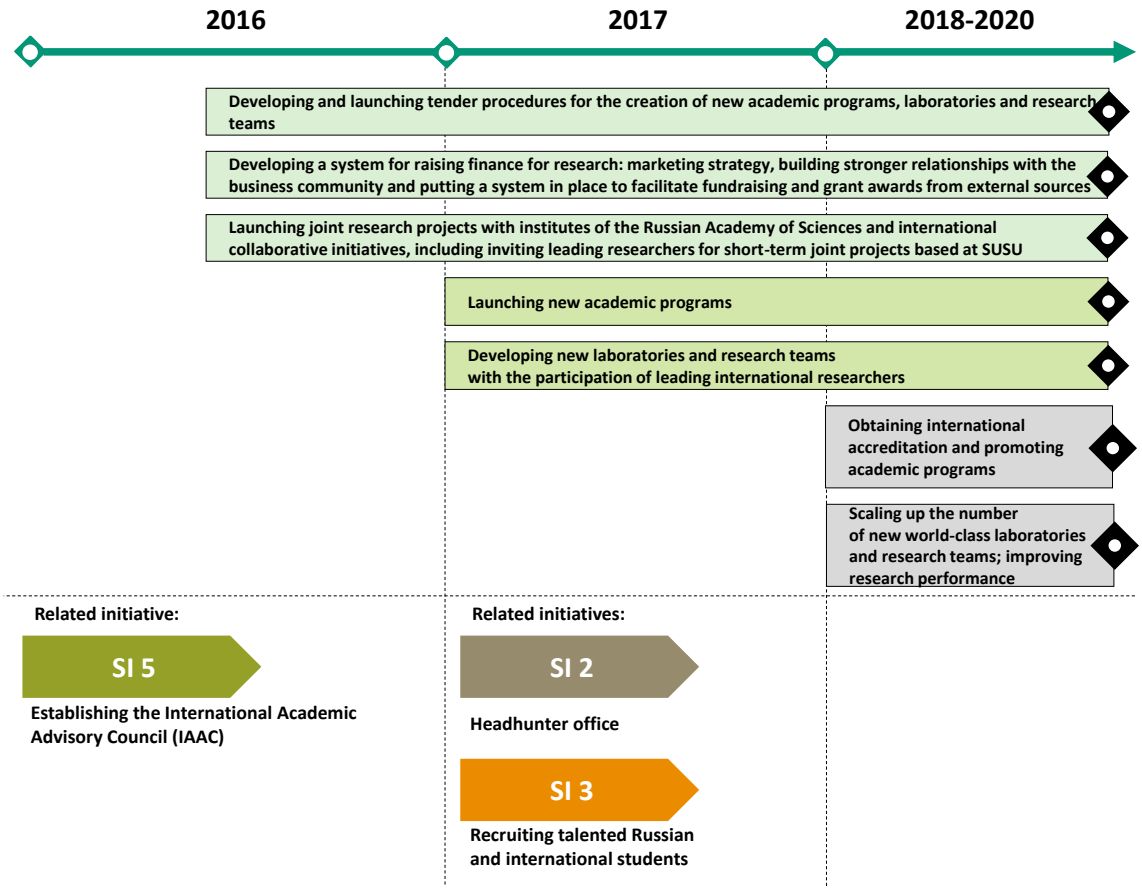
Specific prospective research and educational projects will be selected by the independent international experts. To address this task, SUSU is establishing an

International Academic Advisory Council, comprising of leading global scientists in the domains of natural and computer sciences, engineering and medicine (SI3).

The SUSU Board of Regents, comprising of industrial leaders, will be instrumental in overseeing the University's cooperation with the business community, i.e. by approving a roadmap for promoting SUSU's research capabilities in industrial markets (SI5).

All breakthrough projects leverage the University's supercomputing resources. Many projects will also utilize SUSU's competencies in instrumentation. To achieve higher effectiveness of SI1 implementation, SUSU will engage external partners to cooperate in breakthrough areas in research and education. A high return on investment in breakthrough initiatives will be supported by the University's existing research infrastructure.

Picture 19. Main actions for implementing SI1



SI1 is integrates a number of other initiatives included in the SUSU Roadmap. For instance, to deliver the priority projects the University will recruit talented researchers and students as part of SI2 and SI3. The concentration of resources on

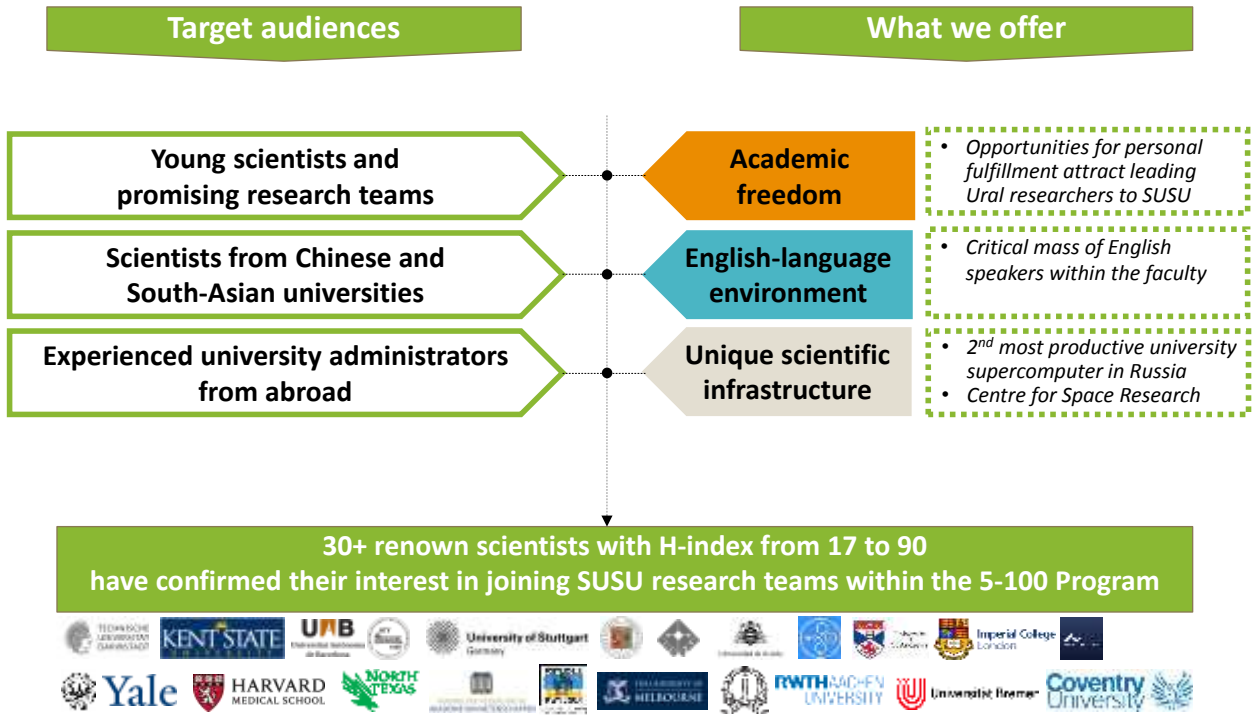
breakthrough areas will be achieved with the help of SI4 activities, in particular through carrying out scientific foresight and an international expert examination of research projects led by the SUSU International Academic Advisory Board.

The results of SI1 implementation include boost in the international academic reputation and in citation indices and publishing activity across all breakthrough areas.

SI2 Recruitment and development of talented staff

SI2 aim: To enhance staff members' professional skills and boost their productivity.

Picture 20. Key personnel recruitment

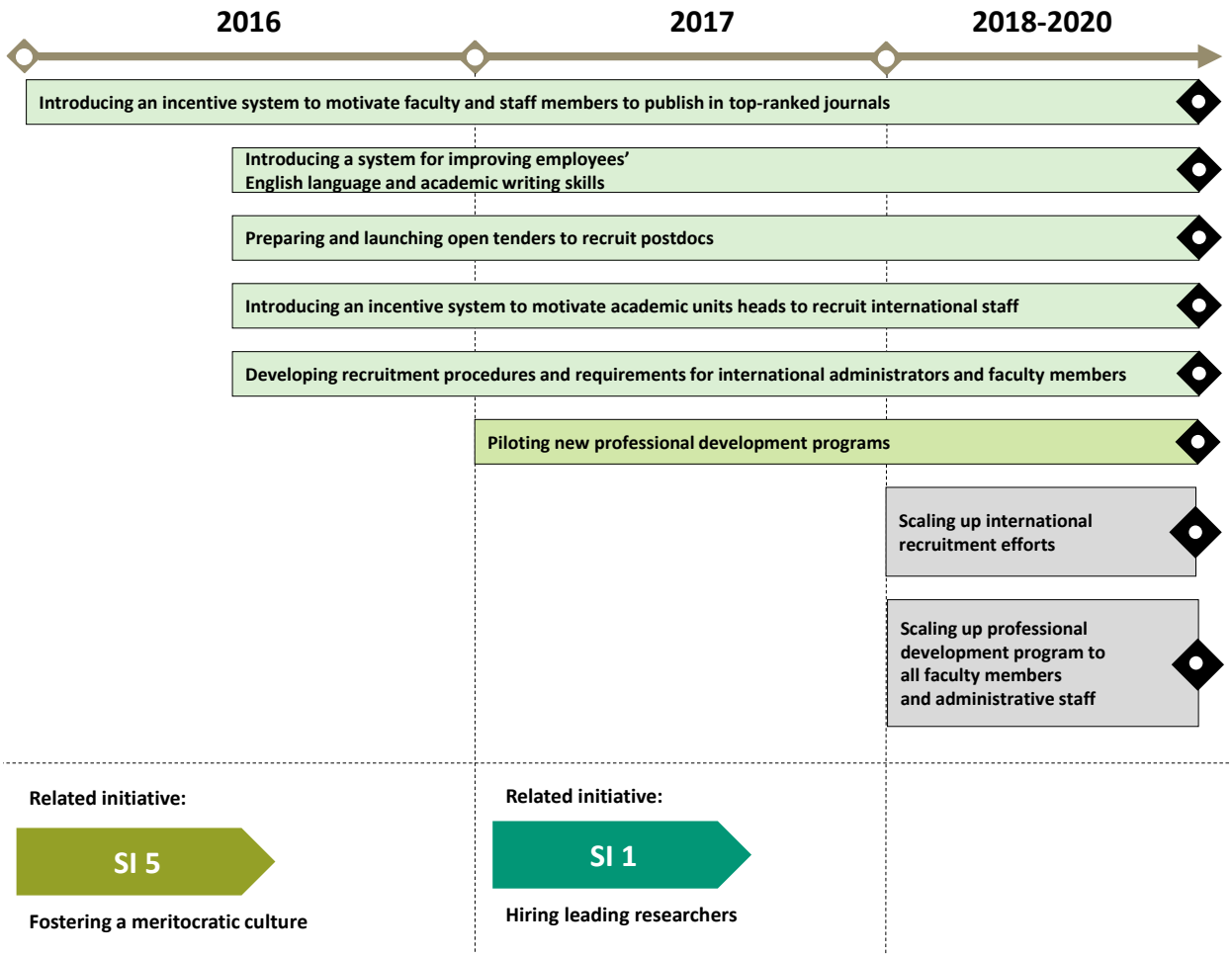


SUSU intends to accomplish this goal by recruiting academics and administrators from leading Russian and international universities, and through advanced training of its own staff members. The recruitment of qualified international staff members requires

- better visibility for the University's leading academics and research activities;
- research grants to ensure competitive compensation packages for international academics;

- mandatory KPIs to measure academic units' performance in recruiting international academics;
- accelerated transition to a bilingual environment;
- experienced top-level administrators with international reputation to enhance SUSU's international network and credibility.

Picture 21 Main actions for implementing SI2



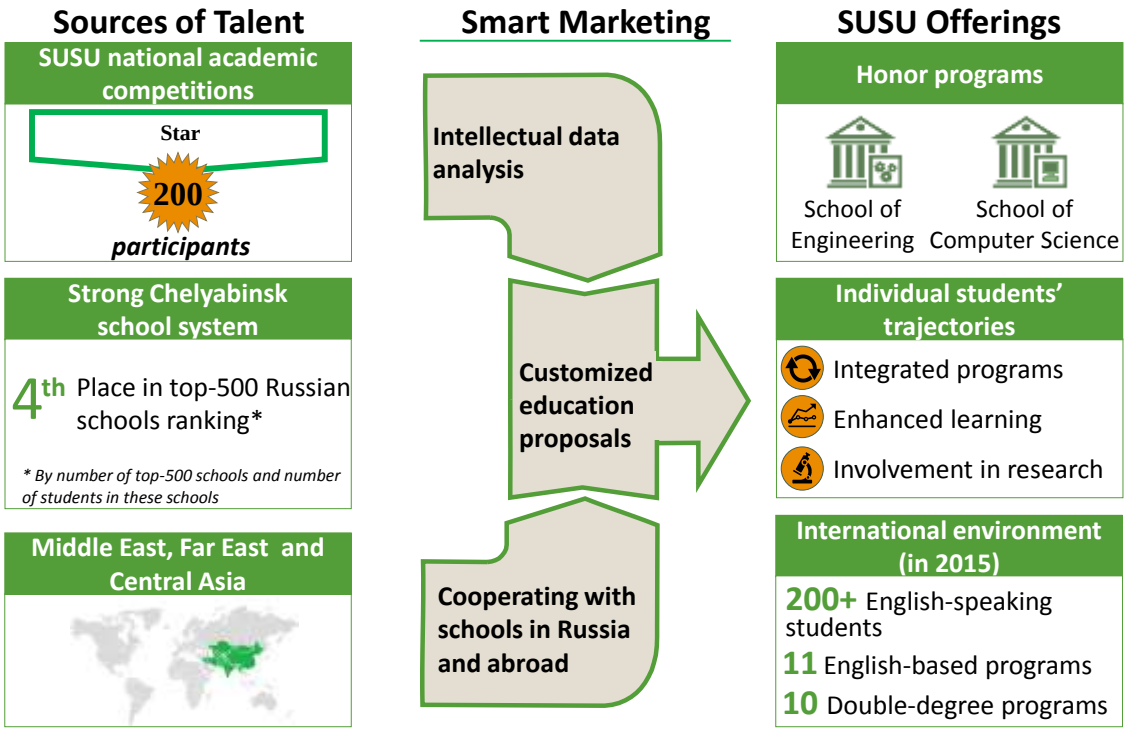
In personnel training and development within SI1, SUSU will focus on improving critically important skills, such as communication skills, publishing activity, English language skills, and the use of advanced educational technologies. SUSU will accomplish these objectives by implementing mechanisms involving micro grants and bonuses, career development for advanced training, non-financial incentives and KPI-based contracts. In late 2015, SUSU adopted a brief, universal list of KPIs for employment contracts with a focus on achieving Program 5-100' major objectives.

The SI2 implementation will enable SUSU to achieve parity with the world's leading universities in terms of the diversity of its staff members and their productivity.

SI3 Recruiting talented students

SI3 aim: To ensure diversity of the SUSU's student body.

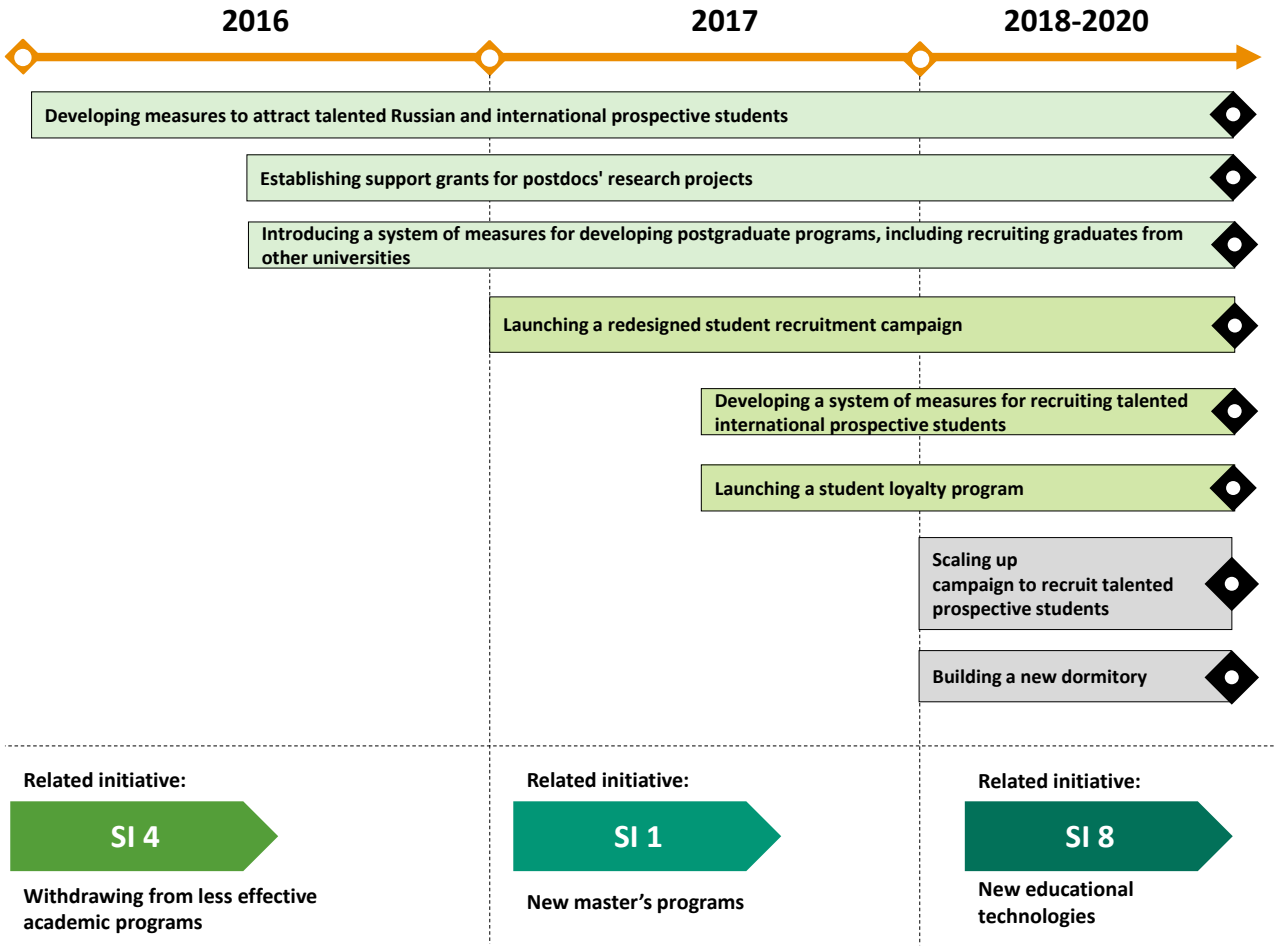
Picture 22. Recruiting talented prospective students



SUSU will acquire talented prospective students by implementing a number of measures, including:

- introducing a system of differentiated scholarships for Russian applicants with high USE scores and international prospective students;
- active interaction with high schools in Russia and abroad;
- organising joint (dual degree) programs with leading Russian and international universities;
- development of a bilingual environment.

Picture 23. Main actions for implementing SI3



The SI3 implementation will enable SUSU to educate a new generation of leaders capable of addressing global challenges for sustainable development.

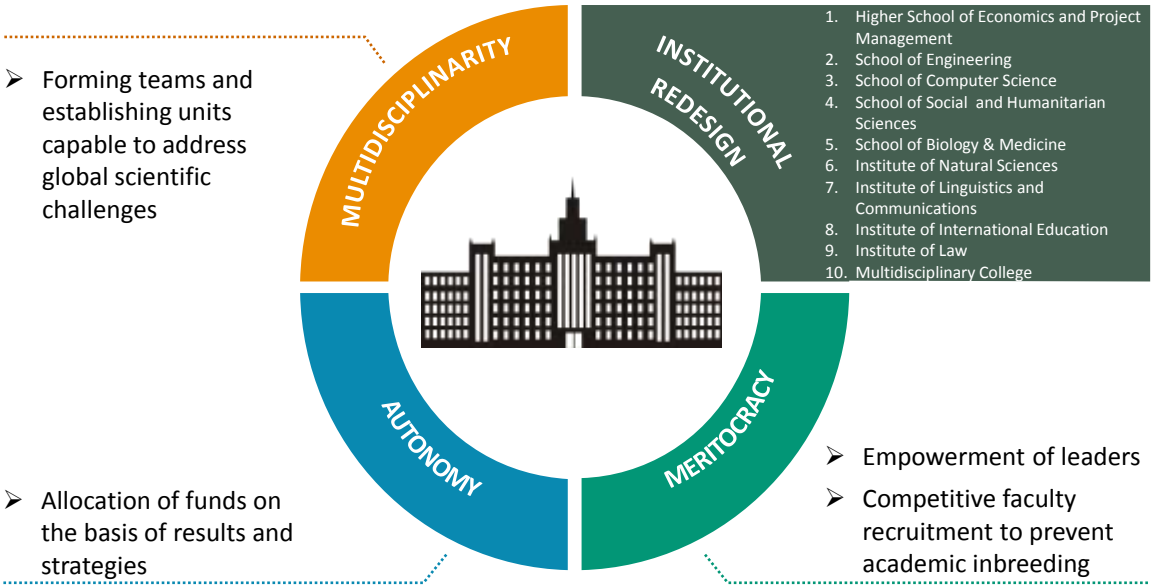
SI4 Concentration of resources

SI4 aim: To improve the overall performance of the University.

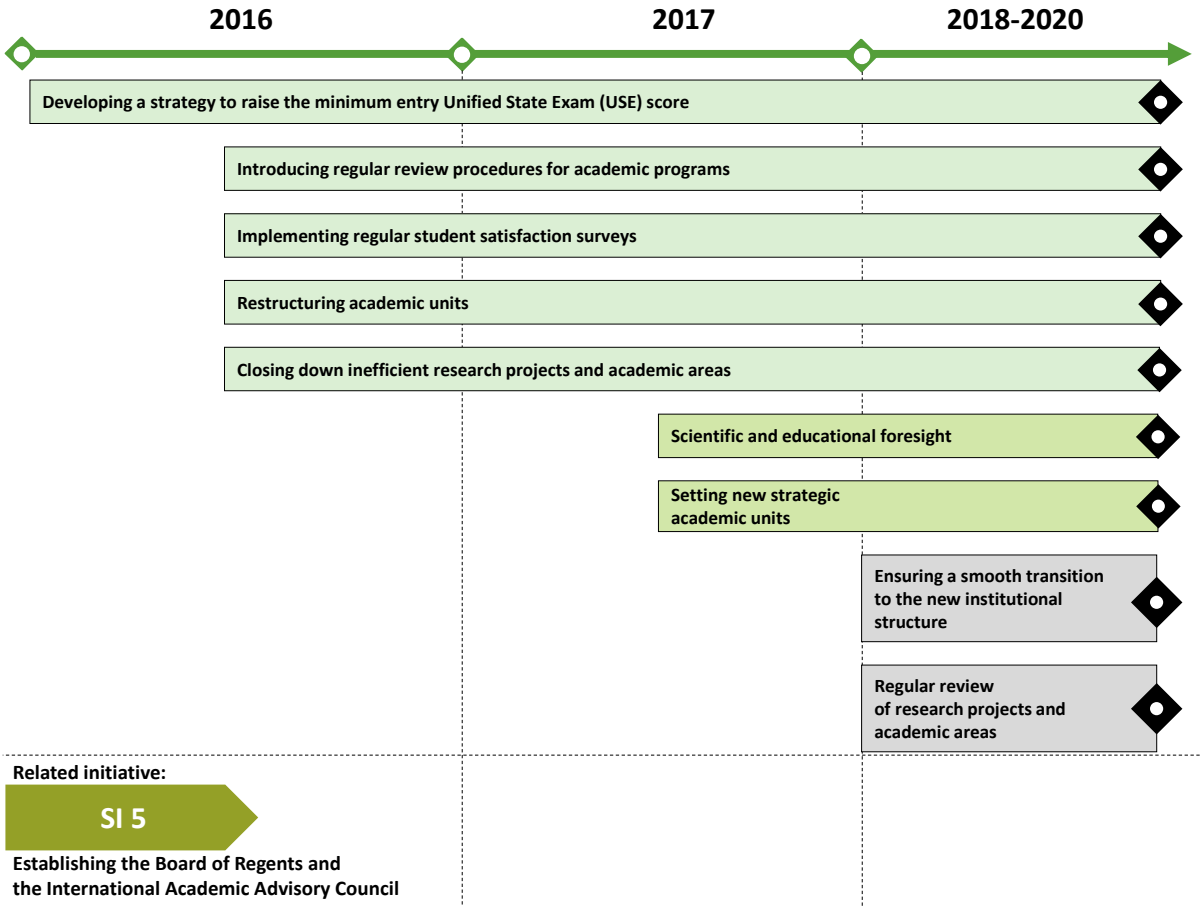
To achieve this goal, SUSU will focus on institutional redesign. The university will form a smaller number of unique academic units to ensure the highest levels of performance and productivity. SUSU's International Academic Advisory Council (IAAC) will play a key role in identifying areas of institutional redesign. It will coordinate research and educational activities at the University in line with global best practices. The IAAC will guide the implementation of scientific foresight to identify areas of the University's fast-track development for 2018-2020. As part of SI4, the University will introduce a regular educational programs review procedures to ensure

that that SUSU's graduates' expertise and competencies are in demand on the job market.

Picture 24. Governance framework and target structure



Picture 25. Main actions for implementing SI4



The implementation of SI4 will enable SUSU's transition to a new structure made up of about 10 schools and with no underperforming units. The restructuring is expected to improve scientometric indicators per faculty member.

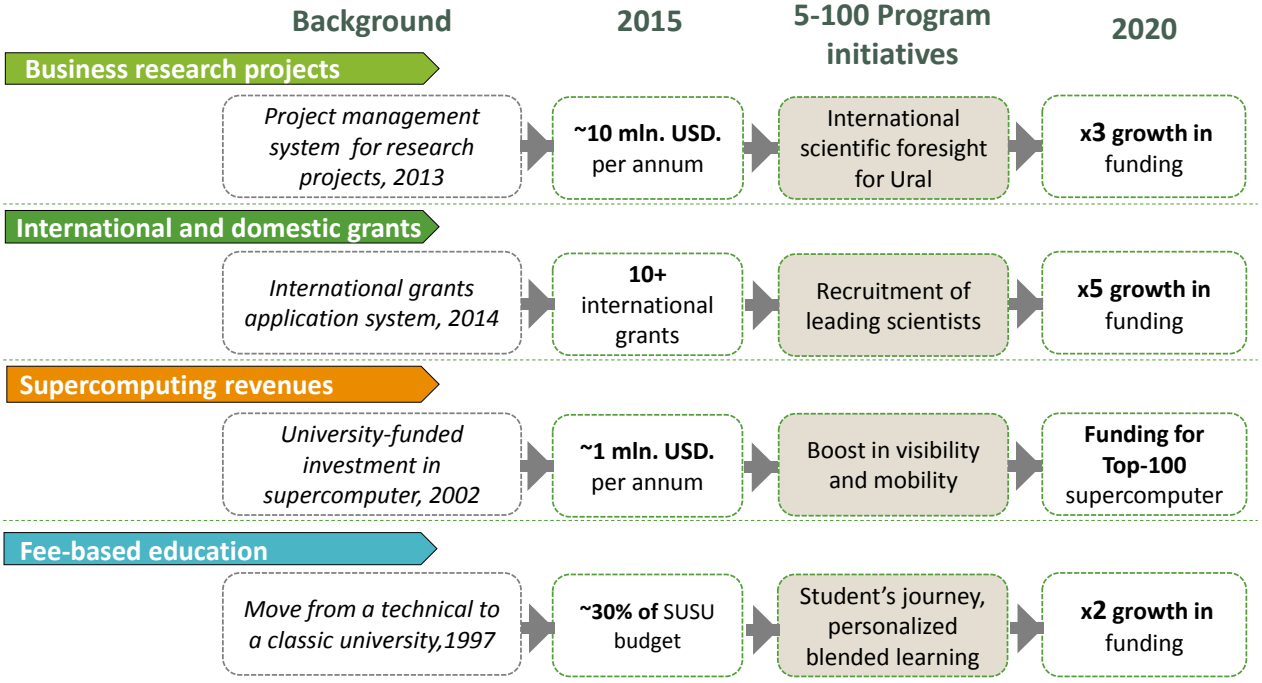
SI5 Effective university governance

SI5 aim: To establish a university governance system in line with world best practices.

To achieve this goal, SUSU will focus on building and developing a truly meritocratic environment. To build such a meritocratic environment, SUSU will need to determine the most appropriate level of autonomy for its structural units, promote the active engagement of talent and introduce efficient incentive system for all staff members.

Another SI5 priority measure is to improve the University's financial and economic model and to master an investment approach for financing University activities. For example, SUSU is contemplating of establishing an endowment fund to support the development of SUSU's supercomputer.

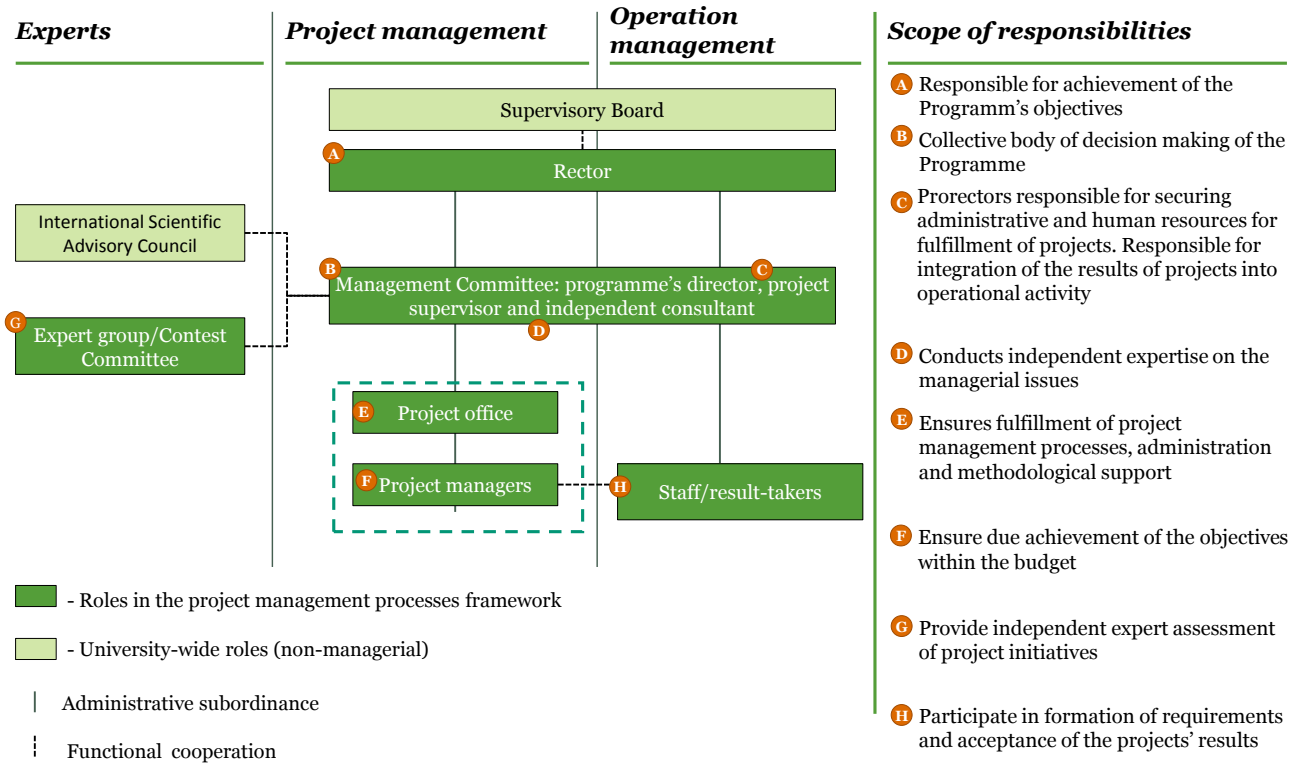
Picture 26. SUSU investment model



Within SI5 SUSU will introduce project management office and change management mechanisms for efficient 5-100 Program implementation. The

management process will be based on clearly defined procedures of competitive resource allocation, collegiate decision-making and independent expertise in specific areas of science, education and management.

Picture 27. Program management chart



The main task of change management is to ensure support for the Program's implementation. In November-December 2015, SUSU conducted a set of activities to inform staff members about the Program, including:

- the Program's presentation at each SUSU faculty;

- a special issue of the University newspaper;

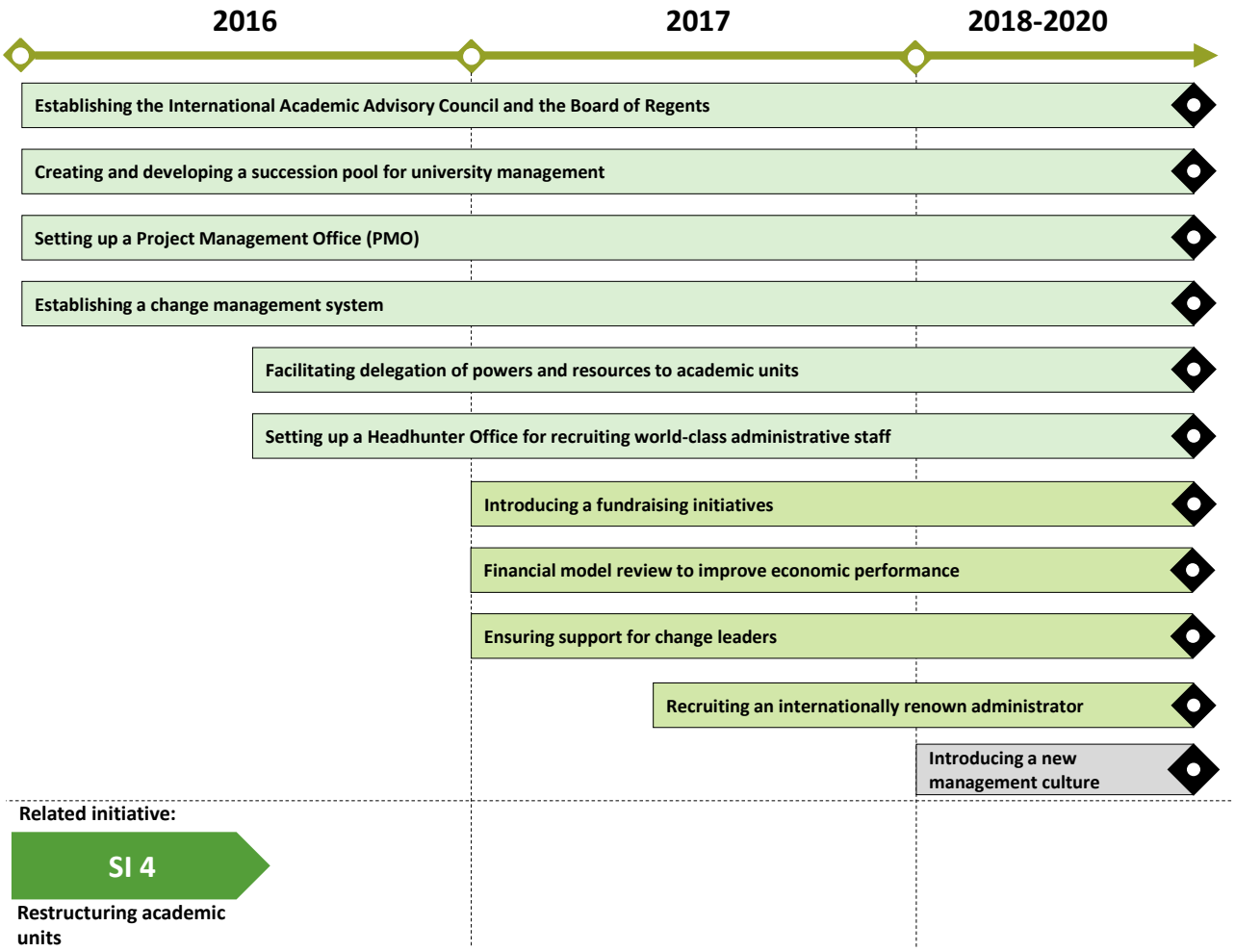
- an intensive coverage of the program by SUSU TV and radio stations;

- a special page on the University's website;

- installing information boards in key public gathering places on campus.

All University employees had the opportunity to submit their proposals and participate in the survey on the University's website. Based on the survey data and submitted proposals, area-specific working groups have compiled the Roadmap.

Picture 28. Main actions for implementing SI5

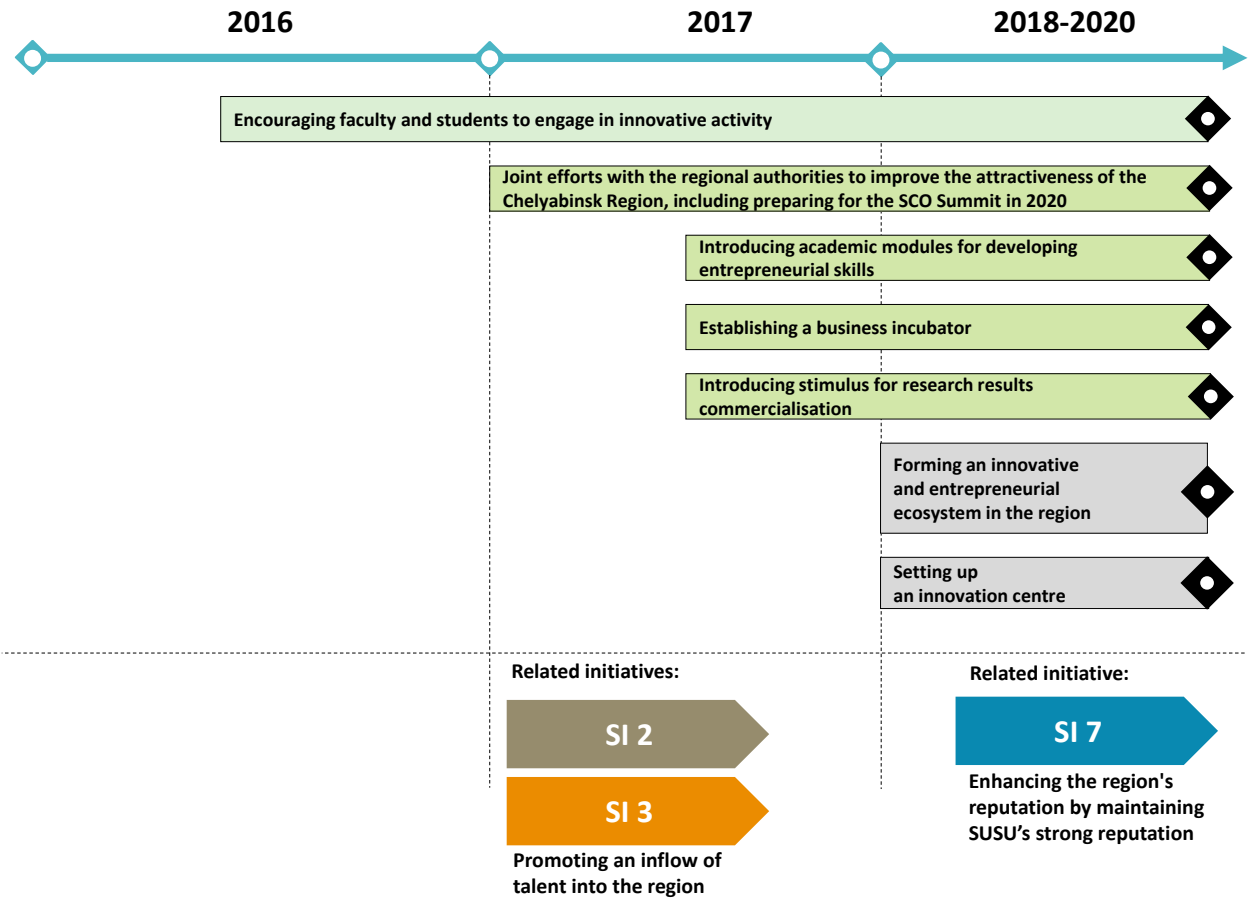


As a result of SI5 implementation, SUSU will establish a management system based on the principles of transparency, cooperation and entrepreneurship.

SI6 Innovations for sustainability of Ural region

SI6 aim: To achieve sustainable development of the Urals by developing a favourable intellectual, creative and business environment in the region.

Picture 29. Main actions for implementing SI6



To achieve the SI6 goal, SUSU intends to create an innovation-conducive environment at the University by implementing a number of measures:

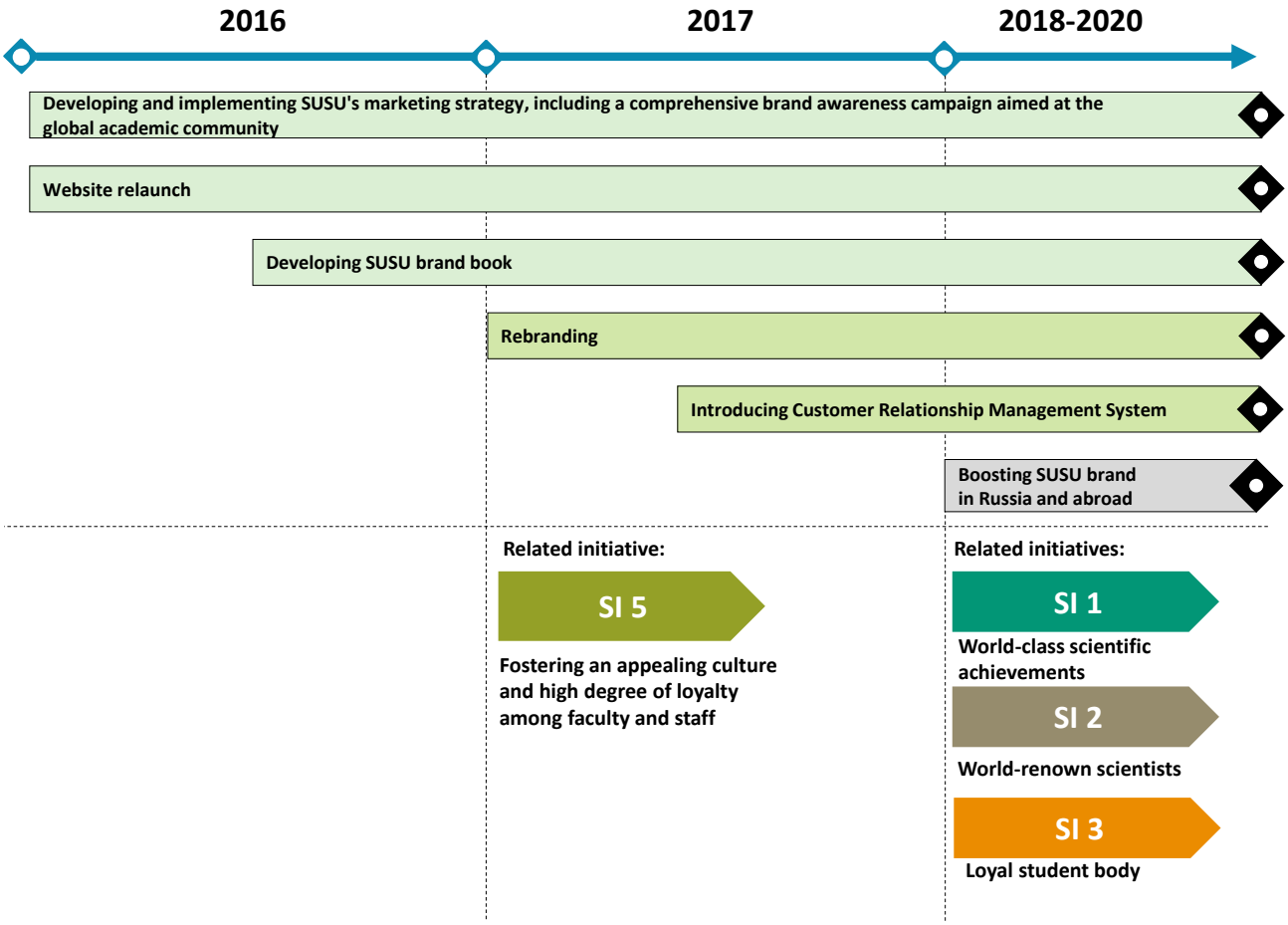
- introducing entrepreneurship development modules in educational programs;
- encouraging entrepreneurship among staff members and students;
- supporting the commercialisation of University's innovations;
- building stronger relationships with the business community as well as local and regional authorities.

As a result of SI6 implementation, SUSU will become a central component in the region's innovation-driven economy and Chelyabinsk will take its place among global intellectual centers.

SI7 Reputation management

SI7 aims: To raise awareness of the University's brand and foster a positive image of SUSU among international academic community and prospective students.

Picture 30. Main actions for implementing SI7



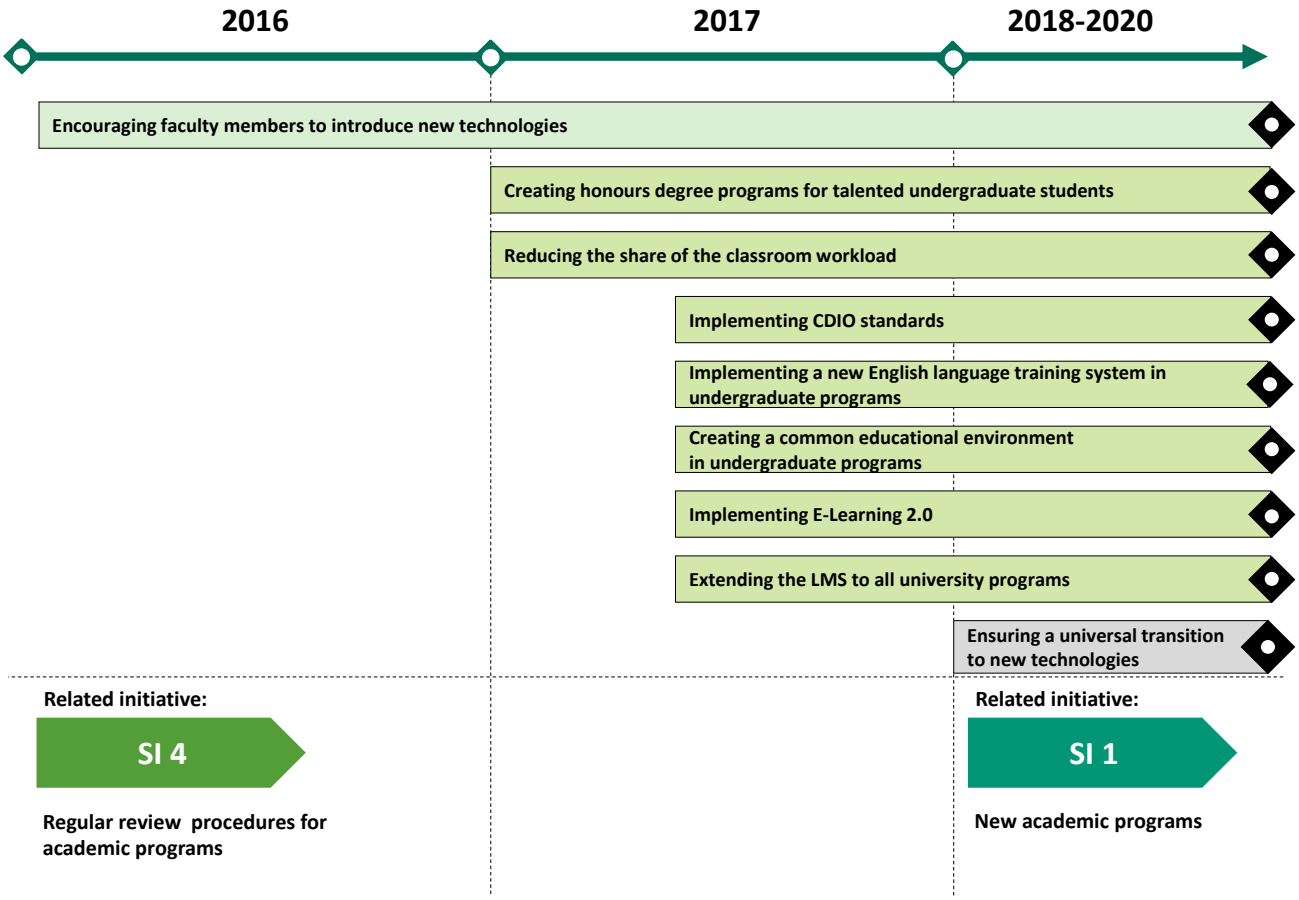
As part of SI7 implementation, in late 2015 SUSU launched a new version of its website and developed a communications strategy for 2016. The next steps include building a social media space to promote the University in social networks, implementing a CRM system to ensure effective interaction with the University's key stakeholders, preparing a brand book, and initiating a re-branding campaign.

As a result of SI7 implementation, SUSU will ensure its competitiveness on the global market for research activities and educational services.

SI8 New technologies in education

SI8 aim: To improve the quality of education and enhance the educational process at SUSU.

Picture 31. Main actions for implementing SI8



To achieve this goal, SUSU will focus on mastering ting new educational technologies and advanced teaching methods. The SI8 priority action is to implement a system that will encourage faculty members to introduce new technologies and teaching methods in the educational process. It is expected that a pilot project will be launched in 2017 to introduce honors programs for talented undergraduate students. In 2016-2017, SUSU will continue to implement information technologies, including extending the LMS to all academic programs.

As a result of SI8 implementation, SUSU will narrow the gap in the quality of teaching against the world's leading universities and ensure a high level of student engagement and motivation.

II. Implementation Plan for the Competitiveness Improvement Program

1. Plan Indicators

№	Indicator	UOM	2016	2017	2018	2019	2020	Number of Action
1	Total number of employees recruited for senior management positions with a track record of working for leading universities and scientific organizations in and outside of Russia	**Number of people (cumulative)**		*1*	*2*	*3*	*4*	A 5.1.2
2	Number of scientific journals of the University, included in database Web of Science and/or Scopus	**Units**	*1*	*2*	*3*	*3*	*3*	A 7.2.1
3	Number of employees included in the succession pool for managerial positions	**People**	*100*	*150*	*200*	*200*	*200*	A 5.1.3
4	Share of young faculty staff with experience in leading Russian and foreign universities and/or in the leading Russian and foreign scientific organizations in the total number of young faculty staff	**%**	*0,25*	*0,8*	*1,5*	*2,2*	*3*	A 2.2.2
5	Share of the number of University faculty staff, participating in academic mobility programs, in the total number of University faculty staff	**%**	*1*	*2*	*2*	*4*	*5*	A 3.2.3
6	Number of academic mobility programs for faculty staff of University and outside organizations realized by the University	**Units**	5	10	15	20	25	A 1.2.2
7	Share of young University faculty staff in the total number of University faculty staff	**%**	10	12	15	20	25	A 2.2.1

№	Indicator	UOM	2016	2017	2018	2019	2020	Number of Action
8	Share of students on educational programs of higher full-time education that received support in the total number of students on educational programs of higher full-time education	**%**	*10*	*12*	*14*	*16*	*20*	A 3.2.2
9	Share of intern-researchers and young faculty staff, received support, in the total number of researchers and young faculty staff	**%**	*25*	*30*	*35*	*40*	*45*	A 3.2.1
10	Number of educational programs of higher education and vocational programs developed and implemented in partnership with the leading Russian and foreign universities and/or in the leading Russian and foreign scientific organizations	**Units**		*2*	*4*	*7*	*10*	A 1.1.1
11	Share of students from leading foreign universities in the total number of students	**%**				0,1	0,2	A 3.3.1
12	Number of research projects involving the leading foreign and Russian scientists and/or in cooperation with leading Russian and foreign scientific organizations at the University basis, including the ability to create structural divisions of the University	**Units**	*5*	*10*	*15*	*20*	*25*	A 1.2.1
13	Number of research and development projects in cooperation with Russian and international high-tech companies on the basis of the University, including the ability to create structural divisions of the University	**Units**	*50*	*75*	*100*	*125*	*150*	A 1.3.2

2. Implementation Plan for the Competitiveness Improvement Program for the Period 2016-2020

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
SI 1	Breakthroughs in science and education										
Task 1.1	Introduce and promote international programs carried out in collaboration with leading universities, research organizations and top-ranked high-tech companies										f
A 1.1.1	Develop, introduce and promote joint educational programs with leading universities, research organizations and top-ranked high-tech companies. Introduce and promote educational programs in English for staffing of the top-priority areas of social and economic development on the regional and federal level, including development of such industries as medicine and biosciences, agriculture and IT	Number of educational programs of higher education and vocational programs developed and implemented in partnership with the leading Russian and foreign universities and/or in the leading Russian and foreign scientific organizations, units				2		4	7	10	g

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 1.1.2	Obtain international accreditation for key educational programs with further promotion to the global market	Number of educational programs with international accreditation, units (cumulative)							3	6	g
Task 1.2	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										h
A 1.2.1	Perform research together with world leading academics, in particular by means of attracting academics for work in collaboration with academic staff of SUSU and partner organizations	Number of research projects involving the leading foreign and Russian scientists and/or in cooperation with leading Russian and foreign scientific organizations at the University basis, including		5		10		15	20	25	h

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
		the ability to create structural divisions of the University, units									
A 1.2.2	Organize joint researches in collaboration with leading international organizations, institutions of the Russian Academy of Sciences, especially through establishment of consortia and joint and mirror laboratories	Number of University's academic mobility programs for both, its faculty and faculty of external organizations, units		5		10		15	20	25	h
Task 1.3	Ensure development of applied market-oriented scientific research and development										h

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 1.3.1	Implement a system for conducting a market analysis of the needs of the applied research and development market for further initiation of research and development projects and development of cooperation with business community	Research and development costs per academic, mln rub		0,35		0,4		0,6	1,2	1,5	h
A 1.3.2	Set up “one-stop shop” services for work with the business community	Number of research and development projects in cooperation with Russian and international high-tech companies on the basis of the University, including the ability to create structural divisions of the University, units		50		75		100	125	150	h

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 1.3.3	Develop cooperation with the business community to implement projects in breakthrough areas on the regional, Russia-wide and global levels	Total value of business contracts, mln rub		270		360		450	600	850	h
Task 1.4	Ensure the establishment of new cross-disciplinary scientific platforms and the further development of existing ones										h
A 1.4.1	With approval of the International Scientific Council, organize temporary creative groups via attraction of world leading academics to perform advanced research	Share of foreign professors, lecturers and researchers in the total number of faculty, including Russians with foreign Universities PhD, %		1		2		3	5	10	h

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 1.4.2	With approval of the International Scientific Council, develop infrastructure for scientific and educational centers and laboratories via attracting world leading academics	Average citation in Scopus per 1 faculty staff (during the last 5 years), units		0,7		1		2,3	5,2	11,6	h
A 1.4.3	Set up a system for searching and maintaining applications for international grants, as well as for training SUSU academics in preparing applications for international grants	Total value of international grants received by the SUSU academics, mln rub (cumulative)		2		10		30	40	50	c
SI 2	Recruiting talented faculty										
Task 2.1	Organize advanced training programs for academic staff aimed at preparing them to international work										c

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 2.1.1	Implement best practices of university language training from the 5-100 Program	Number of young faculty staff who certified IELTS, people (cumulative)		10		30		70	150	200	c
A 2.1.2	Establish an Academic Writing Office for development of publishing and professional communication skills	Number of publications in Scopus per 1 faculty staff (during the last 5 years), units		0,5		0,7		1,2	1,9	3,1	c
Task 2.2	Implement an international recruitment system										b
A 2.2.1	Create a University system for international recruiting and hiring of junior academic staff, especially through creating a system of open international scientific contests and grants	Share of young faculty staff, %		10		12		15	20	25	b

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 2.2.2	Create a program motivating the board of executives to recruit external academic staff, including international	Share of young faculty staff with experience in leading Russian and foreign universities and/or in the leading Russian and foreign scientific organizations in the total number of young faculty staff, %		0,25		0,8		1,5	2,2	3	h
Task 2.3	Ensure increased citation indices for the University's faculty										c,e,h
A 2.3.1	Ensure access to full-text databases and informational resources	Number of unique users of databases and informational resources, people		120		200		350	650	1000	c,e,h

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 2.3.2	Improve the system for motivating academic staff to publish articles in high-impact academic journals	Number of publications in top-10% of scientific magazines (SNIP), units (cumulative)		10		25		50	80	120	c,e,h
A 2.3.3	Create a system for promoting the results of scientific work, as well as motivating academics to speak at top-rated conferences and forums and recruiting foreign collaborators	Number of grants for participation in the academic mobility program itemized by types (individual, for research groups//for participation in conferences, for allocation during carrying-out of scientific projects, etc.), units		10		15		20	25	30	c,e,h
SI 3	Recruiting talented prospective students										

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
Task 3.1	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										d
A 3.1.1	Implement integrated Master's and postgraduate academic study programs	Share of students of Master's programs with bachelor diplomas of different from SUSU higher educational institutions in the total number of faculty, %		25		27		29	32	35	d
A 3.1.2	Create and implement a system of recruitment of external applicants to the postgraduate studies of the University, including establishment of the department engaged in recruiting Russian and foreign postgraduates	Share of students of postgraduate programs with diplomas of different from SUSU higher educational institutions in the total number of faculty, %		5		7		9	11	15	d

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 3.1.3	Introduce a system of grants for internships at leading research organizations and universities	Number of students of master and postgraduate programs receiving grants and other support for academic achievements and/or participation in scientific as well as socially important projects, arranged by universities, people		700		725		750	775	800	d
A 3.1.4	Institutionalize dual postgraduate studies programs, including a dual supervisory model	Share of postgraduate studies programs by dual supervisory model, %		1		4		6	8	10	d

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 3.1.5	Develop and implement a set of measures for enhancing of productivity of postgraduate studies, specifically through implementation of a system of participation of postgraduates in funded research and development	Number of PhD awarded to the graduates whose research supervisors are Russian and leading foreign academics of high publication activity and performance, people				5		8	11	15	d
Task 3.2	Implement a system of grants to support young academic staff and students, as well as to ensure international academic mobility										e
A 3.2.1	Support young academic staff and students by providing grants for scientific projects, including internships at leading research organizations and universities	Share of intern-researchers and young faculty staff, received support, in the total number of researchers and young faculty staff, %		25		30		35	40	45	e

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 3.2.2	Implement a system of target grants to support talented Russian and foreign students	Share of students on educational programs of higher full-time education that received support in the total number of students on educational programs of higher full-time education, %		10		12		14	16	20	e
A 3.2.3	Create an academic mobility function, a search system of mobility programs and organization of partnerships for such programs	Share of the University faculty participating in the University academic mobility programs in total number of the faculty, %		1		2		2	4	5	e
Task 3.3	Develop and implement a new system for recruiting talented applicants to the University										e

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 3.3.1	Form a unified educational environment for recruitment of international students, including "mobility gaps", i e studies with a free course selection mechanism available to students	Share of students from leading foreign universities in the total number of students, %							0,1	0,2	g
A 3.3.2	Create infrastructure for a bilingual environment; develop the linguistic and cross-cultural competencies of employees	Share of students from leading foreign universities in the total number of students, %		0,2	0,4		0,7		0,8	1	g
A 3.3.3	Build a new world-class dormitory	Share of students satisfied with a new dormitory, %							80	80	g

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 3.3.4	Develop a University-based system of academic conferences, competitions, contests and new forms of professional navigation for applicants to bachelor and Master's degree programs, including for the purposes of selection and recruitment of talented applicants on base of the results of the competitions	Share of students of Master's and postgraduate programs, %		10		15		17	25	25	g
A 3.3.5	Implement a system for managing student loyalty (Student Journey)	Net Promoter Score, NPS						20	30	35	e
A 3.3.6	Develop and implement a new system for recruiting foreign applicants	Share of foreign students educated in the University's core educational programs (including students from CIS countries), %		9		10		12	14	18	g

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
SI 4	Concentration of resources										
Task 4.1	Implement the mechanism ensuring concentration of resources on breakthrough areas of science and abandoning less effective areas of science and education										a
A 4.1.1	Arrange a scientific foresight to assess technological trends and development scenarios in top-priority development areas of the University in collaboration with industrial partners with involvement of international experts	Number of grants received by the faculty from Russian Science Foundation and other supporting research and development funds, units		10		20		30	40	50	h
A 4.1.2	Implement a system for monitoring of demand for educational programs and discontinue those training areas for which there is no demand	Share of restructured educational programs, % of previous year		10	20		10		10	10	f

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 4.1.3	Create and implement a system for monitoring of students' level of satisfaction	Number of participants of monitoring of students' level of satisfaction, people		20		40		60	80	100	e
A 4.1.4	Optimize the content and structure of the University's academic load	Number of grants received by the faculty from Russian Science Foundation and other supporting research and development funds, units		10		15		25	40	50	h
A 4.1.5	Restructure the social economic and liberal arts faculties of the University to enhance productivity of carrying-out of corresponding educational programs of scientific research	Share of non-public structural divisions in total number of structural divisions, in agreement with International Scientific Council and Scientific Council, %		30		20		10	10	10	f

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 4.1.6	Develop internal procedures of performance assessment of structural divisions to apply corresponding results competitively when allocating the expenditures of the University on the scientific research	Share of non-public structural divisions in total number of structural divisions, in agreement with International Scientific Council and Scientific Council, %		30		20		10	10	10	h
A 4.1.7	Come to an agreement with the academic board of the University over gradual justified increase of the admission score at the Unified State Examination for further enrollment of the applicants to the key bachelor programs	Average Uniform State Exam (USE) score of students accepted to full-time course of study at the expense of the Federal budget, points		67		69		72	75	78	g
SI 5	Effective university governance										
Task 5.1	Implement a system for training succession pool for the University's staff and advanced training for senior staff, including English language training										a

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 5.1.1	Reform the executive board of the University and its divisions, including establishment of a Headhunter Office for recruitment of internationally reputable administrators	Reformation of at least 25% of executive board and its divisions within 2 years, % (cumulative)		12		25		30	35	40	a
A 5.1.2	Recruit internationally reputable administrator to recruited foreign specialists	Total number of employees recruited for senior management positions with a track record of working for leading universities and scientific organizations in and outside of Russia, people (cumulative)				1		2	3	4	a

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 5.1.3	Develop professional skills and qualifications of the University staff included in the succession pool, especially of language proficiency, strategic and project management	Number of employees included in the succession pool for managerial positions, people		100		150		200	200	200	a
Task 5.2	Create a change management system										a
A 5.2.1	Set up a project management office for the 5-100 Program	Share of accomplished Key Performance Indicators of the Roadmap, %		90		90		90	90	90	a
A 5.2.2	Create and implement a system of internal PR communications aimed at providing informational support for institutional changes	Level of the faculty staff's awareness of the Russian Academic Excellence Project 5-100, %	40	60		80		90	90	90	a

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 5.2.3	Create and implement a management system to support transformation processes aimed at developing and supporting internal change agents	Share of staff supporting changes in SUSU, %		5		10		15	20	25	a
A 5.2.4	Develop a motivation system, including introduction of nomination and awards system for academic achievements, scientific breakthroughs and participation in socially important projects	Number of employees nominates and winners to awards, people		50		50		50	50	50	a
Task 5.3	Ensure the effectiveness of the financial model of the University										a
A 5.3.1	Develop and implement a system for raising funds, including by establishing an endowment fund	Number of active charity workers, people (cumulative)				100		200	300	500	a

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 5.3.2	Develop and implement a strategy of enhancing effectiveness of the financial model	Share of income from non-budgetary sources in the University revenue structure, %		45		45		45	45	45	a
Task 5.4	Set up an Supervisory and International Research Boards										a
A 5.4.1	Set up an International Research Board (IRB) with involvement of leading foreign experts and ensure its effective cooperation with academic board of the University	Number of employees participating in International Scientific Council summits, people		9		9		9	9	9	a
A 5.4.2	Create a Supervisory Board and ensure its effective performance	Level of the employees' awareness of the Supervisory Board activities, %		20		30		40	45	50	a

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
Task 5.5	Develop a system for delegating authority and resources Eliminate overlapping and duplicate structural units										a,h
A 5.5.1	Lower administrative barriers between units, also through consolidation	Number of applications made by the University for grants from Russian Science Foundation and other supporting research and development funds per 100 academics, units		4		6		8	10	20	a
A 5.5.2	Expand the functionality of Univeris, the corporate IAS	Share of automated document circulation, %				20		35	60	80	a

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 5.5.3	Implement an assessment system for administrative units	Number of employees participating in assessment of administrative units of the University, people				20			60	80	a
A 5.5.4	Re-allocate the authorities of employees and develop a system for delegating resources and powers	Share of the University budget redistributed to the level of faculties and academic departments, %				25		35	35	35	h
SI 6	Innovations for sustainability of Ural region										
Task 6.1	Create an innovation development accelerator at the University; develop support mechanisms for innovative entrepreneurship										h

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 6.1.1	Encouraging students and faculty innovation and entrepreneurship	Number of wined grants for funding SME, units.		10		15		60	25	30	h
A 6.1.2	Create a system for commercializing the University's innovations on the basis of symmetric interaction with the business community	Number of students participating in youth business incubator activities, people				5			5	5	h
A 6.1.3	Create a youth business incubator for carrying-out of the youth entrepreneurship programs designed to solve socially important problems of the region Develop a system of youth professional contests with involvement of community and employers	Number of references to the SUSU in regional development context, units				70		120	150	200	h

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 6.1.4	Establish an innovative center for instilling entrepreneurial culture in the region for staffing of the top-priority areas of social and economic development on the regional and federal levels, including such industries as medicine and biosciences, agriculture and IT	Number of small-sized innovation enterprises established by the University, units						20	30	40	g
A 6.1.5	Implement programs to develop student entrepreneurship aimed at addressing socially significant issues in the region, based on the SIFE (Students in Free Enterprise) Platform	Share of educational programs encouraging entrepreneurship skills, %		10		20		30	45	60	h
Task 6.2	Ensure the University's leadership role in the region										g

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 6.2.1	Host collaborating events with local and regional authorities, companies to boost region's attractiveness Play active role in preparation for SCO-2020 summit	Number of hosted events aimed at rising region's attractiveness, units per year		1		3		5	5	5	h
A 6.2.2	Attract and set up high-tech companies in region based on University's interaction with business	Annual growth of University's mentions in media in context of regional development, %						20	30	40	h
SI 7	Reputation management										
Task 7.1	Carry out the re-branding of the University and ensure further brand promotion										g

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 7.1.1	Develop and implement a new marketing strategy, including implementation of a complex program of promoting the University in the global educational and academic community	Number of favorable references to the University by the leading Russian mass media, units		10		20		30	40	50	g
A 7.1.2	Prepare a brand book for the University in English-, Chinese- and Russian-language editions	Availability of the brand book in English and Russian, Yes/No				yes		yes	yes	yes	g
Task 7.2	Develop and implement a set of measures to enhance the University's reputation in the international academic community										g
A 7.2.1	Develop a system of measures aimed at including University journals in the Scopus and WoS databases and their further transforming into highly rated publications	Number of scientific journals of the University, included in database Web of Science and/or Scopus, units		1		2		3	3	3	b

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 7.2.2	Implement a single CRM system to interact with international community, alumni, business partners and government authorities	Number of current counterparties, units						2000	4000	6000	h
A 7.2.3	Prepare and distribute an annual report on the University's activities in both Russian and English versions	Availability of the annual report on the University's activities in Russian and English, Yes/No				yes		yes	yes	yes	b
A 7.2.4	Work with international ratings agencies	Number of faculty staff registered as experts in QS, people		350		500		800	900	1000	b

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 7.2.5	Ensure informative value and promotion of the University web-site in Russian and English	Increase in rank according to the Webometrics general ranking, place (cumulative)		100		250		400	600	800	g
SI 8	New technologies in education										
Task 8.1	Implement new educational models										c,g,e
A 8.1.1	Implement problem-based learning and project-based training technologies under the CDIO standard	Number of students of the new educational programs, people				150		400	800	1500	c,e

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 8.1.2	Create elite bachelor training zones for students with high academic results (honors college')	Number of students of honors college with average score exceeding 85, people			40			85	120	160	e
A 8.1.3	Implement a system of language training based on the Cambridge University Press project	Share of final-year bachelors, certified IELTS, %							5	10	e,g
A 8.1.4	Reduce the percentage of in-class work while increasing the share of independent student work; introduce a tutoring system	Share of reducing in-class work, % (cumulative)				5		10	20	25	e

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 8.1.5	Form a unified educational environment for bachelor studies with a free course selection mechanism available to students	Share of credits provided by selective courses in total number of credits, %				15		20	25	25	e
Task 8.2	Ensure further development of e-training and distance learning technologies										c,g,e
A 8.2.1	Develop Russian- and English-language MOOC courses on the leading Russian and international platforms (such as Coursera, EdX, Lektorium)	Number of students registered for the MOOC coursed, people				2000		5000	8000	10000	e,g
A 8.2.2	Implement a system for motivating faculty members to master new educational technologies	Share of faculty members using new educational technologies, %		10		20		30	40	50	c,e

	Strategic initiatives (SI)/ tasks (T) / activities (A)	Key performance indicators (indicator and measurement unit)	Key Performance Indicator Values								Activities according to Government Regulation from March 16, 2013 № 211
			2016		2017		2018		2019	2020	
			1h	2h	1h	2h	1h	2h			
A 8.2.3	Launch E-Learning 20: customization of on-line education through a Big Data-based supercomputer analysis of educational patterns	Share of students completed the e-courses, %				20		30	40	50	e
A 8.2.4	Expand use of the LMS across the educational process to cover all University courses	Share of educational courses with LMS launched, %				40		60	80	100	e
Total amount of financing											

Appendix 2. Methodology for calculating additional indicators

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 programs implemented in partnership with leading international universities and research organisations"** (**AI_2**) – is calculated using the following method:

The number of educational programs implemented in partnership with leading international universities and research organisations and additional professional programs 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 program 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.

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/
8. Darmstadt University of Technology web-site http://www.tu-darmstadt.de/index.en.jsp
9. University of Michigan web-site https://www.umich.edu/
10. Thomson Reuters web-site http://thomsonreuters.com/en.html
11. Chelyabinsk oblast education ministry web-site http://minobr74.ru/ru/
12. HSE web-site http://www.hse.ru/ege/second_section2014/
13. Graduates employment monitoring web-site http://graduate.edu.ru/
14. LinkedIn professional social network web-site https://www.linkedin.com/
15. Main information-calculation center web-site: http://indicators.miccedu.ru/monitoring/
16. QS «Benchmarking service report – South-Ural State University» report