

Ministry of Education and Science of the Russian Federation

AGREED BY

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of Education and Science  
of the Russian Federation

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\_\_\_\_\_ 2016



APPROVED BY

Rector of  
the Siberian Federal  
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\_\_\_\_\_ 2016

**Roadmap for  
the Competitiveness Enhancement Program  
of Siberian Federal University,  
for the period 2016-2020  
(Stage 1 – 2016-2018)**

Krasnoyarsk, 2016

The action plan for implementation of the Competitiveness Enhancement Program («Roadmap») of the Federal State Autonomous Educational Institution of Higher Education «Siberian Federal University» for 2016-2020 (1 stage – 2016-2018): presented at the meeting of the International Council of the Russian Academic Excellence Project on March 18, 2016; it is adjusted in accordance with the recommendations of the Council, directed by the letter of the Ministry of Education and Science of the Russian Federation of April 13, 2016 No. AP-572/02.

## Executive Team

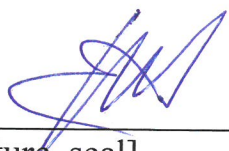
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7. A.V. Uss, Speaker, Krasnoyarsk Territory Legislative Assembly; Professor; Doctor of Laws;
8. R.G. Shorokhov, Vice Rector for Project Management, SibFU.

The body of this document consists of 79 pages.

This document contains 2 appendices.

The appendices consist of 6 pages.

Rector of the University



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**(Evgeny Aleksandrovich Vaganov)**

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## **I. University's Performance Indicators and Target Model**

### **I.1. University Goals and Key Performance Indicators**

The strategic goal of Siberian Federal University (hereinafter – SibFU) is to promote the technological development and to strengthen the competitive advantages of Russia by developing of socio-economic potential of Siberia. This goal involves entering and securing positions of SibFU among the top global universities according to the international ratings (THE and QS), as well as entering the QS Environmental Sciences (top-200), QS Agriculture & Forestry Sciences (top-100) and QS Earth & Marine Sciences (top-200) subject rankings.

SibFU's research and education activities are grouped around the main challenges facing civilization in the XXI century:

- climate changes, their causes and consequences;
- anthropogenic factors in ecosystem and trends of biogeochemistry;
- improvement of quality of life and human longevity ;
- ecological orientation and efficiency of environmental management;
- digitalization and virtualization of human life.

The University's geographical position in close proximity to a number of climatic zones that are poorly studied but have a significant impact on the global climate as well as a powerful mining and processing industry of Siberia determine SibFU's competitive advantage in research in these fields. Transforming SibFU into a global intellectual centre will help the University to focus its educational efforts on the following social and economic development tasks of Siberia:

- 1) recruiting the best prospective students from various regions of Russia and abroad who will be involved in the innovation-driven development of Siberia;
- 2) ensuring scientific and technological support of priority development;
- 3) providing access to the best international educational technologies and knowledge for a wide range of entrants ;
- 4) developing key graduate competencies that will enjoy the greatest demand in the labour market in the period 2025-2030;

5) fostering an entrepreneurial culture and sustainable development across the region.

The target indicators to be achieved in the process of pursuing the strategic goal are set out in Table 1.

**Table 1. Performance indicators, approved by the minutes of the meeting of the working group on the organization and carrying out monitoring the Russian Academic Excellence Project of November 26, 2014 No. AP-32/02 pr and of May 30, 2016 No. AP-25/02 pr**

№	Indicator	Unit	Index value				
			Plan				
			2016	2017	2018	2019	2020
1.	Position (within the accuracy of 50) in world's leading ratings (in a comprehensive list by subject)						
1.1	Rank in ARWU	rank	–	–	–	–	401-500
1.2	Rank in THE	rank	–	–	–	351-400	301-350
1.3	Rank in QS	rank	651-700	601-650	351-400	251-300	201-250
1.4	Rank in QS by Subjects «Environmental Sciences»	rank	–	–	251-300	201-250	151-200
1.5	Rank in QS by Subjects «Agriculture & Forestry»	rank	–	–	151-200	101-150	51-100
1.6	Rank in QS by Subjects «Earth & Marine Sciences»	rank	–	–	–	–	151-200
2.	Number of articles in the Web of Science and Scopus databases without duplication per one of the faculty and research staff						
2.1.1.	Number of articles in the Web of Science per one of the faculty and research staff (5 years)	number	0,63	0,81	1,08	1,62	2,26
2.1.2.	Number of articles in the Web of Science per one of the faculty and research staff (3 years)	number	0,47	0,63	0,86	1,18	1,64
2.2.1.	Number of articles in the Scopus per one of the faculty and research staff (5 years)	number	0,70	0,90	1,20	1,80	2,51
2.2.2.	Number of articles in the Scopus per one of the faculty and research staff (3 years)	number	0,52	0,70	0,95	1,31	1,82

			Index value				
№	Indicator	Unit	Plan				
3.	Average citation index per one of the faculty and research staff measured by the total amount of articles included in the Web of Science and Scopus databases without duplication						
3.1.	Average citation index per one of the faculty and research staff measured by the total amount of articles included in the Web of Science	number	1,10	1,86	3,01	5,18	7,70
3.2.	Average citation index per one of the faculty and research staff measured by the total amount of articles included in the Scopus databases	number	1,22	2,07	3,35	5,75	8,56
4.	Share of international professors, lecturers and researchers in the total number of faculty and research staff, including Russian citizens with international Universities PhD	%	1,1	2,0	3,8	5,5	8,0
5.	Share of international students enrolled in the key educational programs of the University (including students from the CIS countries)	%	2,2	3,7	6,0	8,0	10,0
6.	Average Unified State Examination (hereinafter – USE) score of full-time students studying at the expense of the federal budget for bachelor and specialist degree programs	score	64,8	65,5	67,0	70,0	75,0
7.	Share of revenues from non-budget sources in the structure of the University's revenues	%	29,5	33,0	35,0	38,5	41,0
8.	Share of enrolled in master degree programs and postgraduate faculty and research staff training programs with a bachelor degree, a diploma or a master degree of other organizations, in the total number of enrolled in master degree programs and postgraduate faculty and research staff training programs	%	11	15	18	24	30
9.	Volume of research and development works, calculated per one of the faculty and research staff	thous. rub.	190	202,8	210,4	217,9	225,4



			Index value				
№	Indicator	Unit	Plan				
Extra performance indicators* established by the university							
10.	Average age of the faculty and research staff	years	53	52	51	50	48
11.	Total value of the researches conducted per one of the faculty and research staff	mln. rub.	0,3	0,4	0,6	0,8	1,0
12.	Share of the faculty and research staff with Hirsch index above 10	%	1,3	1,7	2,7	3,2	3,8
13.	Share of master degree students with bachelor or specialist degrees of other universities	%	23	26	30	35	40
14.	Position in the other world rankings (in the general list)						
14.1.	SCImago rankings	rank	650-700	650-700	600-650	600-650	550-600
14.2.	Webometrics rankings	rank	1000-1100	900-1000	800-850	500-560	350-400
14.3.	Worldwide Professional University Ranking (RankPro)	rank	450-500	400-450	350-400	301-350	201-250

## I.2. Target Model

### 1. The Mission

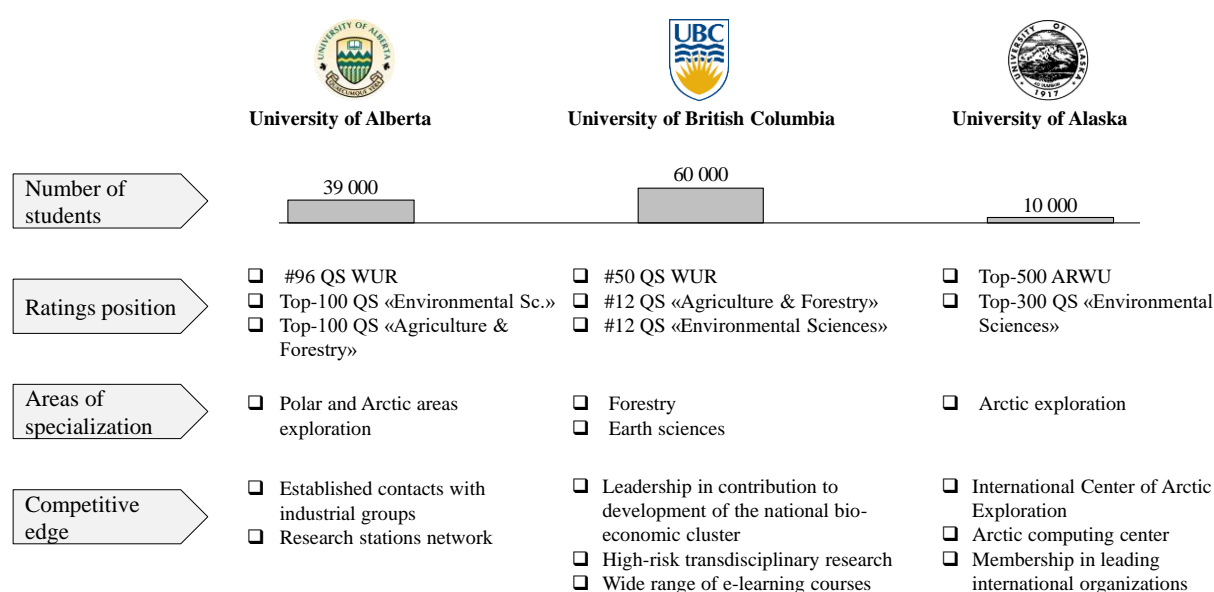
The mission of SibFU is to provide comprehensive support for sustainable environmental management in unique territories that are rich in renewable resources. The University stands for a well-balanced approach to applying environmental and energy-efficient technologies in exploiting ample natural resources, while protecting the environment. The University mission calls for creation of advanced academic, research and innovation infrastructure, promoting new knowledge and technologies, and establishing high-value-added production facilities to address the most pressing economics issues.

### 2. Peer Universities

To build the development and promotion strategy of SibFU in international ratings, three peer universities were selected: the University of Alberta (Canada), the University of British Columbia (Canada) and the University of Alaska (United States).

Peer group selection criteria are specialisation in the commercial development of unique natural areas and northern regions, particularly forest ecosystems in North America and Central Eurasia, and focus on the same with SibFU research areas. The selected universities have specific competitive advantages that were taken into account in the development of the Roadmap.

**Figure 1. Peer universities**



### ***3. Marketing Strategy***

#### ***3.1. Knowledge market***

Research activities of SibFU are grouped around the main challenges facing civilization in the XXI century. The focus on the most challenging global issues makes SibFU research work demanded and productive, motivates scientists to obtain advanced results and attracts the most outstanding partners in the academic and business environments. SibFU focuses its research efforts on the following global challenges:

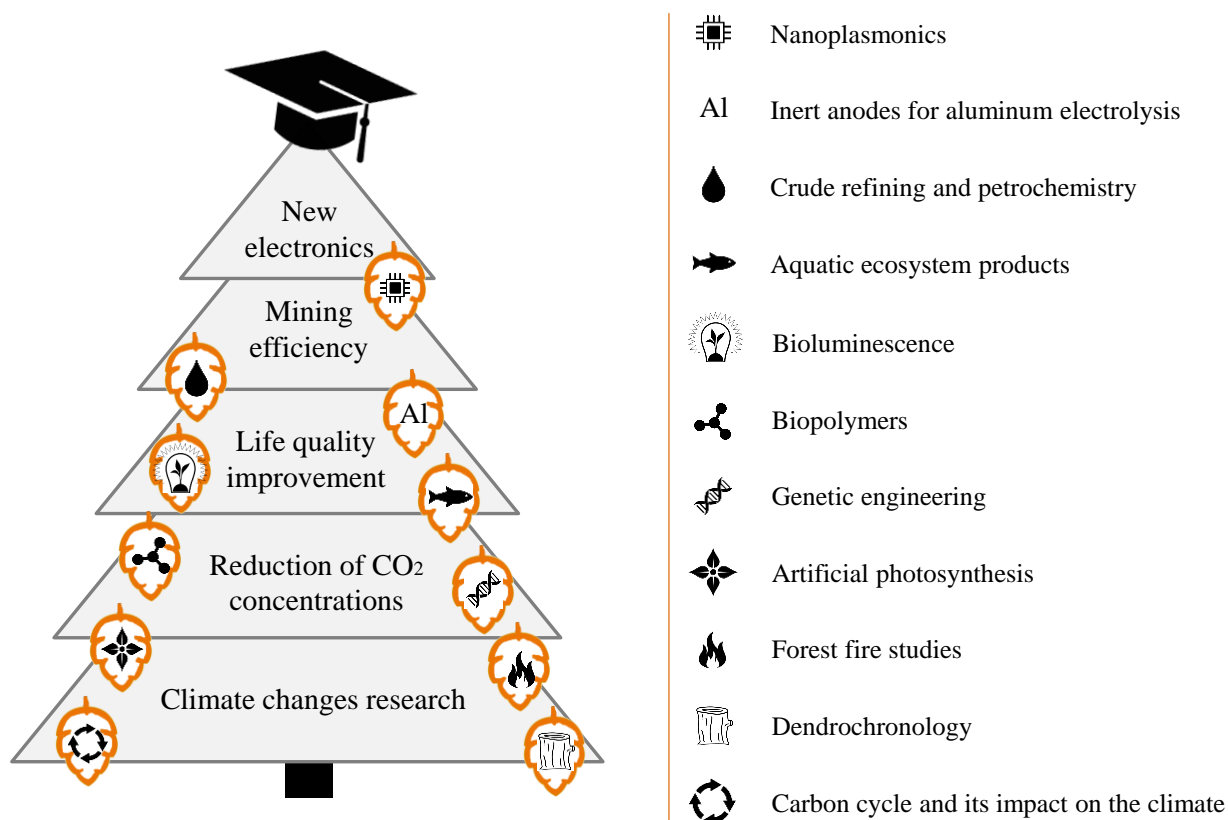
- 1) forecasting of climate changes and their consequences;
- 2) reducing the concentration of carbon dioxide (CO<sub>2</sub>) in the atmosphere;
- 3) improving the quality and length of human life;
- 4) improving the efficiency of extraction and use of natural resources;
- 5) overcoming performance limitations of electronics.

Choice of global challenges is largely due to the geographical location of the University. SibFU is situated in the very heart of Siberia, in close proximity to a number of natural and climatic zones that are little studied but have a significant impact on global climate change. The region is rich in natural resources and covered by virgin forests and pristine ecosystems, the study and efficient use of which will contribute to the sustainable development of Russia and the world.

Around each of the mentioned global challenges there is a number of scientific fields and projects that are implemented through integration with academic institutions of FASO Russia and various large corporate world-class organizations.

The most striking of these fields, which has outstanding scientific results, that are already available or soon will be available, are presented below.

**Figure 2. Key global problems and areas of research**



**Forecasting of climate changes** represents one of the most essential areas of research. Major political and investment decisions are made on the basis of data on climate change, which leads to high interest and demand for climate research, as well as the impact of climate change on natural and anthropogenic processes.



**Dendrochronology** is one of the most important and well-developed research areas at the University. SibFU research teams carry out dendroclimatic monitoring, construct tree-ring chronologies and make extra long-term reconstructions of the Earth's climate. This is a highly cross-disciplinary area that combines research activities in biology, chemistry, physics, mathematics, geology and other sciences. Over the past three years, members of the University's staff have co-authored 20 articles in international journals with an average impact factor of 4, including an article published in *Nature Plants*<sup>1</sup>, *Nature Geoscience*<sup>2</sup>. Further developing this area within the framework of the 5-100

<sup>1</sup> "Woody biomass production lags stem-girth increase by over one month in coniferous forests." *Nature Plants*, 1 (11), article number: 15160.

<sup>2</sup> Tree rings and volcanic cooling. *Nature Geoscience*, Volume 5, Issue 12, December 2012, Pages 836-837

Program calls for bringing SibFU's research publishing activities up to the highest level of Nature and Science journals. The University collaborates with such leading centres of R&D as Universitat de Barcelona, the University of Arizona, the University of East Anglia, and the Swiss Federal Institute for Forest, Snow and Landscape Research.



An important area of climate research is biogeochemistry, including **carbon cycle studies** in particular. The University researches the movement of carbon across various environments to carry out a comprehensive study of climatic trends and make forecasts. SibFU plans to erect a new high tower to facilitate ongoing monitoring of the atmosphere in Russia's Far Northern regions. Similar tower are located all over the world. However, the lack of such towers in northern Eurasia creates an “informational black hole” that complicates global climatic research for the international scientific community. By carrying out this and other initiatives, as well as developing cross-disciplinary R&D projects involving supercomputer modelling, the University will be able to prepare high-level scientific papers eligible for publication in Nature and Science journals. In this area, the University is collaborating with the Max Planck Institute for Biogeochemistry, the Max Planck Institute for Chemistry, Kyoto University, Hokkaido University, and the International Institute for Applied Systems Analysis (IIASA).

**Reducing the concentrations of carbon dioxide (CO<sub>2</sub>) in the atmosphere** is a top-priority challenge for modern society. Many countries are now joining forces in an effort to address this issue. Historically, the importance of efficient forestry management in this context has been underappreciated. Currently this misconception is dispelled and an increasing number of countries are getting involved in global initiatives for efficient forest use<sup>3</sup>.



Another major research area is **forest fire studies**. The University carries out research projects on the ecological evolution of tree species exposed to

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<sup>3</sup> See, for example, the article “Hope for the trees”, *The Economist*, 19 December 2015.

fires and studies the biogeochemistry of fires and the ecological basis of fire management. This field of research is of high practical and theoretical value, as forest fires result in significant carbon dioxide emissions and destruction of trees that serve as a natural CO<sub>2</sub> absorbent. Carbon dioxide emissions from forest fires account for around 10% of all emissions; therefore, science-based fire management can lead to emissions reduction comparable to the effect of the Kyoto Protocol. Moreover, technologies for remote sounding of the Earth from space and geoinformation systems will see rapid development going forward. The University works closely with the leading global organisations involved in such research, including the US National Aeronautics and Space Administration's (NASA) Goddard Space Flight Center and the United States Forest Service (USFS), an agency of the US Department of Agriculture (USDA), as well as the University of Freiburg, Universitat de Barcelona, the University of Alaska and Montana State University.



The University studies **genome** variability and evolution of plants, primarily widespread tree species, as well as the genomes of mushrooms, animals and human beings on the basis of genome-wide sequencing and genotyping. These studies help to identify genes related to agronomic characters and to modify plant genomes to produce the required characteristics. One of the top-priority research areas in this field is the genome of larch, one of the most widespread coniferous tree species in the world. The University plans to modify the larch genome to make it resistant to pests, particularly to silkworm; annually, these insects damage over 200,000 hectares of Russian forests. Forests damaged by silkworm dry out and, thus, tend to catch fire and burn down fast. Therefore, breeding a larch that is resistant to silkworm and other adverse factors would contribute to reducing CO<sub>2</sub> emissions in the air. These research initiatives are cross-disciplinary and involve bio-informatics, supercomputer modelling, genetics and other sciences. Research in this field should lead to high-quality publications, including in the Nature and Science journals.

The University participates in R&D grant programs earmarked for such research, with grants totalling around 2 billion RUB. These include 20 million USD of the grant for studying adaptation of southern pine forests (in which a SibFU's employee serves as project co-leader), 82 million RUB of the Russian Government grant for studying the genomes of coniferous species, and 3 million EUR of the European Union grant for studying the adaptation of plants to heavy metals pollution. The University collaborates with the leading research organisations in this area, including Georg-August-University of Göttingen, the Stockholm Bioinformatics Centre, and Mississippi State University.



In future, significant reduction of CO<sub>2</sub> emissions should be achieved through **artificial photosynthesis** that will enable high-efficiency solar energy production and storage in chemical compounds. The University collaborates with the leading research centres in this area, including Purdue University and Sweden's Royal Institute of Technology (KTH).

**Extending the human lifespan and improving life quality** is a key challenge faced by the modern world. The University's research projects are contributing to efforts for reducing cardiovascular diseases, creating artificial human organs, and developing medical diagnostic methods.



One of the top-priority research fields at the University is studying **aquatic ecosystem products**. The University's research explores ecological and genetic mechanisms that determine the production level of biologically active substances in aquatic ecosystems, primarily of Omega-3 polyunsaturated fatty acids that protect against cardiovascular diseases. The research findings can be used to create an environment where aquatic ecosystem products would be sufficiently saturated with the required useful substances to improve living standards and reduce mortality rates. Previously, the University received a joint grant from the Russian Federation Ministry of Education and Science and CDRF Global, an independent US-based non-profit organisation that promotes international scientific and technical collaboration. Potential partners in this focus area are the Russian Federal Agency for Fishery and international organisations

involved in this field. The results of research projects are published in international journals with an impact factor of around 5<sup>4</sup>. The University's research partners include the Potsdam University, the Leibniz-Institute of Freshwater Ecology and Inland Fisheries, and the Netherlands Institute of Ecology.



**Bioluminescence**, or the light emission by living organisms, is one of the most important research areas of the University. Research is mainly concentrated on development of highly effective bioluminescence technologies and methods of their application in biology, medical diagnosis and environmental monitoring. Research in this area is supervised by Nobel prize winner in chemistry 2007. Over the past three years, 15 publications with an average impact factor (IF) of 5.3 were published in international journals. In the near future, publications in the Nature and Science journals are to be made. The University cooperates with more than thirty international research centers, including Harvard-MIT Division of Health Sciences and Technology and Stanford University.



Research developments in the field of **biopolymers** are aimed to making artificial human tissues for medical purposes. Currently, this area boasts a number of successful achievements; the University's researchers write in journals with high impact factors<sup>5</sup> and bring in around 50 million RUB annually for research initiatives. The University has launched the pilot production of biopolymers with a complete set of equipment for extraction, analysis and processing of polymers into special-purpose items. The University collaborates in these efforts with the Massachusetts Institute of Technology, Mahatma Gandhi University, the University of Crete and other research centres.

**Enhancing efficiency in the production and utilisation of natural resources** is the most pressing issue as regards the depletion of natural resources

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<sup>4</sup> For example, see Sushchik, N.N.; Kuchkina, A.Y.; and Gladyshev, M.I. 2013. "Fatty acid content and composition of sediments from Siberian eutrophic water bodies: implications for biodiesel production." *Water Research* 47: 3192-3200. (IF = 5.528)

<sup>5</sup> For example, see Volova, T.; Kiselev, E.; Shishatskaya, E.; Zhila, N.; Boyandin, A.; Syrvacheva, D.; Vinogradova, O.; Kalacheva, G.; Vasiliev, A.; and Peterson, I. "Cell growth and PHA accumulation from CO<sub>2</sub> and H<sub>2</sub> of a hydrogen-oxidizing bacterium, *Cupriavidus eutrophus* B-10646" // *Bioresource Technology* – 2013.-Vol.146.-P.215-222 (IF 4.98)



and the critical necessity of maximising their efficient use. The choice of this problem as a priority for the University is defined by a large volume of production and processing resources in the Krasnoyarsk Territory.



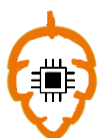
The University works on developing a concept of a modern **aluminum electrolyser** that would allow to receive high-quality aluminium products with low costs. Research projects in this area involve studying the properties of low-temperature electrolytic suspensions, the electrical and chemical properties of inert anode, and the economic aspects of electrolyser production. An additional effect can be achieved using magneto-hydrodynamic technologies. The high practical value of this research and the application of the Product Management philosophy, which focuses on the quality of created products, help to attract grants and business partners. Over the past three years, the University has raised over 200 million RUB for research initiatives. The University cooperates with the leading companies in this area, including RUSAL. SibFU and RUSAL had already planned to create a joint research center in 2016

This field also has significant scientometric value. In 2013-2015, ten articles on this theme were published in international journals with an average impact factor of 2,1. In future, the University plans to have publications in the top journals of this area with impact factors of 8 or higher. The University collaborates with the Norwegian University of Science and Technology and Central South University of Changsha.



The University has considerable competence in the field of **oil extraction and petrochemistry**. It carries out researches on the modelling and optimization of oil extraction, refining, heavy oil refining, oilfield chemistry. During 2013-2015, SibFU's partners granted to the University over 300 million RUB on research activities. The University cooperates with the leading Russian and international industry companies, including Rosneft and Schlumberger, with which joint research centers was established. Other partners include such research institutions as Institut Français du Pétrole, University of Cádiz and University of New South Wales.

**Overcoming the performance limitations of electronics** is a relatively new and very promising focus area for the University. Demand for high-performance and small computers is increasing all over the world, but the capabilities of traditional chips are almost exhausted and do not allow to increase productivity in accordance with market requirements. This in turn creates demand for new hardware components for electronics that can set the stage for a breakthrough in computer performance.



**Nanoplasmics** is a new research area for the University. Nanoplasmonic structures allow to create fundamentally new hardware components for computers. The University already has outstanding research findings. SibFU's scientists write in international journals with a high impact factor, including over 20<sup>6</sup>. SibFU collaborates with the world's leading research teams in this field, including those at Sweden's Royal Institute of Technology KTH, Technische Universität Dresden and Purdue University.

The University is considering nanoplasmics as one of the most challenging cross-disciplinary areas. Research projects draw on know-how in mathematics, physics and chemistry. In future, computer scientists will also be deeply involved in research initiatives. Apart from computers, nanoplasmics is used in medicine. Together with biology, it creates a promising outlook for creating effective cancer treatments. Nanoplasmics is also used to generate artificial photosynthesis.

**Table 2. SibFU's key research projects**

Global Challenge	Focus Area	Potential for recruiting leading international researchers	Number of publications in 2016-2020, Top 10 (SNIP)		Funding 2016-2020			
			Top 10% by SNIP	Top 1% by SNIP	Total	5-100	Grants	Business
Forecasting climate change and its consequences	Dendrochronology	Yes	33	3	195	160	35	
	Carbon cycle, biogeochemistry	Yes	29	3	175	150	25	
Reducing the	Fires	Yes	5	1	33	20	10	3

<sup>6</sup> M. Schroter; S. D. Ivanov; J. Schulze; S. P. Polyutov; Y. Yan; T. Pullerits; O. Kuhn. "Exciton-Vibrational Coupling in the Dynamics and Spectroscopy of Frenkel Excitons in Molecular Aggregates", *Physics Reports*, 567:1-78. March 2015, IF=22.91

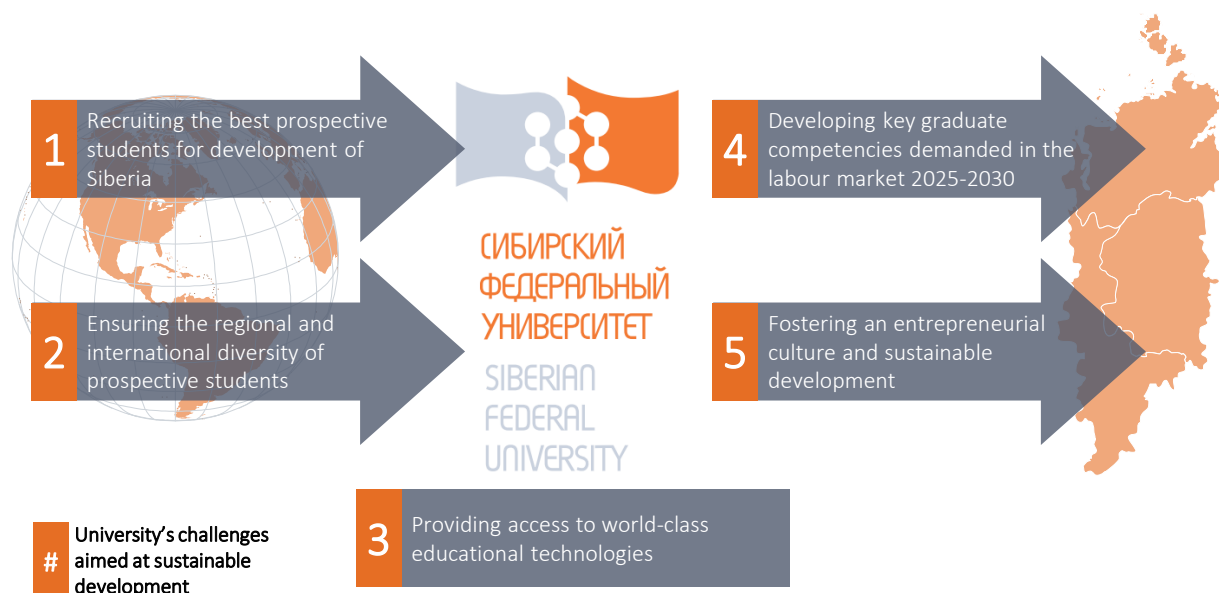
concentration of carbon dioxide (CO <sub>2</sub> ) in the atmosphere	Genetics	Yes	41	6	245	225	20	
	Artificial photosynthesis	Yes	11	1	64	48	16	
Extending the human lifespan and the overall quality of life	Aquatic ecosystems	Yes	10	1	58	45	13	
	Biopolymers	Yes	13	3	90	50	30	10
	Bioluminescence	Yes	8	3	55	30	20	5
Enhancing efficiency in the production and utilisation of natural resources	Aluminum	Yes	66	3	667	261	136	270
	Petrochemistry	Yes	50	3	500	250	50	200
Overcoming performance limitations of electronics	Nanoplasmonics and condensed-matter physics	Yes	40	6	242	172	70	
<b>Total</b>			<b>306</b>	<b>33</b>	<b>2324</b>	<b>1411</b>	<b>425</b>	<b>488</b>

### 3.2. Prospective Student Acquisition Strategy

The University's prospective student acquisition strategy aims to ensure sustainable social and economic development of Siberia and the Krasnoyarsk Territory. The University addresses five main issues:

- 1) recruiting the best prospective students for involving in the innovations development of Siberia;
- 2) ensuring the regional and international diversity of prospective students;
- 3) providing a wide range of prospective students with the access to leading world-class educational technologies and knowledge;
- 4) developing key graduate competencies that will enjoy greatest demand on the labour market in the period 2025-2030;
- 5) fostering an entrepreneurial culture and sustainable development across the region.

**Figure 3. Key global problems and areas of research**



## Recruiting the best prospective students who will be involved in the innovation-driven development of Siberia.

As one of Siberia's leading higher educational institutions, SibFU recruits new talent to help with transformation of the region. SibFU's marketing strategy will focus on recruitment of talent for both Master's and postgraduate degree programs. SibFU's Master's degree programs are very popular. The competition for state-funded places is 3.3 applicants per place, which is higher than in other universities participating in the 5-100 Program, including Moscow-based universities. SibFU offers talented prospective students a number of important advantages:

**1) The best dormitories in Russia.** SibFU has one of the most highly developed campuses among Russian universities. In a Russia-wide student competition held in 2014, SibFU's dormitory was ranked the best among 533 university dormitories in Russia. SibFU's dormitory buildings feature gyms and supermarkets, and the University campus provides spacious lecture rooms equipped with the latest computer equipment;

**2) Many vacancies according to the University specialization are available in the region.** SibFU capitalizes the potential of the Krasnoyarsk Territory, which is Siberia's economic leader in most data points, including employment. The regional economy generates a large number of jobs and career opportunities in fields for which the University trains specialists, mainly in primary processing industries.

Many of Russia's leading companies are based or actively operate in the Krasnoyarsk Territory, including: Norilsk Nickel, Polyus Gold, Rosneft and RUSAL. Many of these companies launches new production capacities. The University's engineering graduates, in contrast to their peers among graduates of Moscow and St. Petersburg universities, are successfully employed in accordance with their specialization in manufacturing, mostly at production facilities located in Siberia;

**3) *SibFU's graduates earn high salaries.*** Today, residents of Siberia do not necessarily need to move to Moscow to earn a good living. The average monthly salary for SibFU's graduates with Bachelor and Specialist degrees in in-demand disciplines are as follows: Mechanical Engineering – RUB 77,000; Machinery and Ground Transport Vehicles – RUB 63,000; Applied Geology, Mining and Petroleum Engineering – RUB 52,000. The average monthly salary for Master degree holders in Mechanical Engineering is RUB 117,000, while for Machinery and Construction Technology the figure is RUB 49,000. In contrast, the average Russia-wide monthly salary for all university graduates is RUB 30,500;

**4) *Krasnoyarsk is a million-plus city and an attractive place to live.*** Krasnoyarsk is one of the largest cities of Russia with a developed infrastructure for the realization of human and economic potential. According to the City Projects agency, Krasnoyarsk entered into top-10 most attractive Russian cities for living, ahead of Vladivostok, Yekaterinburg, Novosibirsk, Tomsk, Tyumen, Chelyabinsk. This rating takes into account a range of economic, social, cultural and tourist indicators<sup>7</sup>;

**5) *Student life at SibFU.*** In anticipation of the World University Games 2019, which will be held in Krasnoyarsk, SibFU established a Student Center. The Center is engaged in volunteering and informative activities aimed to achieve maximum involvement of SibFU's students into organization of the Winter World University Games.

### **Ensuring the regional and international diversity of prospective students**

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<sup>7</sup> "Where to live in Russia". *Rossiyskaya Gazeta*, 17 July 2015: <http://www.rg.ru/2015/07/17/goroda-site.html>

The University plans to increase the quality of new students from other regions of Russia admitted to the studies and to enhance the diversity of its student body by expanding its “footprint” both within Russia and globally. Today, the University has a low share of international students. Active international student recruitment efforts were carried out only in nearby Kyrgyzstan. To implement its marketing strategy, the University will enrol international students and focus on the following prospective markets: China, CIS, and South East Asian countries. Another advantage of SibFU over other Russian universities is its relative geographic proximity to China and availability of direct flights between major Chinese cities and Krasnoyarsk.

The University’s target Russian regions for recruiting prospective students are the following: eastern Siberia, the Republic of Khakassia and the Altai Territory. The target regions have a combined population of over 11 million inhabitants. SibFU ranks high in national university ratings: it ranks 14th in the RA Expert rating and 16th-17th in the Interfax rating; SibFU is the undisputed leader of the entire region of Eastern Siberia.

University-funded international summer schools will be a tool for recruiting prospective students to Master’s and postgraduate degree programs. According to TripAdvisor, the leading travel website, Krasnoyarsk is among the 10 best tourist destinations in Russia, which should enable SibFU to position its summer school as a high-quality “edutainment” product (a combination of education and entertainment). Summer schools will offer prospective students for SibFU Master's degree programs to take part in research projects in collaboration with international scientists, learn about life at SibFU and experience the University's culture, as well as visit the best local tourist attractions, for example Stolby State Natural Park.

**Providing a wide range of prospective students across the region with access to leading-edge, world-class educational technologies and knowledge**

Today, when knowledge becomes obsolete even before the corresponding textbook is published, SibFU serves as an access point to advanced information and knowledge for the residents of Siberia, active users of new technologies:

- ***Wide use of e-learning technologies.*** SibFU goes to a learning framework in which most of the knowledge and information is imparted electronically, and teacher devotes most of his or her time to discussion with students, thus enhancing their adaptive reasoning skills;
- ***Massive open online course (MOOC) credits.*** SibFU is one of the few Russian universities experienced in offering students the option of earning MOOC credits through leading Russian and international educational platforms. As part of implementation of the Roadmap, a pilot project will be extended across the University's educational environment;
- ***The Citizen University.*** SibFU is setting up an open educational environment for all residents of Siberia. The University offers ample opportunities for additional education through MOOCs and through involving employers in development of training courses;
- ***Inviting visiting professors.*** In future, SibFU plans to invite prominent Russian and international professors both for modular and full training courses. Together with introduction of new large lecture halls with over 500 seats, this measure will enable many SibFU students and city residents to learn from the best minds of Russia and the world.

### **Developing key graduate competencies that will enjoy greatest demand in the labour market in 2025**

As part of its Master's degree programs, the University helps students to build necessary competencies to become the next generation of engineers, including: leadership, communication skills, project management, team work, technology entrepreneurship, and international language proficiency. SibFU has significant experience in implementing high-quality Master's degree programs in the following areas:

- Pressure Treatment of Metals and Alloys;
- Casting Technology Process Management;
- Automated Design in Engineering;

- Spacecraft Systems Design;
- Petroleum Chemistry and Engineering;
- Physical and Technical Support for Nuclear Medicine (to be initiated in 2016).

These programs are implemented using the CDIO approach to engineering education with Russian and international industrial partners. In particular, among programs' partners the following institutions can be found: Rosneft, RUSAL, Academician M.F. Reshetnev Information Satellite Systems Company, Skoltech, and others. The university's studies include an obligatory eight-week internship abroad at leading companies within their industry, for example, Delcam (Birmingham, UK), Institut Aeronautique et Spatial (Toulouse, France), Internationale Agentur für Marketing und Technologietransfer GmbH (Düsseldorf, Germany). At the moment 5 more partnership agreements with international partners are under consideration.

The next step in SibFU's marketing strategy will be to develop joint English-language Master's degree programs in the University's key research areas. Such joint programs have been launched in the area of **dendrochronology** with Universitat de Barcelona: English-language Master's degree programs in Dendrochronology and Tree-Ring Modelling.

Master's degree programs in Materials Engineering and Technologies, Genome Studies, Biotechnology and Bioengineering, Biogeochemistry and Forest Pyrology (Forest Fires), as well as in Business, are currently being developed at the University.

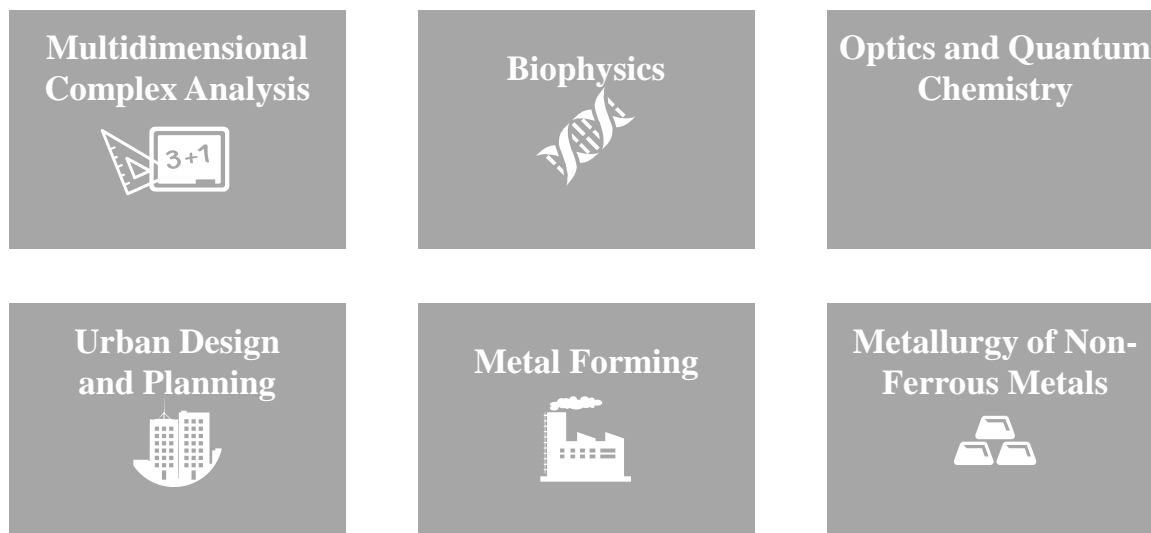
## ***2) Postgraduate programs***

As part of its postgraduate programs, the University helps students to acquire the following competencies: proactive approach to identifying potential research topics; communication skills, particularly academic writing skills; work in international teams; and good command of English. SibFU is currently one of the only three universities in Russia that confer PhD degrees. In 2015, the first SibFU PhD candidates defended their dissertations, with defences conducted in English



and broadcast online, according to international standards and involving leading Russian and international research scientists as dissertation committee members. Today, the University offers six PhD educational programs in English.

**Figure 4. PhD English-language programs**



Another eight programs are now under development: Archaeology; Information Technology; Environmental Studies; Forestry and Natural Resources Management; Climate Change; Water Resources and Pollution Mitigation; Energy; Economics; History; and Cultural Studies.

### ***3) Undergraduate and specialist degree programs***

The University's successful experience in applying the competency building approach in education will also be rolled out to undergraduate degree programs. The University successfully offers a joint SibFU-Rosneft degree program in Petrochemistry. Students with high educational expectations and a high average USE score are enrolled to this program. Upon completion of the program, graduates have all the necessary skills to pursue a career in petroleum engineering and refining. SibFU's plans to share its experience, including using feedback from students, and open new joint programs with partners from the mining and power generating industry.

Within the University's liberal arts undergraduate programs a unified educational environment is now under development, which will make it possible to introduce the concept of a liberal arts education in Russia. Students can build

flexible educational pathways and choose from a wide range of subjects and interdisciplinary areas.

### **Fostering an entrepreneurial culture and sustainable development for all SibFU's students**

The University will stimulate interest in solving important social issues and work to improve students' competencies in creating products and services valuable for the market and humanity. So, SibFU is integrating entrepreneurial literacy courses into all education plans. These courses include modules covering project management, training, and entrepreneurial education in collaboration with industry experts and the investment community. An overriding theme in all University's programs will be sustainable development issues. Practical and theoretical courses and training sessions on this topic will be held by SibFU's professors and thought-leader in a particular area of expertise.

### ***3.3. Labour Market Strategy***

SibFU's labour market strategy aims to ensure the sustainable development of Siberia and the Krasnoyarsk region by preparing highly skilled specialists in line with the needs of the regional economy.

RA Expert annual ranking of Russian universities ranks SibFU as 6<sup>th</sup> in terms of employer demand for its graduates, higher than the majority of 5-100 Programme participants. As part of its marketing strategy, SibFU focuses on three employer segments:

1. multinational corporations in the mining industry, including flagship producers based in the Krasnoyarsk Region and eastern Siberia;
2. the world's top 300 research universities in fields of SibFU specialisation;
3. businesses and organisations across the Siberian Federal District (and separately in the Krasnoyarsk Region).

### **Multinational corporations in the mining industry**

SibFU will strive to become a global partner in professional education to multinational corporations based in the Krasnoyarsk Krai. The largest ones are mining and energy companies:

- ***United Company (UC) RUSAL.*** The world's largest aluminium producer;
- ***ROSNEFT Oil Company.*** The world's largest publicly traded petroleum company in terms of reserves and production output;
- ***Polyus Group of companies*** One of the world's major gold producers;
- ***PJSC MMC Norilsk Nickel.*** One of the world's major producers of precious and non-ferrous metals;
- ***Other companies of energy sector:*** RusHydro, OGK, SUEK, ROSATOM, E-on+ group.

As part of its marketing strategy, SibFU will cooperate with these and other companies in the following areas:

- Aligning educational and professional standards with employers;
- Developing joint educational and research programmes relevant for employers;
- Training in competencies that meet employers' requirements and signing long-term agreements with employers for hiring SibFU's graduates;
- Pre-university work with high schoolers on professional orientation, including industrial training.

Under the target model SibFU will become a centre for developing, adapting and implementing new technologies in unique climatic and geographical zones, and a leader in the training of highly skilled specialists in these areas.

With growth of graduates' competencies and rise in demand for them among major Russian producers, SibFU intends to become a specialised training centre for international mining and energy companies.

### **The world's top 300 research universities in fields where SibFU specialises**

SibFU's priority will be to assist its graduates in entering postgraduate programmes at leading world universities and, subsequently, in obtaining

employment in the fields of biotechnology, forestry, climate studies, mining and radio engineering. Upon completion of joint projects, some SibFU's graduates and postgraduates will represent the Russian scientific community abroad and work at some of the world's best universities.

### **Businesses and organisations in the Krasnoyarsk Region**

SibFU's labour market strategy will also aim at close interaction with the customers on a wide range of areas and, in particular, on the staffing of small and medium enterprises and organizations of the regional economy by qualified managers, lawyers and representatives of other engineering, humanities and social sciences. Target employer groups in this segment include:

- government and municipal institutions;
- logistics, service and engineering companies;
- IT companies;
- media outlets, publishers, information and advertising agencies, etc.

For each of these areas the work will ensure the consistency between the competencies of SibFU graduates and the needs of specific employers, to arrange secondments and internships for students during their studies; and to achieve the maximum percentage of employed graduates upon completion of their education. In particular, SibFU plans to make use of its graduates' competencies in forestry and to establish relationships with IKEA, which is launching an investment project in Krasnoyarsk.

### ***4. Information Infrastructure***

The main IT initiatives in SibFU are the following: developing an information and communication infrastructure to support a high level of operational efficiency and availability of educational and scientific resources at the University; enhancing informational support for the University's network activities, developing electronic media and an interactive TV network, as well as high-tech software; enhancing information processing, storage and transmission facilities; developing a network infrastructure for hardware and software systems for

research and practical purposes; developing data protection, information and computer security methods and technologies.

The key areas of information infrastructure development for the nearest future include: developing electronic libraries and information portals, a virtual campus and an ERP system, e-learning courses.

SibFU currently enjoys the following competitive advantages:

- equipment for developing and supporting an information infrastructure: computer-assisted classrooms, servers, Wi-Fi hotspots;
- one of the best university web portals in Russia, containing relevant information and offering a wide range of additional services;
- information support centre integrated with Thomson Innovation and on-line library search with a remote authorised access feature.

In addition, creating the Athletes' Village for the XXIX Winter World Universiade of 2019 requires providing world-class telecommunications, information services and web technologies. The communications hub established for these purposes will subsequently serve as a basis for technological upgrade of the University's information infrastructure.

## ***5. Human Resources***

Attracting and retaining talents in the region is a key SibFU objective within the capacity building of the university, which will ensure sustainable social and economic development of the region through the formation of a broad intellectual and creative environment. SibFU also is working on establishing joint laboratories with leading universities, that will concentrate the resources, and allow to solve scientific and educational problems together and to involve international experts. SibFU is evolving as a highly effective university with a professional management team and strong academic staff. To be more competitive on the global scale, the University needs to improve its scientific performance and the effectiveness of research and academic staff

The target model includes a number of priorities:

- introducing the system of employees' motivation based on the performance indicators;
- offering scholarships and supplementary allowances to young faculty members;
- recruiting specialists with a successful track record of working in world-class research centres to act as research supervisors;
- creating its own next-generation talent pool around invited expatriates;
- offering to staff members advanced training programmes in leading international and domestic universities (covering at least 30% of the total staff headcount annually);
- establishing an institute to train master students for activities in education in research. Master graduates may join SibFU as faculty after completing long-term internship programmes with other research organisations.

To be more competitive in the international labour market, SibFU continues to build up the University's brand as a venue with a unique academic environment offering excellent opportunities for the rapid development of professional competencies.

SibFU provides comfortable living conditions and high-quality on-campus services. Subsequently, plans call for establishing special schemes and supplementary social benefits for non-local staff members, as well as creating a barrier-free language environment.

To date, a number of leading, world-renowned scholars have confirmed their interest in conducting joint research in the University's priority areas. Such joint efforts will help strengthen SibFU's existing research teams and make it possible to anticipate world-class research outcomes.

**Table 3. Leading SibFU's researchers and international researchers to be engaged for breakthrough research**

Research area	Leading SibFU's researchers	H-index	International researchers to be recruited	H-index	University
Dendrochro-	E.A.	24	Siegwolf R.	37	Paul Scherrer Institut

nology	Vaganov		Büntgen U.	27	Global Change Research Centre AS CR
	A.V. Kirilyanov	13	Gutiérrez E.	24	Universitat de Barcelona
			Meko D.	26	University of Arizona
Carbon cycle	A.S. Prokushkin	9	Schulze E-D	79	MPI Biogeochemistry
			Osawa A.	12	Kyoto University
Fires	V.I. Kharuk	16	Ranson K.	36	NASA Goddard Space Flight Center
			Guoqing S.	32	University of Maryland
Genetics	K.V. Krutovskiy	13	Dean J.	23	Mississippi State University
			Peterson D.	22	Mississippi State University
			Brodsky L.	17	University of Haifa
			Ptitsyn A.	17	Sidra Medical & Research Center
Artificial photosynthesis	S.P. Polyutov	7	Stockman M.	40	Georgia State University
			Khlebtsov N.	33	IBPPM RAS
Aquatic ecosystems	M.I. Gladyshev	19	Grossart H.-P.	36	Universitat Potsdam
			Gulati R.D.	31	Netherlands Institute of Ecology, Department of Aquatic Ecology, Wageningen,
Biopolymers	T.G. Volova	15	Sinsky A.	48	Massachusetts Institute of Technology
			Tsatsakis A.	29	University of Crete Medical School
			Kumar S.	27	University of Delhi
			Hasirci V.	38	BIOMATEN, Center of Excellence in Biomaterials and Tissue Engineering
			Chen G.	30	Tianjin
Bioluminescence	V.A. Kratasyuk	9	Hamblin M.	55	The Harvard-MIT Division of Health Sciences and Technology
			Roda A.	45	Alma Mater Studiorum Universita di Bologna
	I.I. Gitelson	2	Yocum C.	40	University of Michigan in Ann Arbor
			Visser A.	37	Wageningen University and Research Centre
Aluminum	S.D. Kirik	13	Thonstad J.	20	Norwegian University of Science and Technology
	P.V. Polyakov	3	Öye H.	19	Norwegian University of Science and Technology
Petrochemistry	F.A. Buryukin	1	Parmon V.	32	Novosibirsk State University
			Noskov A.	15	Boreskov Institute of Catalysis
Nanoplasmonics	S.P. Polyutov	7	Shalaev M.	67	Purdue University
			Ågren H.	64	Royal Institute of technology KTH
	S.G. Ovchinnikov	19	Gel'mukhanov F.	28	Royal Institute of technology KTH
	V.V. Slabko	11	Gaponik N.	44	Dresden University of Technology

## 6. Facilities and Equipment

The University's modern physical infrastructure includes a campus that offers a comfortable for living, studying, research and attractive for international

students environment; classrooms and laboratories replete with state-of-the-art equipment; and a developed cultural and sports infrastructure.

One of the key goals is to create a network of practical field training sites and grounds, where, among other things, international practical training and summer schools can be organized. Practical training in natural sciences for students will be arranged in the format of international expeditions to permanent research laboratories and observatories located in the taiga region, while students majoring in engineering will be engaged in practical training at R&D and engineering sites (R&D centres) and at high-tech partner companies.

SibFU's competitive advantages are the following:

- a well-equipped university campus and developed sports infrastructure, which during preparations for the XXIX Winter World Universiade of 2019 will be augmented by new, state-of-the-art facilities, including residential facilities, a multifunctional centre and a medical centre together with an emergency care unit, out-patient and day-patient facilities (with a total investment budget of 6.1 billion RUB);
- a developed network of permanent scientific onsite stations, in-demand for research conducting;
- opening in February 2016 of a high-tech Assembly Hall suitable for hosting global-scale mega-events (the venue is valued at RUB 870 million);
- established at the expense of SibFU's mega grants research laboratories R&D centres launched in collaboration with business partners (SibFU already houses Toyota and Schlumberger centres).

Development of the university's facilities will be oriented to the further development of these advantages. For example, SibFU plans to expand its network of world-class research laboratories, which will enhance the University's competitiveness in fundamental research (through establishing five new laboratories in key research areas), and develop research and innovation infrastructure to make significant progress in applied knowledge and R&D (through establishing a network of R&D centres in key areas).



To ensure compliance of its research and academic processes with best practices, over the period 2016-2020 the University plans to reconstruct the Polytechnic School building (1.4 billion RUB in costs) as well as to set up two engineering centres for the innovation of mining and smelting and biotechnological achievements, and a demonstration area.

The design and construction work in the period up to 2020 is estimated at more than 8.5 billion RUB.

The table below lists the unique equipment at the University's disposal:

**Table 4. The University's unique equipment**

Unique equipment	Description
300-metre Zotino Tall Tower Observatory (ZOTTO) complete with a laboratory bunker and infrastructure	Northern Eurasia's only 300-metre tower station for the continuous measurement of concentrations of main greenhouse gas emissions, which is an essential element in global climate studies
Distributed dendrochronology and dendroecology research facilities	Russia's only densitometric laboratory for studying the cell structure of tree rings so as to reconstruct climate conditions in the past; a unique network of over 500 forest stations for studying and monitoring boreal forests across Siberia
Genome laboratory	Unique facilities designed for genome, population and genetic studies, including for sequencing, mutation detection, microsatellite analysis, microorganism typing, and growing clones of woody plant and mushroom strains via genetic engineering methods
Bioluminescent laboratory under supervising of Nobel Prize winner Osamu Shimomura	Equipment for producing and storing luminescent bacteria ferments; equipment for chromatographic protein purification; a set of high-sensitivity luminometers; and equipment for analysing the physical, chemical and spectral properties of soil samples
Biopolymer complex	A full range of electronic microscopes and mass spectrometry equipment, as well as a test and production bioreactor with a wide mix of peripheral biochemical equipment
Aluminium research centre	One of only three laboratories in Russia for the semi-continuous casting of aluminium and aluminium alloy flat slabs and round billets; facilities for studying the modifying properties of alloys; and a unique combined unit for casting, rolling and pressing

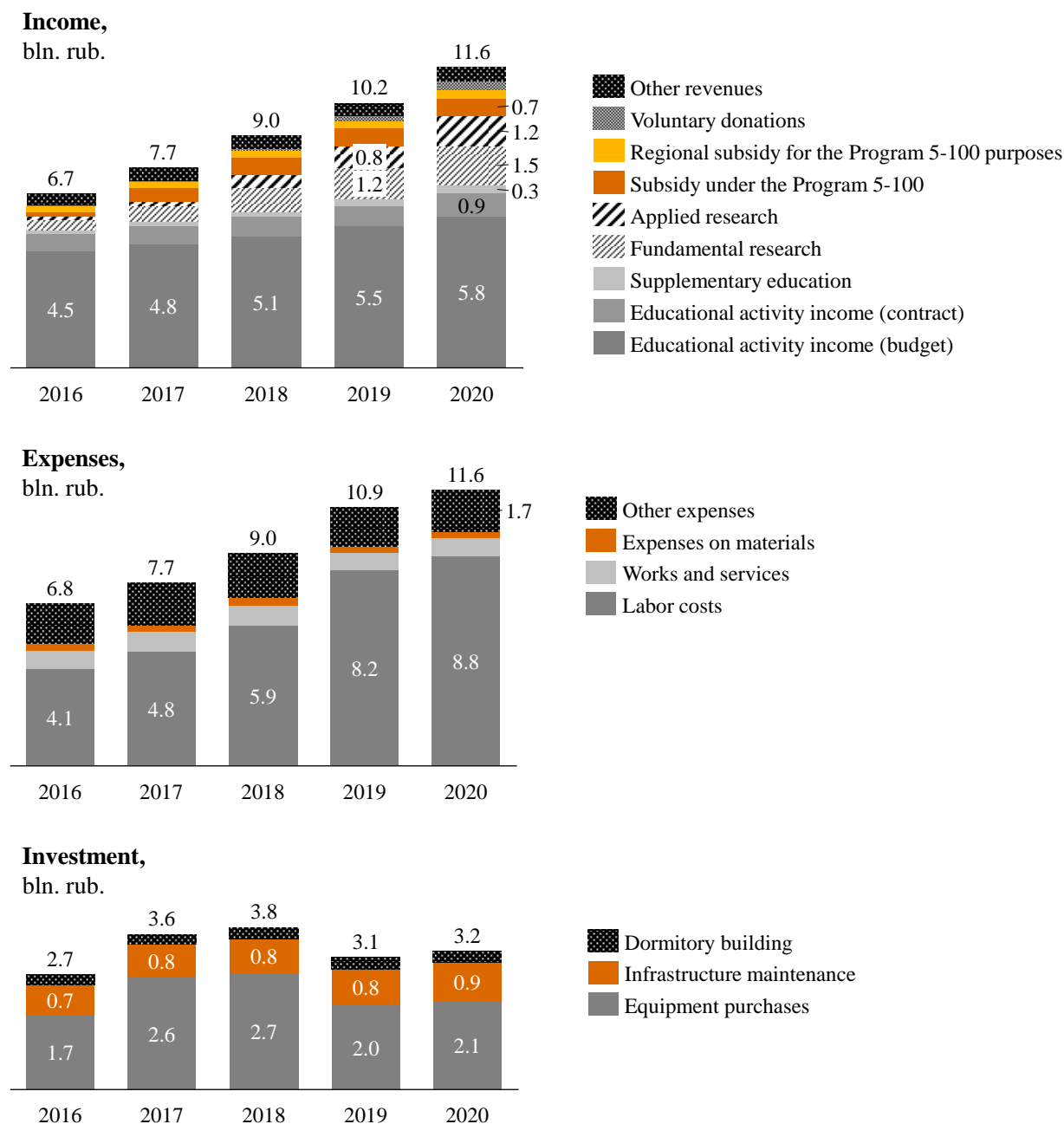
## ***7. Economic and Financial Model***

As for its financial policy, SibFU's main objective is to expand sustainable resource base for development of its core activities, diversification of revenue streams for the annual budget and enhancement of the efficiency of budgetary allocations. A large share of non-budgetary financing will ensure the financial resilience of the University and facilitate SibFU's further upward movement in international rankings.

SibFU enjoys the advantage of active support from the Krasnoyarsk Territory. This support mainly involves financing for campus infrastructure. Starting from 2016, the regional administration is expected to co-finance certain aspects of the 5-100 Programme in compliance with Krasnoyarsk Territory Law No. 2-197 of 28 June 2007 "On Government Support for the Siberian Federal University".

The projected financial performance of SibFU is outlined in Figure 5.

**Figure 5. Economic and financial model**



Sustainable revenue growth is to be secured by the following means:

- flexible policy of development of recruitment plans and the portfolio of academic programs, including expansion of Master's degree programs and additional professional training programs;
- identification of top priorities in the R&D portfolio, including obtainment of Russian and international grants and joint research programs with businesses;

- SibFU's increasing involvement in social and economic development of the region, thus increasing the likelihood of external investment in SibFU projects;
- development of the University's endowment fund and other fund-raising initiatives through SibFU's non-commercial projects.

Cost management is performed through identification of priorities in line with the development strategy. The main cost management areas are: enhancement of the efficiency of educational, research and administrative activities; optimization of expenditures on materials and logistical support; conduct of an audit; and outsourcing of non-core functions. The top-priority task of cost management is to ensure a competitive level of total income of the key scientific staff, including international professors.

## ***8. Additional Elements of the Target Model***

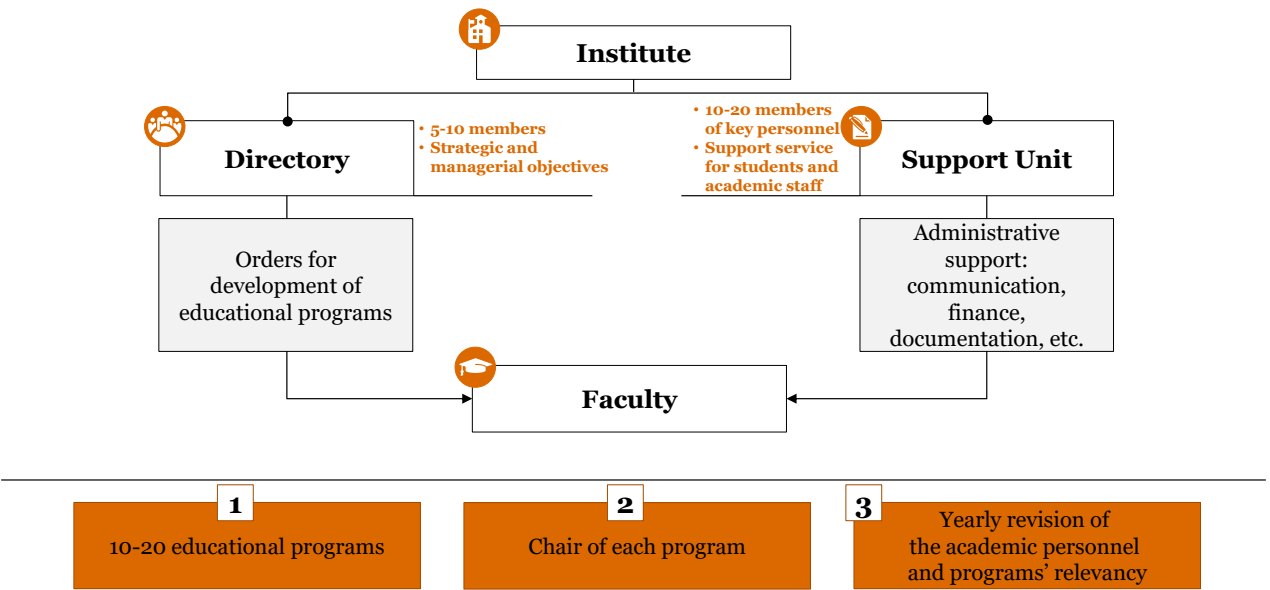
### ***8.1. Institutional Redesign***

SibFU carries out institutional redesign in order to build an effective model of the modern university.. The redesign focuses on the four main areas:

- transition from structural management to program management;
- implementation of a "2+2+2" system;
- creation of a unified educational environment at the bachelor's degree level;
- transformation of the management system.

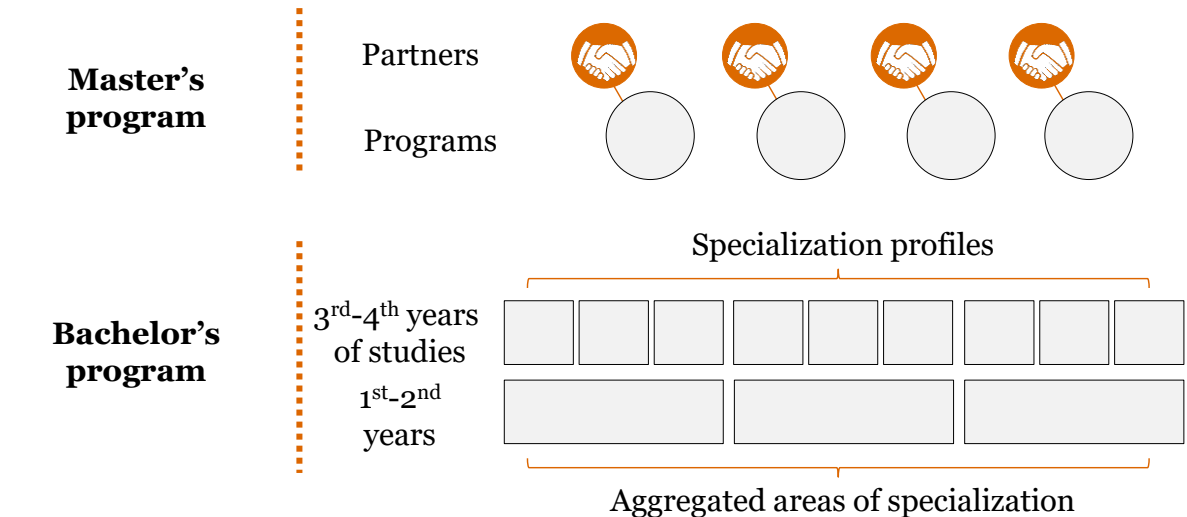
Transition to **program management** implies transfer of rights and liabilities for educational programs' formation from academic units to program directors. Program directors will decide on focus areas of their academic programs and the number of students to be enrolled, as well as recruit professors to the academic staff. This will help to boost internal competition both among programs and academic staff. The portfolio of educational programs will be defined by the applicants' demand, measured by tight competition for admission and a high average USE score. Such a scheme has already been adopted at the Higher School of Engineering on High-tech Master's degree programs.

**Figure 6. Target programme management schemes at SibFU schools and institutes**



The “2+2+2” system implies dividing the educational process into three stages. At the first stage, students follow a two-year course of general studies in aggregated areas of specialization. At the second stage, they choose specialization and in two years a Bachelor’s degree program. At the third stage, after admission to a Master’s degree program, students focus on specialized scientific and applied research studies in partnership with external research or industrial partners. Such scheme has already been adopted by SibFU for engineering and scientific research programs, and in the near future the University plans to introduce it in management and social sciences.

**Figure 7. The University's educational blueprint**



The creation of a **unified educational environment** is an important step toward enhancement of the quality of education at the University. The creation of such an environment implies further development of the "2+2+2" system, in which an aggregated area of specialization will be represented by the entire faculty or several faculties. This step will enable students to choose from a much wider range of courses of study and individual development pathways. Currently, implementation of this initiative has started at the School for the Humanities and the university plans to extend it to other areas.

Successful development and the achievement of the University key performance indicators requires transformation of the management system and updating the management team, in connection with which the following measures are introduced:

- restrictions on the number of terms to substitute the positions of heads of departments, institutions and school (not more than two terms);
- delegating senior management search function (vice-chancellors, principals, etc.) to specialized agencies;
- the ban on combining various administrative positions;
- involving external expertise in making key decisions in research and academic work ;
- consolidating the structural units of the University (schools) on multi- and interdisciplinary basis (creating large multidisciplinary schools);
- increasing school autonomy (including financial);
- differentiating research and academic staff wages ;
- introducing project management principles in all areas of university activities (research, academic , and others);
- allocating resources between departments on a competitive basis (based on the results of previous activities, compliance with the priorities of the University development and presented plans of subdivisions development).

## 8.2. *Involvement in the Region's Development*

SibFU's regional relationship strategy provides for sustainable development of Siberia and the Krasnoyarsk Territory through two key activities:



providing scientific support for business and fostering innovation



creating open and inclusive educational environment.




SibFU's target model for scientific and educational support of business and fostering of innovation is represented by a modern technological university focused on the demands of the Siberian macro-region industrial and financial enterprises. The objective is to foster R&D activities through industry-oriented fundamental and applied research. This will enrich the regional innovation infrastructure with high-potential projects through accelerated adoption of new production technologies and development of small and medium-sized enterprises (SME) involved in R&D.

Top-priority areas of the target model include:

- development in collaboration with the Krasnoyarsk Territory Government and the Krasnoyarsk Scientific Centre of a project for establishment and siting at the SibFU's campus of the Krasnoyarsk Technopark;
- integration with R&D institutes of the Krasnoyarsk Scientific Centre of the Siberian Branch of the Russian Academy of Sciences;
- establishment in collaboration with industrial leaders of at least five R&D centres for nonferrous metallurgy, oil extraction, biopolymers, milling ore management, robotic engineering and instrument engineering, high-speed telecommunications networks in Far Northern regions;
- entry to the National Technology Initiatives network (EnergyNet, FoodNet, SafeNet, HealthNet, AutoNet, FinNet);
- setting up of an international junior project exchange for sustainable use of natural resources, field exploration and development, and advanced solutions in environmental protection;

- launch of new Master's degree programs in technical disciplines to address specific challenges faced by industrial and commercial enterprises involved in development and extraction of natural resources.

 SibFU's target model for creation of an open educational environment is represented by a mass public "people's" university that can offer courses and academic programs in different areas and formant meeting demands of any resident of Siberia, irrespective of their age and educational background. The University will enable people to receive additional education at various levels, thus improving their professional competencies and fostering their career progress.

SibFU's key priorities in creating an open educational environment are as follows:

- expansion of the range of academic programs, courses and modules, including e-learning;
- implementation of mass open online courses (MOOCs);
- engagement of local employers and SMEs in Krasnoyarsk into development of educational courses and a voluntary internship system;
- development of social and cultural adaptation programs for immigrants;
- promotion of the Citizen's University concept and enhancement of public awareness of the University's educational services.

SibFU's advantages in shaping culture of “civil education” are the following:

- multi-disciplinary training (75% of the overall range of academic disciplines presented in the region);
- a well-developed infrastructure for organizing public lectures and adequate technical capabilities for implementation of open distance learning programs;



- established reputation of SibFU as of the leading research, educational and expert platform in the region.

### **8.3. Reputation Enhancement Strategy**

The SibFU's reputation enhancement strategy aims to:

- enhance the University's reputation in the global academic community, focusing on sustainable development;
- raise awareness of the SibFU brand among prospective students from Russia and the CIS;
- improve SibFU's reputation among major employers, including transnational mining, forestry and energy companies

SibFU's **academic reputation** management is focused on improvement of the University's standing in such subject-matter rankings as QS Environmental Sciences, QS Agriculture & Forestry Sciences and QS Earth & Marine Sciences. The expert pool for these rankings includes around 2,000-3,000 respondents. At the same time, leading global brands are poorly represented in these rankings. For example, according to Agriculture & Forestry, only 20 universities from the top 100 list are also in the top 100 of the basic QS ranking, while other 20 universities are not even in the top 800. The weak representation of leading brands and a relatively compact pool of experts, as well as SibFU's world-class achievements in focus areas (publications in top-1% journals [SNIP]) allow to raise the University's academic reputation up to the level of top 200 universities in subject-matter rankings by 2020. To this end, SibFU plans to expand and improve its participation at the most high-profile scientific conferences and events on selected sustainable development topics, as well as to arrange consistent counterparty management within the University's CRM system, foster the University's involvement in international collaborative projects and increase the percentage of international faculty members.

**Raising awareness of the University's brand among prospective students from Russia and the CIS** involves, among other things, raising number of

references to SibFU in leading federal and international mass media. An important step toward achieving an informational breakthrough will be the organization and hosting of the 2019 World University Games. The Universiade will provide the University with an opportunity to attract target audience from potential students from all over the world and to display its modern campus as well as SibFU's lively sports and cultural life.

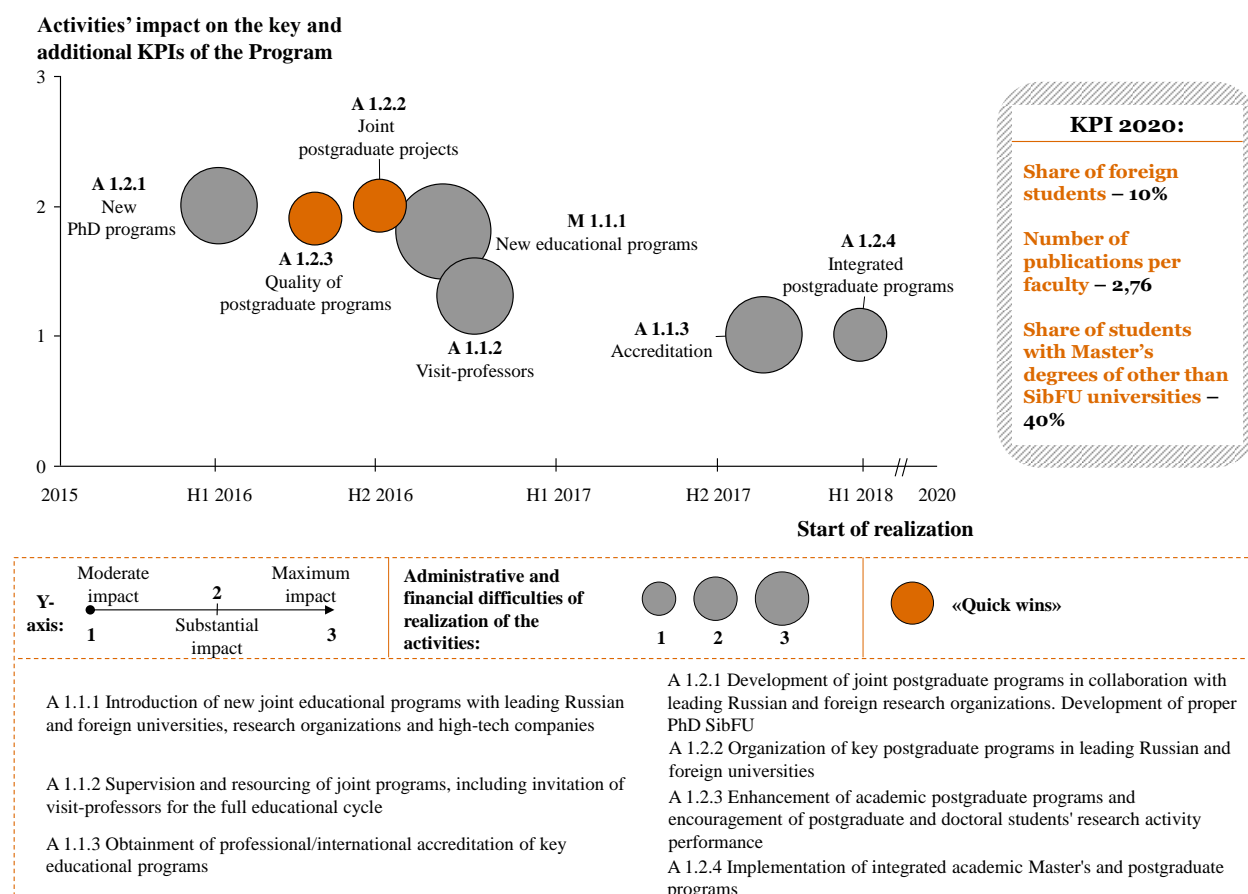
The relevant issues selected by SibFU for specialization (i.e. climate change and its consequences' studies, reduction of carbon dioxide concentrations in the atmosphere, extension of the human lifespan and the overall quality of life, enhancement of efficiency in extraction and processing of natural resources, and overcoming of electronics performance limitations) are the ones reputable global media focus on. With its unique world-class scientific achievements, SibFU will be able to enter the global information environment by means of expert commentaries, featured interviews with the University's researchers on the challenges of today's world. A well-developed social and humanitarian cluster with strong scientific results in several fields (archaeology, history, etc.) will enable the University to expand its involvement in public discussions at the national level. To achieve this, the University's public relations function is to be redesigned and transfer to extensive marketing of SibFU's areas of specialization and key expert speakers is to be conducted.

References to SibFU made by reputable Russian and international mass media will help to improve the **University's reputation among employers**. The key tool for enhancing SibFU's reputation in the business community is an active program of participation in forums and conferences. For a long time SibFU has been a partner and co-organizer of the Krasnoyarsk Economic Forum, a major discussion platform in Russia, where the business and political elite together with key experts gather on the annual basis. By promoting SibFU in the light of the Krasnoyarsk Economic Forum, the University will be able to quickly and drastically enhance its reputation at the national level.

### I.3. Strategic Initiatives

**SI1 objective:** create a portfolio of master's and doctoral (PhD) degree programmes in the University's focus areas, ensuring its competitiveness in the global education market.

**Figure 8. Strategic initiative 1**



Strategic initiative **“Formation and production of world-class educational programs portfolio and intellectual products”** is aimed to contribute to creation of high-quality educational products and enhancement of the university's competitiveness on the global educational market. Activities under the initiative foster publication activity of the university due to organization of Master's and postgraduate programs in the breakthrough areas of research and greater involvement of Master's and postgraduate students into scientific activity. “Quick wins” of this initiative include management measures aimed at enhancement of postgraduate programs' quality, including encouragement of students to participate in joint research projects in collaboration with leading Russian and international research companies. Further activities comprise development of the existing

programs through attraction of professors from world's leading universities for teaching at elite Master's programs, creation of new Master's and postgraduate programs in the university's key areas of research with attraction of leading Russian and international academics.

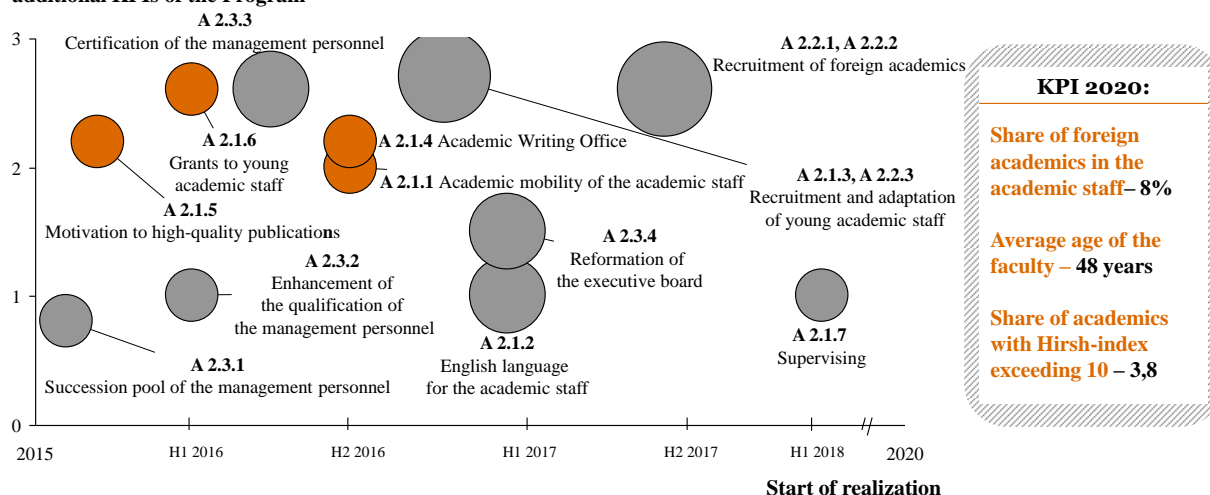
**SI1 deliverables:** diversified recruitment of talented students from all over the world for doctoral (PhD) and master's degree programmes in the University's focus areas; such programmes will be led by prominent internationally recognised professors; programme graduates will be sought after by transnational companies and leading global universities.



**SI2 objective:** adopt a key research personnel recruitment system that precludes "inbreeding".

Strategic initiative **“Recruitment and development of key staff and raising of their teaching quality”** covers activities aimed at improvement of the university's management personnel's and academic staff's qualification, as well as recruitment to the managerial and teaching positions of employees with experience of work in leading Russian and international universities and research organizations. At the first stage most attention is given to the “quick wins”, namely activities which imply achieving results with minimum effort. “Quick wins” of this initiative are presented by issuing grants to the young academic staff, development of measures for motivation of high-quality publications, establishment of the Academic Writing Office and fostering of academic mobility. These activities will contribute to retention and development of the university's young academic staff, allow to increase number of publications and quality of the university's publication activity. In 2017 implementation of the activity aimed at teaching English for the academic staff will start. Recruitment of international academic staff will be based on the balance between recruitment of leading academics and PostDocs. Moreover, the initiative implies reformation of the university's executive board, in particular through recruitment of internationally recognized administrators.

**Figure 9. Strategic initiative 2**

### Activities' impact on the key and additional KPIs of the Program



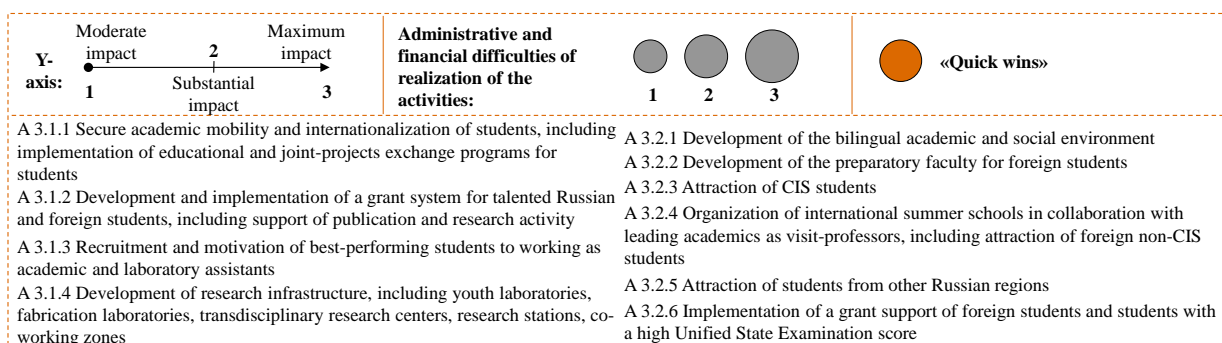
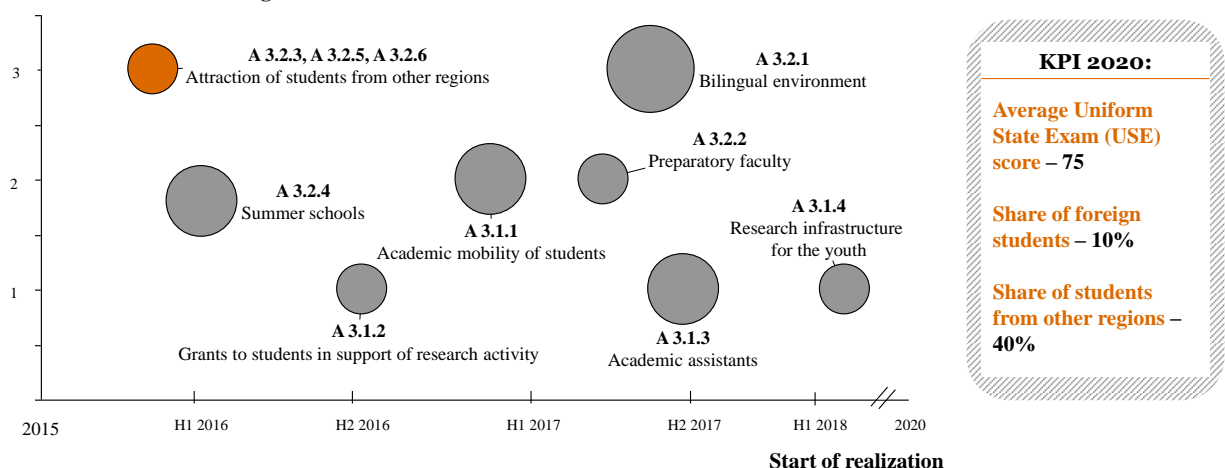
Y-axis:	Moderate impact	2		Maximum impact		 «Quick wins»
	1	Substantial impact	3	1		
<div><div><p>A 2.1.1 Organization of joint short-term and long-term (sabbatical) internships, remote advanced training and partner programs in collaboration with leading Russian and foreign universities and organizations</p><p>A 2.1.2 Organization of educational programs with obligatory English-proficiency testing of young academic staff and faculty members, including Russian and international certification</p><p>A 2.1.3 Enhancement of the academic mobility and activity internationalization function, including implementation of young foreign academic staff adaptation program</p><p>A 2.1.4 Establishment of an Academic Writing Office</p><p>A 2.1.5 Encouragement of academic staff to publishing articles in high-impact academic journals</p><p>A 2.1.6 Implementation of a grants system for young academic staff, including organization of a yearly open contest "SFU Fellowship" for grants for research conducting to young academic staff of SibFU and leading Russian and foreign universities and research organizations</p><p>A 2.1.7 Creation of the supervision institute</p><p>A 2.2.1 Development and implementation of a system of international recruiting measures, including implementation of a grants system issued to the academic staff on a competitive basis</p></div><div><p>A 2.2.2 Attraction of leading Russian and foreign academics into academic creative teams with further publication of co-authored articles</p><p>A 2.2.3 Implementation of the «Postdoc SibFU» program for attraction of Russian and foreign postdoc students from leading universities, including PR-follow-up and creation of Postdoc Office</p><p>A 2.2.4 Attraction of leading Russian and foreign academics to managing projects in top-priority development areas for more than a year</p><p>A 2.3.1 Formation of the succession pool of the University and development of measures of enhancement of their qualification</p><p>A 2.3.2 Development and implementation of a advanced training of the management personnel system, including realization of mobility programs and internships to leading foreign universities and research organizations</p><p>A 2.3.3 Development and implementation of an obligatory certification of the management personnel system</p><p>A 2.3.4 Reformation of the executive board of the university and its divisions, including attraction of internationally recognized administrators and project managers</p></div></div>						

**SI2 deliverables:** the majority of SibFU's key research personnel have proper qualifications to carry out world-class research; an English-speaking environment is created among the key research teams in SibFU's focus areas; competition to fill research vacancies is arranged in SibFU's focus areas; SibFU's postgraduates are only hired as faculty members in the University's focus areas, following a long-term internship in leading global scientific and educational centres or high-tech companies.

**SI3 objective:** recruit talented Russian and international students.

**Figure 10. Strategic initiative 3**

### Activities' impact on the key and additional KPIs of the Program

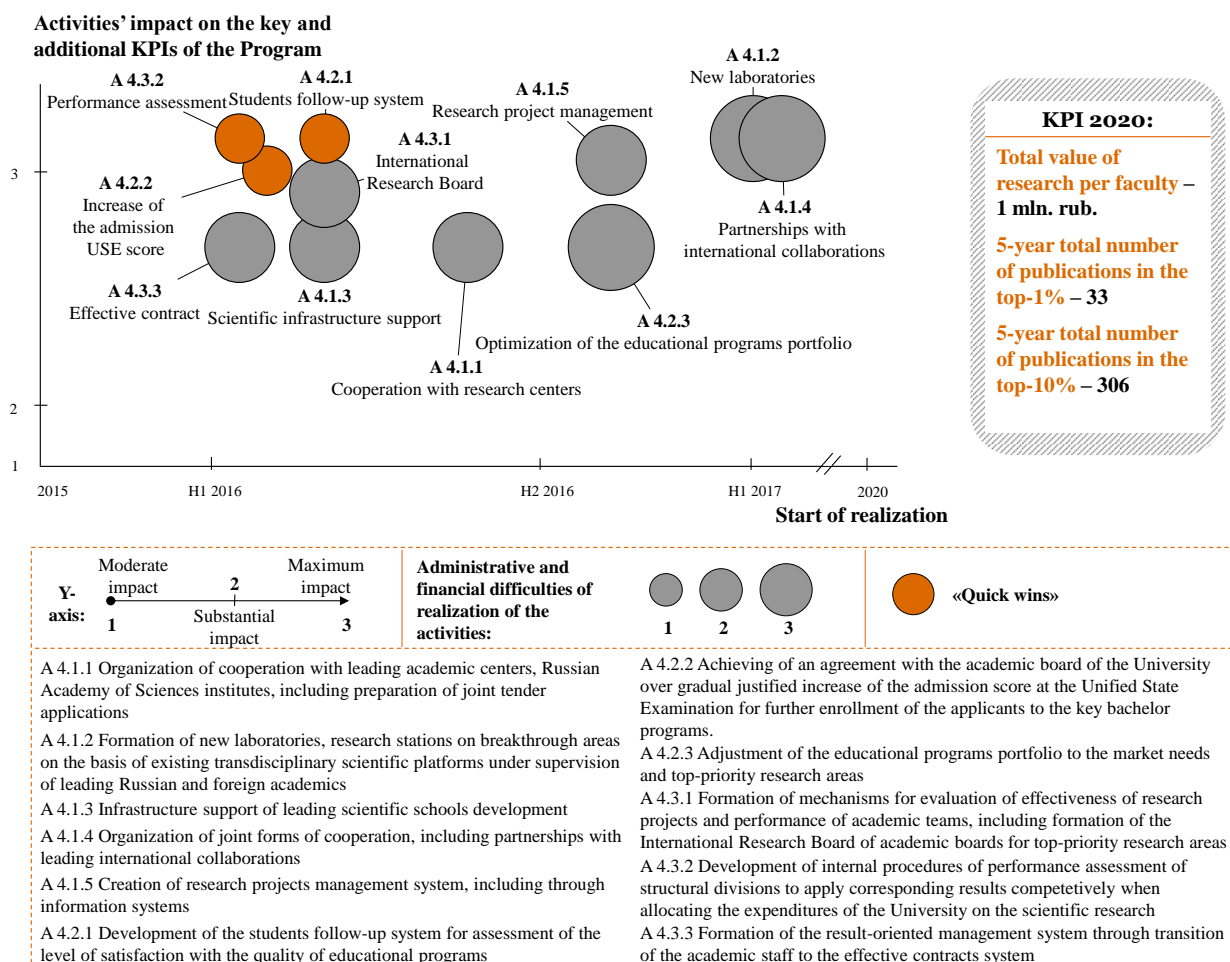


Strategic initiative “**Recruitment of talented students and postgraduates**” should serve to provide the university with talented students with capabilities of creative approach to scientific problems and eager for productive economic activities. The “quick win” of this initiative is attraction of students from other regions. The SibFU's dormitory, which meets the world standards, developed infrastructure and well-established relationships with leading employers of Russia and CIS facilitate attraction of students from other cities and countries. The other important activity to be launched in the near future is organization of international summer schools and invitation of world's leading academics as visit-professors to give lectures. Such summer schools will provide the interested parties with an opportunity to get familiar with SibFU and positively impress them. One of the most important and complicated activities under the initiative is connected with development of the comprehensive bilingual environment for students.

**SI3 deliverables:** diversified, competitive enrolment in key programmes in the University's focus areas; a well-balanced structure of students from the Krasnoyarsk Territory, other Russian regions and international countries.

**SI4 objective:** focus the University's resources on entering international subject-matter QS rankings in SibFU's focus areas.

**Figure 11. Strategic initiative 4.**



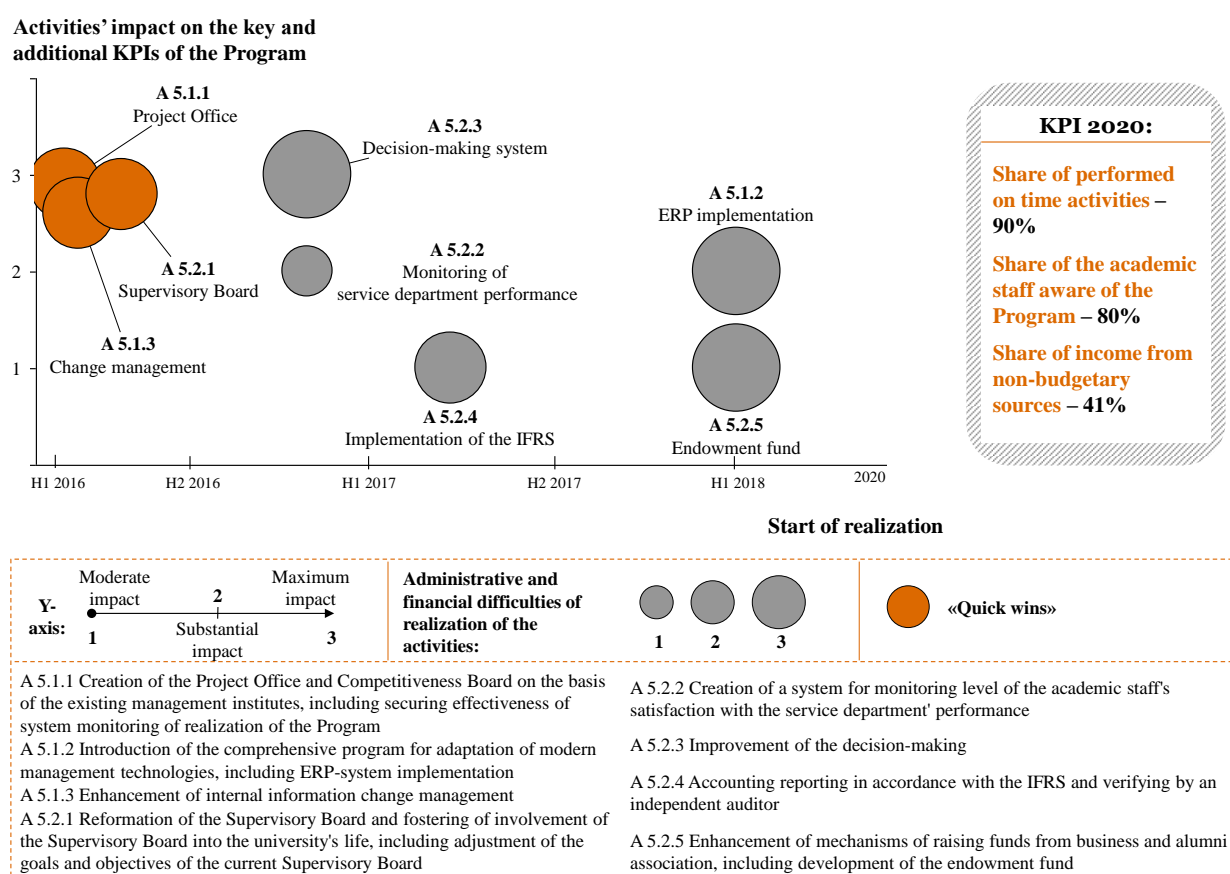
Strategic initiative **“Mechanisms for ensuring the concentration of resources in breakthrough areas, the rejection of inefficient activities”** allows optimizing educational process, improving the management system and achieve a quantum leap in research area. In 2016 implementation of this initiative is of the highest priority. “Quick wins” of the initiative include increase of the admission USE score and implementation of a system of academic staff’s performance assessment by the students. The increase of the admission USE score will facilitate enhancement of the SibFU’s reputation and effectiveness of its educational activity. Performance assessment system together with the course election mechanism will provoke competition between academics, ensure follow-up and raise quality of teaching. As for the improvement of the management

system, the “quick win” is development of the divisions’ performance assessment system and distribution of funds on the basis of the results of the assessment. Development of scientific infrastructure, implementation of the research project management, formation of new laboratories and strengthening of international collaboration will allow delivering scientific activity of SibFU both in fundamental and applied research to the new level.

**SI4 deliverables:** the University's financial and scientific performance in the focus area improved to the level of top 200 universities in subject-matter rankings.

**SI5 objective:** build a system for taking decisions in SibFU in line with global best practices in university management.

**Figure 12. Strategic initiative 5**



Strategic initiative “**Transforming of the governance system to achieve the target KPIs**” covers activities designed to enhance the management system and stands for its high priority for 2016. Key results as at the end of 2016 will be



functioning 5-100 Project Office, reformed Supervisory Board and working change management system. Establishment of 5-100 Project Office will facilitate due achievement of the Program's objectives while keeping within budget. Change management is aimed at keeping the university's personnel aware of the ongoing changes and their involvement into transformations. Reformation of the Supervisory Board will strengthen relationships with the administration and business community. Plans for 2017-2018 consist of an activity aimed at development of the decision-making system, which implies optimization of the authority and resource distribution at the university and establishment of the balance between centralization and delegation of authority.

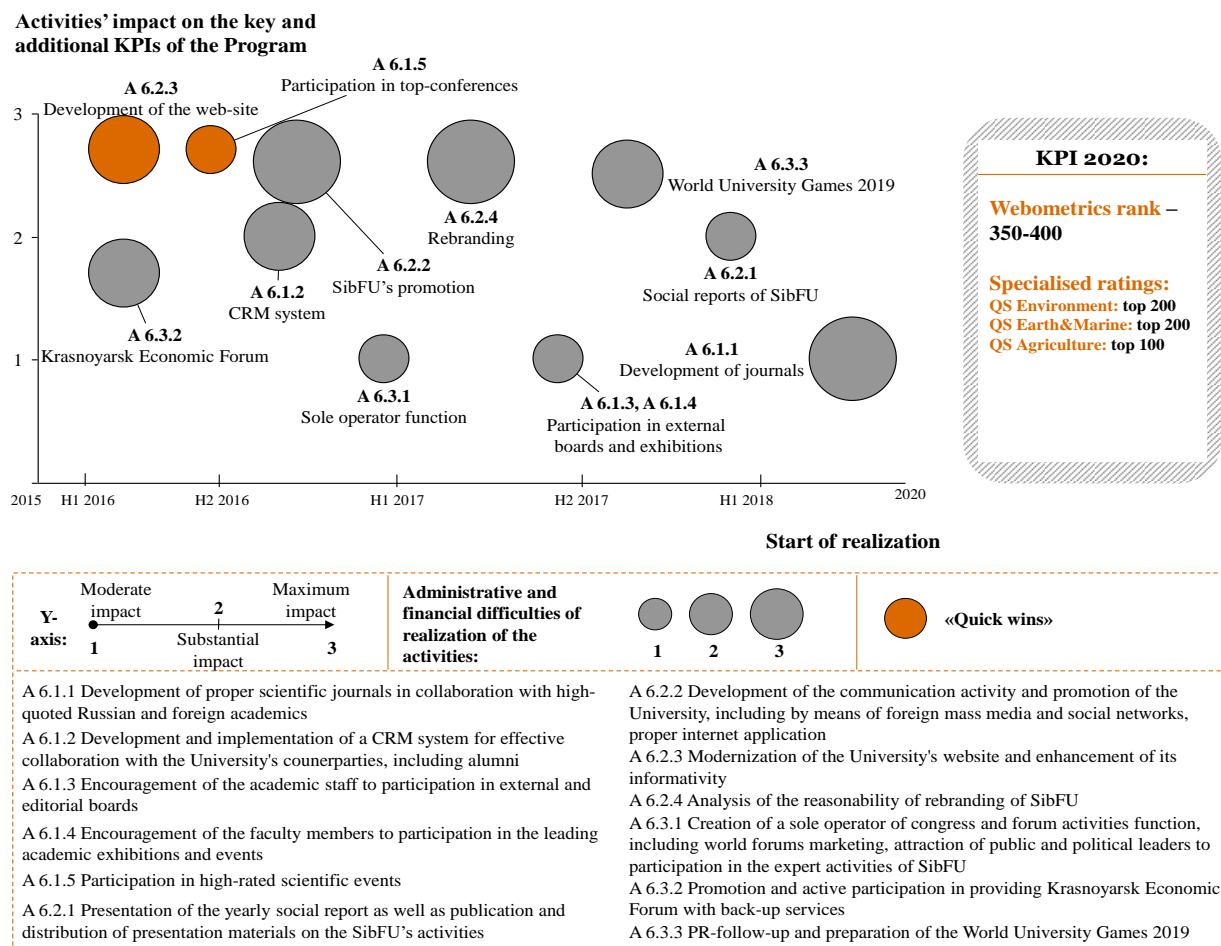
**SI5 deliverables:** migration to a decision-making system based on horizontal coordination and cooperation, with a high level of academic freedom and self-administration.

**SI6 objective:** develop a SibFU brand recognised in the global academic community in relation to the selected sustainable development topics so as to attract students from across Russia and world-class faculty members.

Strategic initiative "**Enhancement of the SibFU's reputation in Russia and abroad**" consists of two tasks, which are enhancement of the university's academic reputation and media profile. Due to the fact that development of reputation takes time, activities under this initiative are given the highest priority. The university has already started the realization of the "quick wins", which are up-grade of the web-site of the university and participation of its academic staff in top-conferences devoted to the topics related with the scientific specialization of the university. Plans for the second half of the year of 2016 include the activity aimed at development of a CRM system for support of comprehensive communication with all the university's counterparties, as well as of a single-window system providing easier commercialization of the university's scientific developments and stronger connections with business community. In 2017-2018 rebranding of the university will be held together with a complex PR-campaign on

the occasion of the Winter World University Games 2019 being held in Krasnoyarsk. Moreover, for the purposes of enhancing its academic reputation SibFU will develop and promote its scientific journals.

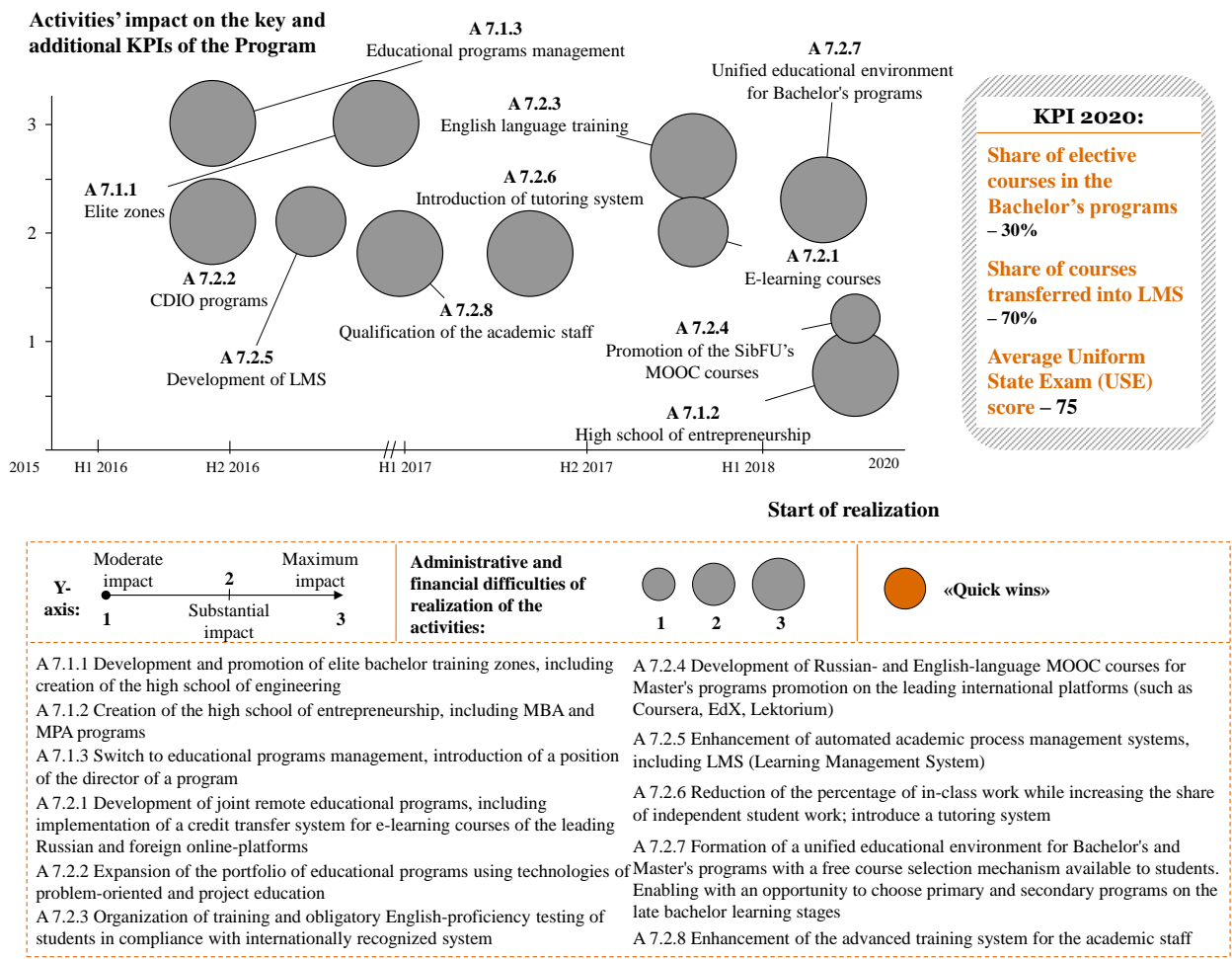
**Figure 13. Strategic initiative 6**



**SI6 deliverables:** SibFU's academic reputation and reputation among employers is close to the level of top 200 universities in subject-matter rankings in the University's focus areas.

**SI7 objective:** build a unique set of strategic academic units to strengthen the University's competitive advantages in the focus areas and to foster quick implementation of modern educational technologies and methods.

**Figure 14. Strategic initiative 7**

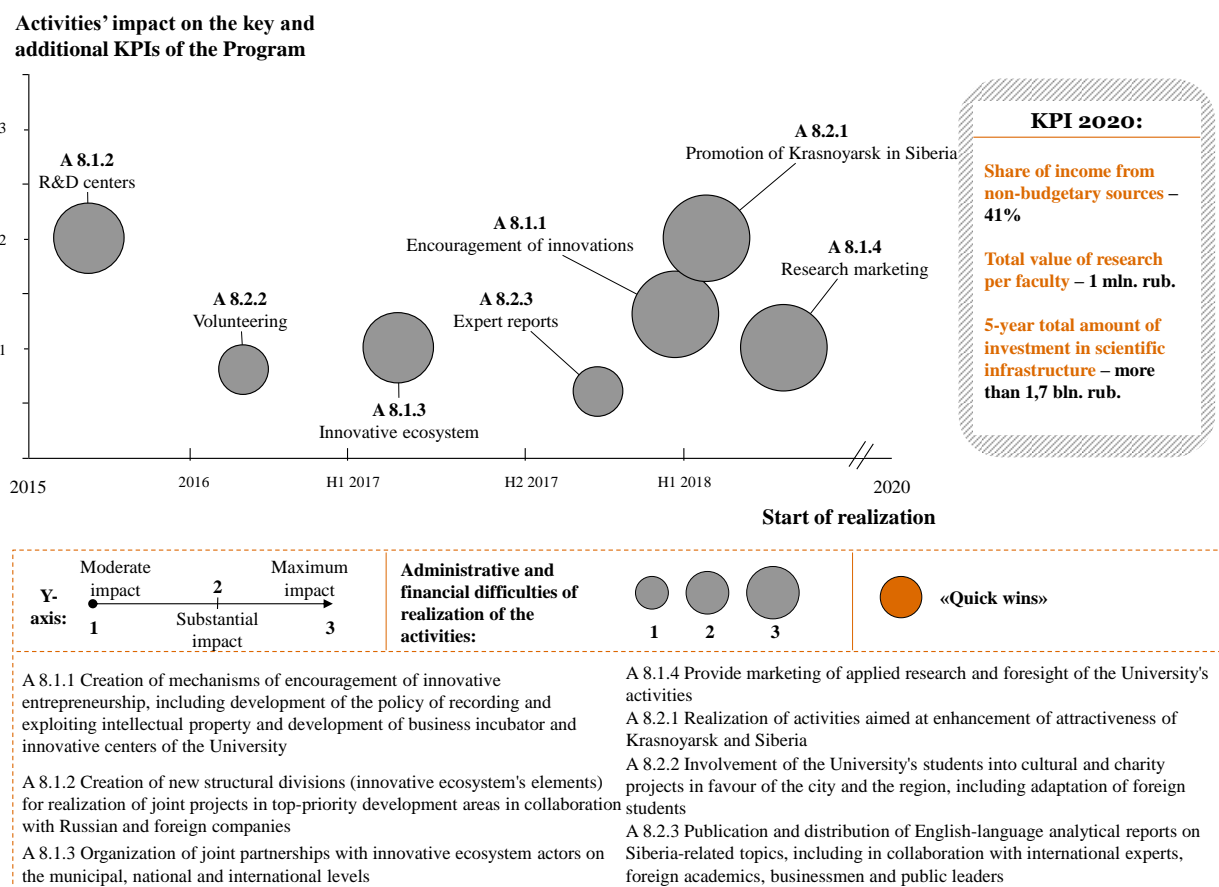


Strategic initiative “**Institutional redesign of the academic units**” consists of a number of activities serving to reorganize educational structures. At the first stage the university will enhance use of the CDIO framework on the engineering educational programs, expand the system of educational programs management and develop the existing LMS to enhance quality of the educational process. From the year of 2017 the university will start to expand the elite training zones, implement tutoring system and develop the advanced training system for the academic staff. Starting from 2018 SibFU will actively develop and promote e-learning courses, establish a unified educational environment for Bachelor's programs, create a high school of entrepreneurship and enhance language proficiency of students. These activities require great effort, nevertheless, it is justified due to their significant impact on the quality of education and an opportunity to improve SibFU's standing among the leading educational institutions.

**SI7 deliverables:** efficiency and quality of education in SibFU (based on ratings by students and the academic community) is at the level of top 300 universities in global rankings.

**SI8 objective:** boost innovation-driven development and economic diversification in Siberia and the Krasnoyarsk Region.

**Figure 15. Strategic initiative 8**



Strategic initiative **“Improving the attractiveness of Krasnoyarsk agglomeration to enhance competitiveness of Siberia”** comprises activities aimed to foster innovative entrepreneurship, which is necessary for development of the potential of the region. For this purpose, SibFU intends to strengthen cooperation with external stakeholders (i.e. high-tech companies of the region and government authorities) and to prepare adequate research infrastructure for realization of joint projects. The synergy from joint use of intellectual capital and infrastructure will help to solve problems the regional economy faces. Informative and communicative role of the university will play the most important role in

formation of the Krasnoyarsk's reputation of the global leader in sustainable environmental management, mining and exploration of northern territories.

**SI8 deliverables:** Krasnoyarsk is a recognised centre of innovation in Russia and globally.

## II. The Action Plan for the implementation of SibFU's Competitiveness Enhancement Program ("Roadmap")

### *1. Indicators of the program realization to increase the University competitiveness among the world's leading scientific and educational centers, approved by the Federal Government on October 29, 2012 № 2006-R*

Indicator name	Unit	Planned values of indicators				
		2016	2017	2018	2019	2020
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	people	1	3	5	7	9
2. Number of scientific journals of the University, included in database Web of Science and/or Scopus	number	1	1	2	2	3
3. Number of employees included in the succession pool for managerial positions	people	100	150	150	150	150
4. Share of the number of young faculty and research staff (hereinafter – FRS) attracted to the university, with work experience in the leading Russian and international universities and / or in the leading Russian and international research organizations, in the total number of young FRS	%	0,7	1,5	2,9	4,4	5,7
5. Share of the number of FRS, who participated in academic mobility programs realized by the University, in the total number of the University's FRS	%	20	20	30	30	30
6. Number of academic mobility programs for the University's FRS and FRS from outside organizations realized by the University	number	3	5	5	5	5
7. Share of the number of young University's FRS in the total number of University's FRS	%	30	32	32	33	33
8. Share of the number of students on programs of higher full-time education, who have received support, in the total number of students on programs of higher full-time education	%	10	15	20	25	25
9. Share of the number of research assistants and young FRS, who have	%	20	30	30	30	30

received support, in the total number of research assistants and young FRS of the University						
10. Number of higher education programs and continuing vocational programs developed and implemented in partnership with the leading Russian and international universities and/or in the leading Russian and international scientific organizations	number	2	5	7	8	10
11. Share of the number of students from leading international universities involved in the University, in the total number of students	%	0	0,5	1	1,5	2
12. Number of research projects carried out with the involvement of the leadership of the leading Russian and foreign scientists and / or in cooperation with leading Russian and international scientific organizations on the basis of the University, including the ability to create structural divisions of the University	number	6	10	15	20	25
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	number	12	16	22	27	40

## 2. The Action Plan for the implementation of SibFU's Competitiveness Enhancement Program ("Roadmap") on the 2016-2020

Strategic initiatives/ tasks/ actions	Performance indicators (name and unit)	Values of Performance Indicators								Actions of Decree № 211
		2016		2017		2018		2019	2020	
		1st Six Months	2nd Six Months	1st Six Months	2nd Six Months	1st Six Months	2nd Six Months	In total	In total	
SI 1 Formation and production of portfolio of world-class educational programs and intellectual products	mln. RUB	0,000	8,624	24,000	24,000	36,800	36,800	73,700	73,700	
Task 1.1 Expansion of the educational programs portfolio in collaboration with the leading Russian and international universities, research organizations and industrial partners	<i>mln. RUB</i>	0,000	2,276	15,000	15,000	30,000	30,000	60,000	60,000	
Action 1.1.1 Introduction of new academic programs in cooperation with the leading Russian and international universities, research institutions and high-tech companies for the purpose of staffing the priority areas of social and economic development of the country, including programs that provide consistent training in English and double degrees	Number of students enrolled in the programs implemented in cooperation with the leading Russian and international universities, research institutions and high-tech companies, people	-	150	175	200	225	250	300	350	f
Action 1.1.2 Supervision and resourcing of joint programs, including invitation of visit-professors for the full educational cycle	Number of new higher education programs and continuing vocational programs developed and	-	2	3	5	6	7	8	10	f



	implemented in partnership with the leading Russian and international universities and/or in the leading Russian and international scientific organizations, units									
Action 1.1.3 Professional/international accreditation of key educational programs, including approval of the action plan for the professional/international accreditation by the Supervisory Board of the University	Number of professionally or internationally accredited educational programs, units	-	10	12	15	17	20	25	30	f
<i>Task 1.2 Improving the quality of training of postgraduate and doctoral students, including realization of joint postgraduate programs in collaboration with leading the Russian and international research organizations</i>	<i>mln. RUB</i>	0,000	6,348	9,000	9,000	6,800	6,800	13,700	13,700	
Action 1.2.1 Development of joint postgraduate programs in collaboration with the leading Russian and international research organizations, including recruitment of international academics and specialists as co-supervisors and development of own PhD SibFU degree	Number of joint postgraduate programs in collaboration with the leading Russian and international research organizations in the corresponding areas, units	-	2	3	3	5	5	7	10	d

Action 1.2.2 Organization of key postgraduate programs in the leading Russian and international universities, including within the dissertation preparation period	Number of postgraduate students, who have participated in joint projects in the leading Russian and international universities, people	-	10	12	13	16	18	20	23	d
Action 1.2.3 Enhancement of academic postgraduate programs and encouragement of postgraduate and doctoral students' research activity performance, including approval of admission policy on postgraduate programs, providing gradual increase in the share of enrolled graduates from other universities, by the Academic Council of the University	Number of awarded PhD applicants whose co-supervisors or scientific advisors were the leading Russian and foreign scientists with high performance indicators and publication activity, people	-	1	2	3	3	4	6	7	d
Action 1.2.4 Implementation of integrated Master's and postgraduate programs	Share of the number of Master's programs students who have completed educational programs of other universities, in the total number of Master's programs students, %	-	22	24	26	28	30	35	40	d
	Share of the number of postgraduate programs students who have completed educational programs of other universities, in the total number of postgraduate	-	12	15	17	18	20	23	25	d

	programs students, %									
<b>SI 2 Recruitment and development of key staff and raising of their teaching quality</b>	<b>mln. RUB</b>	<b>1,370</b>	<b>77,775</b>	<b>119,000</b>	<b>119,000</b>	<b>177,700</b>	<b>177,700</b>	<b>414,700</b>	<b>434,700</b>	
<i>Task 2.1 Enhancement of qualifications of FRS through their participation in Russian and international academic mobility programs in the form of internships, advanced training and professional retraining of FRS in collaboration with the leading Russian and international research organizations</i>	<i>mln. RUB</i>	0,785	60,211	11,500	11,500	15,000	15,000	30,000	30,000	
Action 2.1.1 Organization of joint short-term and long-term (sabbatical) internships, remote advanced training and partner programs in collaboration with the leading Russian and international universities and organizations, approved by the University International Advisory Council	Share of the number of University's FRS, participating in academic mobility programs, in the total number of the University's FRS, %	-	20	20	20	25	30	30	30	c
	Number of academic mobility programs, for the University's FRS and FRS of partner organizations, implemented by the University, units.	—	3	4	5	5	5	5	5	c
Action 2.1.2 Organization of educational programs with obligatory English-proficiency testing of young FRS and faculty members, including Russian and international certification	Number of listeners who have received international certificates with competitive rates, people	-	-	25	-	30	-	30	30	b

	Number of people who received internal certificates with competitive rates, people	–	–	30	–	40	–	40	40	b
Action 2.1.3 Enhancement of the academic mobility and activity internationalization function, including implementation of young international FRS adaptation program	Share of recruited or invited for internship young FRS with experience in the leading Russian and international universities and research organizations, in the total number of young FRS, %	–	0,7	1,0	1,5	2,1	2,9	4,4	5,7	c
Action 2.1.4 Establishment of an Academic Writing Office	Number of FRS trained within the Academic Writing Office, people.	-	-	30	30	60	60	90	120	c
Action 2.1.5 Encouragement of the author's activity in journals with high impact factor	Number of publications in Web of Science and Scopus per one of FRS (in 5 complete years), units	-	0,77	-	0,99	-	1,32	1,98	2,76	c
Action 2.1.6 Implementation of a grant system for young FRS, including organization of the annual open contest "SibFU Fellowship" for the provision of scholarships and grants for scientific research to young FRS of SibFU and the leading Russian and international universities and research organizations	Share of young University's FRS in the total number of University's FRS, %	-	30	31	32	32	32	33	33	b

Action 2.1.7 Creation of a mentoring institute	Share of intern-researchers and young FRS, who have received support, in the total number of intern-researchers and young FRS, %	-	20	25	30	30	30	30	30	a
<i>Task 2.2 Development of attraction of foreign FRS system</i>	<i>mln. RUB</i>	0,585	12,273	83,000	83,000	128,500	128,500	317,000	317,000	
Action 2.2.1 Implementation of a grant system issued to FRS on a competitive basis, including attraction of the leading Russian and international academics into academic creative teams with further publication of co-authored articles	Share of international professors, lecturers and researchers in the total number of FRS, including Russians with international PhD degrees, %	-	1,1	1,5	2	2,7	3,8	5,5	8	b
Action 2.2.2 Development and implementation of a system of international recruiting, including attraction of the leading Russian and international academics to managing projects in top-priority development areas for more than a year	Share of FRS with h-index over 10, %	-	1,3	-	1,7	-	2,7	3,2	3,8	b
Action 2.2.3 Implementation of the «Postdoc SibFU» program for attraction of Russian and international postdoc students from the leading universities, including PR-follow-up and creation of Postdoc Office	Number of young FRS (including postdoctoral) recruited since the launch of the competitiveness enhancement program (but not earlier than 3 years ago), people	-	5	8	10	12	15	25	25	b

<i>Task 2.3 Formation and training of the management succession pool of SibFU</i>	<i>mln. RUB</i>	0,000	5,291	24,500	24,500	34,200	34,200	67,700	87,700	
Action 2.3.1 Formation of the succession pool of the University and development of measures of enhancement of their qualification, approved by the Supervisory Board	Number of employees included in the succession pool for managerial positions, people	-	100	130	150	150	150	150	150	a
Action 2.3.2 Development and implementation of an advanced training of the management personnel system, including realization of mobility programs and internships in the leading international universities and research organizations	Share of the management personnel covered by the advanced training programs, in the total number of the management personnel, %	-	10	12	15	17	20	20	20	a
Action 2.3.3 Development and implementation of an obligatory certification of the management personnel system	Existence of a system of certification of the management personnel, yes/no	-	-	-	yes	yes	yes	yes	yes	a
Action 2.3.4 Updating the University management and its structural units based on the requirements for candidates for positions in the leadership of the University, agreed by the Supervisory Board and/or the International Advisory Council, including the involvement of administrators with an international reputation and project managers	Share of the University administrators, appointed to positions with the requirements for the candidates, agreed by the Supervisory Board and/or the International Advisory Council, %	-	10	15	25	27	30	35	40	a
<b>SI 3 Recruitment of talented students and postgraduates</b>	<b>mln. RUB</b>	<b>2,700</b>	<b>24,514</b>	<b>54,000</b>	<b>54,000</b>	<b>70,500</b>	<b>70,500</b>	<b>160,300</b>	<b>180,300</b>	
<i>Task 3.1 Development of the system of research and academic support for students, postgraduates, interns and</i>	<i>mln. RUB</i>	0,000	0,000	24,000	24,000	35,500	35,500	80,300	90,300	

<i>young FRS</i>										
Action 3.1.1 Ensuring academic mobility and internationalization of student population, including implementation of student exchange programs and joint projects	Share of students participating in the University's academic mobility programs, in the total number of students, %	-	10	15	20	20	20	20	20	e
Action 3.1.2 Development and implementation of a grant system for talented Russian and international students, including support of publication and research activity	Share of students on educational programs of higher full-time education, who received support, in the total number of students on educational programs of higher full-time education, %	-	10	12	15	18	20	25	25	e
Action 3.1.3 Recruitment and motivation of best-performing students to work as academic and laboratory assistants	Number of students working as academic and laboratory assistants, people	-	50	75	100	130	150	200	300	e
Action 3.1.4 Development of research infrastructure, including youth laboratories, fabrication laboratories, interdisciplinary research centers, research stations, co-working zones	Level of students' satisfaction with the research infrastructure graded from 1 to 5, points	-	4	4,1	4,1	4,3	4,3	4,5	4,7	e
Action 3.1.5 Introduction of individual academic programs for students with outstanding academic progress ('honors college')	Share of students enrolled in the academic programs for students with outstanding academic progress	—	—	0,25	0,5	0,75	1,0	1,5	2,0	e

	(‘honors college’), in the total number of students, %									
<i>Task 3.2 Development of the system of attraction of talented Russian and international applicants</i>	<i>mln. RUB</i>	2,700	24,514	30,000	30,000	35,000	35,000	80,000	90,000	
Action 3.2.1 Development of the bilingual academic and social environment, including approving the plan on attracting international students by the SibFU International Council	Share of students from leading international universities, in the total number of students, %	-	-	-	0,5	0,7	1	1,5	2	g
Action 3.2.2 Development of the preparatory faculty for international students	Average score of international students graduated from the preparatory faculty at the end of the first year of studies, points	-	3,5	-	3,7	-	3,8	4	4	e
Action 3.2.3 Recruitment of CIS students	Share of CIS students, in the total number of students, %	-	1,5	-	3	-	5	7	9	e
Action 3.2.4 Organization of international summer schools in collaboration with the leading academics as visit-professors, including attraction of international non-CIS students	Number of participants of summer schools, people	-	150	200	250	350	500	700	1000	e
Action 3.2.5 Attraction of students from other Russian regions	Share of students from other Russian regions, in the total number of students, %	-	21	-	25	-	30	40	40	e



Action 3.2.6 Implementation of scholarship support for international students and students a high Unified State Examination score	Average Unified State Exam (USE) score of students enrolled on the Bachelor's (specialist) programs, points	-	64,8	-	65,5	-	67	70	75	e
<b>SI 4 Mechanisms to ensure the concentration of resources on breakthrough areas and avoidance of less effective areas</b>	<b>mln. RUB</b>	<b>7,300</b>	<b>29,177</b>	<b>119,500</b>	<b>119,500</b>	<b>170,800</b>	<b>170,800</b>	<b>406,700</b>	<b>441,700</b>	
<i>Task 4.1 Creation of mechanisms of mutually beneficial cooperation of SibFU with universities, research organizations and industrial partners</i>	<i>mln. RUB</i>	7,005	24,404	98,000	98,000	144,000	144,000	348,000	378,000	
Action 4.1.1 Organization of cooperation with the leading academic centers, Russian Academy of Sciences institutes, including preparation of joint tender applications	Number of applications made by the University for grants from Russian Science Foundation and other supporting research funds per one of FRS, units	-	0,38	0,41	0,44	0,47	0,5	0,56	0,65	b
Action 4.1.2 Formation of new laboratories, research stations on breakthrough areas on the basis of existing interdisciplinary scientific platforms under supervision of leading Russian and international academics	Number of research projects involving the leading international and Russian scientists and/or in cooperation with the leading Russian and international scientific organizations on the University basis, including ability to	-	6	8	10	13	15	20	25	h

	create structural divisions of the University, units									
Action 4.1.3 Infrastructure support of leading scientific schools development	Total amount of investments in scientific infrastructure, mln. RUB	-	260	300	340	395	450	600	700	h
Action 4.1.4 Organization of joint forms of cooperation, including partnerships with the leading international collaborations	Existence of scientific projects in the framework of the research activities of the University in collaboration with international partners from educational and research centers, units	-	3	4	5	5	6	8	10	b
Action 4.1.5 Creation of research projects management system, including use of information systems	Number of applications made by the University for grants from Russian Science Foundation and other supporting research funds, per one of FRS, units	-	0,38	0,41	0,44	0,47	0,5	0,56	0,65	b
<i>Task 4.2 Optimization of the educational programs portfolio through reduction in the number of Bachelor's programs</i>	<i>mln. RUB</i>	0,000	0,911	4,000	4,000	5,000	5,000	9,000	9,000	
Action 4.2.1 Development of the students follow-up system for assessment of the level of satisfaction with the quality of educational programs	Share of students, who have participated in surveys, in the total number of students, %	-	10	15	20	25	30	40	40	f

Action 4.2.2 Achieving of an agreement with the Academic Council of the University over gradual justified increase of the admission score of the Unified State Examination for further enrollment of the applicants to the key bachelor's (specialist's) programs	Average Unified State Exam (USE) score of students enrolled on the Bachelor's (specialist's) programs, points	-	64,8	-	65,5	-	67	70	75	f
<i>Task 4.3 Enhancement of the research effectiveness, including through formation of the collegiate bodies system in collaboration with Russian and international experts</i>	<i>mln. RUB</i>	0,295	3,862	17,500	17,500	21,800	21,800	49,700	54,700	
Action 4.3.1 Formation of mechanisms for evaluation of effectiveness of research projects and performance of academic teams, including formation of the International Research Board of academic boards for top-priority research areas	Yearly number of sessions of the International Research Board on the SibFU basis, sessions	-	1	1	1	1	1	2	2	a
Action 4.3.2 Introduction of internal procedures to assess the research work of structural divisions for the purpose of using the corresponding results in the allocation of the University costs on scientific research on the competitive basis	Total value of the research conducted per one of FRS, mln. RUB	-	0,3	0,4	0,4	0,5	0,6	0,8	1	b
Action 4.3.3 Formation of the result-oriented management system through transition of FRS to the effective contracts system	Share of FRS who have signed the effective contract, %	-	100	100	100	100	100	100	100	e
Action 4.3.4 Introducing the system of fixed-term contracts with the employees based on criteria of academic performance	Existence of the system, yes / no	-	yes	yes	yes	yes	yes	yes	yes	b
<b>SI 5 Transforming of the governance system to achieve the target KPIs</b>	<b>mln. RUB</b>	<b>26,720</b>	<b>13,124</b>	<b>34,000</b>	<b>34,000</b>	<b>52,700</b>	<b>52,700</b>	<b>112,800</b>	<b>57,800</b>	

<i>Task 5.1 Creation of a change management system in the framework of realization of the Plan of the Program's activities</i>	<i>mln. RUB</i>	26,720	10,144	24,000	24,000	42,700	42,700	95,800	40,800	
Action 5.1.1 Creation of the Project Office and Competitiveness Board on the basis of the existing management institutes, including enhancement of effectiveness of system monitoring of realization of the Program	Share of performed on time activities, %	-	90	90	90	90	90	90	90	a
Action 5.1.2 Introduction of the comprehensive program for adaptation of modern management technologies, including IRP-system implementation	Share of automated document circulation, %	-	50	55	60	65	70	75	80	a
Action 5.1.3 Enhancement of internal information change management	Share of FRS aware of the Program, %	-	50	55	60	65	70	80	80	a
<i>Task 5.2 Enhancement of managerial processes of the University and improving of their effectiveness</i>	<i>mln. RUB</i>	0,000	2,099	10,000	10,000	10,000	10,000	17,000	17,000	
Action 5.2.1 Reformation of the Supervisory Board and fostering of involvement of the Stewardship Council into the university's life, including adjustment of the goals and objectives of the current Supervisory Board	Share of employees aware of the Supervisory Board's activities, %	-	30	35	40	45	50	60	70	a
Action 5.2.2 Creation of a system for monitoring level of FRS' satisfaction with the service departments' performance	Share of FRS who have participated in the survey, %	-	10	10	10	10	10	10	10	a
Action 5.2.3 Improvement of the decision-making system through development of academic self-management and enhancement of the academic units' autonomy	Total number of employees recruited for senior management positions with a track record of working for	-	1	2	3	4	5	7	9	a

	the leading universities and scientific organizations in and outside of Russia, people									
Action 5.2.4 Accounting reporting in accordance with the IFRS, since 2016, and verifying by an independent auditor, since 2017	Availability of the audit conclusion, yes/no	-	yes	yes	yes	yes	yes	yes	yes	a
Action 5.2.5 Enhancement of mechanisms of raising funds from business and alumni association, including development of the endowment fund	Number of events and references to the endowment fund and alumni association, units	-	5	6	6	7	7	8	10	a
Task 5.3 Conducting of mandatory organizational activities	mln. RUB	0,000	0,881	0,000	0,000	0,000	0,000	0,000	0,000	a
Action 5.3.1 Establishing a procedure for appointing the head of the organization (the rector) by the founder, which provide for a prior competitive selection in the form of an open international competition	The procedure is established, yes/no	—	yes	yes	yes	yes	yes	yes	yes	a
Action 5.3.2 Making changes to existing labor contracts of a director and his deputies, providing the indicators achievement fixed by the approved participant's development programs, as well as the procedure for evaluating the effectiveness of director and his deputies	Changes have been made, yes/no	—	yes	yes	yes	yes	yes	yes	yes	a
<b>SI 6 Enhancement of the SibFU's academic reputation in Russia and abroad</b>	<b>mln. RUB</b>	<b>4,075</b>	<b>15,414</b>	<b>67,000</b>	<b>67,000</b>	<b>81,500</b>	<b>81,500</b>	<b>154,000</b>	<b>126,000</b>	
<i>Task 6.1 Enhancement of the SibFU's</i>	<i>mln. RUB</i>	<i>0,575</i>	<i>1,788</i>	<i>30,000</i>	<i>30,000</i>	<i>36,500</i>	<i>36,500</i>	<i>74,000</i>	<i>76,000</i>	

<i>reputation in the academic and business community</i>										
Action 6.1.1 Development of SibFU's scientific journals in collaboration with high-quoted Russian and international academics	Number of scientific journals of SibFU included in the Scopus database, units	-	1	1	1	1	2	2	3	b
Action 6.1.2 Development and implementation of a CRM system for effective collaboration with the University's counterparties, including alumni	Number of counterparties in the CRM system of the University, people	-	6000	8000	10000	12000	14000	18000	20000	b
Action 6.1.3 Encouraging FRS to participate in external and editorial boards	Number of FRS participating in the external and editorial boards, people	-	5	6	8	10	12	17	20	h
Action 6.1.4 Encouragement of the faculty members to participate in the leading academic exhibitions and events	Number of leading educational exhibitions and events in collaboration with SibFU, units per year	-	2	1	1	1	1	2	2	h
Action 6.1.5 Participation in high-rated scientific events	Number of speeches at the high-rated scientific events, units per year	-	5	7	9	11	14	17	20	b
<i>Task 6.2 Enhancement of the University's media profile</i>	<i>mln. RUB</i>	0,030	10,239	29,000	29,000	34,000	34,000	59,000	29,000	
Action 6.2.1 Presentation of the yearly social report as well as publication and distribution of presentation materials on the SibFU's activities	Availability of the yearly social report, yes/no	-	yes	yes	yes	yes	yes	yes	yes	h

Action 6.2.2 Development of the communication activity and promotion of the University, including by means of international mass media and social networks, SibFU's internet application	Number of references to SibFU in leading federal mass media and popular science journals, units	-	8	10	12	13	14	18	20	b
Action 6.2.3 Modernization of the University's website and the growth of its informativeness	Webometrics rank, place	-	1000-1100	-	900-1000	-	800-850	500-560	350-400	g
Action 6.2.4 Analysis of the reasonability of SibFU's rebranding	Existence of the brand development strategy, yes/no	-	yes	yes	yes	yes	yes	yes	yes	g
<i>Task 6.3 SibFU's positioning within the framework of large-scale events</i>	<i>mln. RUB</i>	3,470	3,387	8,000	8,000	11,000	11,000	21,000	21,000	
Action 6.3.1 Creation of a sole operator of congress and forum activities function, including world forums marketing, attraction of public and political leaders to participation in the expert activities of SibFU	Number of international conferences, forums, congresses and meetings on the SibFU basis with a share of international participants exceeding 30%, units	-	4	5	5	6	7	8	10	g
Action 6.3.2. Promotion and active participation in providing Krasnoyarsk Economic Forum with back-up services	Number of references to SibFU in the context of Krasnoyarsk Economic Forum, units	-	150	200	200	250	250	300	350	g
Action 6.3.3 PR-follow-up and preparation of the World University Games 2019	Number of references to SibFU in the context of the World University Games 2019	150	200	150	250	150	250	500	120	g

	organization, units									
<b>SI 7 Institutional redesign of the academic units</b>	<b>mln. RUB</b>	<b>0,000</b>	<b>2,788</b>	<b>23,000</b>	<b>23,000</b>	<b>45,000</b>	<b>45,000</b>	<b>30,000</b>	<b>-</b>	
<i>Task 7.1 Enhancement of the educational programs management system and creation of new divisions</i>	<i>mln. RUB</i>	0,000	0,000	3,000	3,000	5,000	5,000	10,000	-	
Action 7.1.1 Development and promotion of elite bachelor training zones, including creation of the high school of engineering	Number of students of elite training zones with average Unified State Exam score exceeding 85, people	-	100	-	200	-	300	400	500	f
Action 7.1.2 Creation of the high school of entrepreneurship, including MBA and MPA programs	Number of high school of entrepreneurship students, people	-	-	-	30	40	60	90	150	f
Action 7.1.3 Switch to educational programs management, introduction of a position of the director of a program	Share of educational programs with a director appointed, in the total number of educational programs of the University, %	-	30	40	50	55	60	70	80	f
<i>Task 7.2 Implementation of new training methods and technologies</i>	<i>mln. RUB</i>	0,000	2,788	20,000	20,000	40,000	40,000	20,000	-	
Action 7.2.1 Development of joint remote educational programs, including implementation of a credit transfer system for e-learning courses of the leading Russian and international online-platforms	Number of e-learning courses credits transferred, units	-	4	10	15	25	30	150	250	f
Action 7.2.2 Expansion of the portfolio of educational programs using technologies of problem-oriented and project education	Share of students enrolled in the educational programs using technologies of problem-oriented and project education, %	-	50	60	70	75	80	90	100	f



Action 7.2.3 Organization of training and obligatory English-proficiency testing of students in compliance with internationally recognized system	Number of students with certified knowledge of English-language, people	-	-	50	50	55	55	60	65	f
Action 7.2.4 Development of Russian- and English-language MOOC courses for Master's programs promotion on the leading international platforms (such as Coursera, EdX, Lektorium, etc.)	Number of students registered for the MOOC, people	-	3000	4000	5000	7000	10000	15000	20000	g
Action 7.2.5 Enhancement of automated academic process management systems, including LMS (Learning Management System)	Share of educational courses transferred into LMS, %	-	25	30	40	45	50	60	70	f
Action 7.2.6 Reduction of the percentage of in-class work while increasing the share of independent student work; introducing a tutoring system	Reduction of the percentage of in-class work, % per year	-	3	3	3	3	3	3	3	e
Action 7.2.7 Formation of a unified educational environment for Bachelor's and Master's programs with a free course selection mechanism available to students. Enabling with an opportunity to choose primary and secondary programs on the late bachelor learning stages	Share of elective courses in the Bachelor's and Master's programs in the total number of courses, %	-	18	18	20	22	25	25	30	f
Action 7.2.8 Enhancement of the faculty members advanced training system	Number of faculty members, who mastered new educational technologies, %	-	30	35	40	45	50	50	55	e
<b>SI 8 Increasing the attractiveness of Krasnoyarsk agglomeration to enhance the competitiveness of Siberia</b>	<b>mln. RUB</b>	<b>9,050</b>	<b>92,069</b>	<b>111,500</b>	<b>111,500</b>	<b>95,500</b>	<b>95,500</b>	<b>70,000</b>	<b>70,000</b>	

<i>Task 8.1 Modernization of the innovative environment of SibFU for development of high-tech entrepreneurship in compliance with the best world practices</i>	<i>mln. RUB</i>	9,050	90,950	106,000	106,000	88,700	88,700	56,300	56,300	
Action 8.1.1 Creation of mechanisms of encouragement of innovative entrepreneurship, including development of the policy of recording and exploiting intellectual property and development of business incubator and innovative centers of the University	Share of students and FRS involved in the innovative and entrepreneurial activities, %	-	7	8	10	13	15	15	15	h
Action 8.1.2 Creation of new structural divisions (innovative ecosystem's elements) for realization of joint projects in top-priority development areas in collaboration with Russian and international companies	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	-	12	14	16	19	22	27	40	h
Action 8.1.3 Organization of joint partnerships with innovative ecosystem actors on the municipal, national and international levels	Share of earnings from research and development commercialization in the total value of research and development, %	-	1	2	3	4	5	8	8	h
Action 8.1.4 Providing marketing of applied research and foresight of the University's activities	Share of income from non-budgetary sources in the University revenue structure, %	-	29,5	30	33	34	35	38,5	41	b

<i>Task 8.2 Assistance in the development of Krasnoyarsk as an international center of business activity for resource extraction and development of Siberian territories</i>	<i>mln. RUB</i>	0,000	1,119	5,500	5,500	6,800	6,800	13,700	13,700	
Action 8.2.1 Realization of activities aimed at enhancement of attractiveness of Krasnoyarsk and Siberia	Number of employees who have participated in the image events of Krasnoyarsk Region and Siberia, people	-	50	50	50	50	50	50	50	g
Action 8.2.2 Involvement of the University's students into cultural and charity projects in favour of the city and the region, including adaptation of international students	Number of references to SibFU by the regional mass media in the charity projects context, units	-	70	75	80	80	80	80	100	g
Action 8.2.3 Publication and distribution of English-language analytical reports on Siberia-related topics, including in collaboration with international experts, international academics, businessmen and public leaders	Number of references to SibFU by the international mass media, units	-	-	100	150	200	250	300	400	g
<b>Total amount of financing</b>	<b>mln. RUB</b>	<b>51,215</b>	<b>263,485</b>	<b>552,000</b>	<b>552,000</b>	<b>730,500</b>	<b>730,500</b>	<b>1422,200</b>	<b>1384,200</b>	

### 3. Additional activities

#### 3.1. Mandatory activities on the 2016-2017 biennium.

№	Mandatory activity	Deadline	Planned result	Note
1.	For universities in the status of the state budget educational institutions, change of the type of organization that has a university: from the state budget organization to the state autonomous organization	done	–	
2.	Establishing the procedure for appointing the head of organization (the rector) by the founder, which provide for a prior competitive selection in the form of an open international competition, in which the composition of the tender commission determined by <a href="#">Ministry of Education and Science of the Russian Federation</a> (if it is a founder), or it is composed of representatives of the <a href="#">Ministry of Education and Science of the Russian Federation</a> and the tender documentation is agreed by <a href="#">Ministry of Education and Science of the Russian Federation</a> (for the organizations in which the Ministry is not the founder)	2nd half of 2016	The procedure was established	
3.	Changes in the Statute and/or in the internal regulatory documents of the organization and current labor contracts of head of the organization (the rector) and his deputies (vice-chancellors), providing the achievement of indicators of approved participant's development programs, as well as the procedure for evaluating (or with the participation of <a href="#">Ministry of Education and Science of the Russian Federation</a> for the organizations in which <a href="#">Ministry of Education and Science of the Russian Federation</a> is not the founder) the effectiveness of the director and his deputies by the founder	2nd half of 2016	The procedure was established	
4.	Presentation of financial statements in accordance with International Financial Reporting Standards	2nd half of 2016	–	
5.	Certified by an auditor financial statements submitted in accordance with International Financial Reporting Standards.	2nd half of 2016	–	
6.	Annual data providing at least in one of the following two international rankings: QS, THE	done	–	Data acquisition
7.	Obtaining of positions, at least in one of the following two international rankings: QS, THE	done	–	
8.	Introduction of, based on performance criteria of academic activities, the system of fixed-term contracts with the employees of the faculty, which takes into account these criteria for a contract extension and the formation of the variable part of the faculty wage	done	–	The system of fixed-term contracts was introduced in 2014

### III. Appendices

#### Appendix 1. Funding, RUB

№		Planned expenses							
		2016				2017		2018	
		Total		Including the 1st half of year		Total	Including the 1st half of year	Total	Including the 1st half of year
1.	Funding of 5-100 Competitiveness Enhancement Program Mandatory Activities: Subsidy and Non-Government	Subsidised	Non-Government	Subsidised	Non-Government	Subsidised and Non-Government	Subsidised and Non-Government	Subsidised and Non-Government	Subsidised and Non-Government
	Total, including:	150000000,00	164700000,00	0,00	51215000,00	1104000000,00	552000000,00	1461000000,00	730500000,00
	a) Establishing a succession pool for senior university management, attracting specialists with experience in international and Russian Universities and research organizations	20476618,00	27015000,00	0,00	13,027015000,00	117000000,00	58500000,00	173600000,00	86800000,00
	b) Recruiting more youthful	34480384,00	1400000,00	0,00	1400000,00	227000000,00	113500000,00	330000000,00	165000000,00

	faculty members and researchers with time spent and know-how gained in academic and research spheres, in leading international and Russian Universities and research organizations								
	c) Putting into force a number of international and internal academic mobility programs for faculty and researchers (internships, advanced training, professional re-training, exchange programs, etc.)	53083700,00	750000,00	0,00	750000,00	23000000,00	11500000,00	30000000,00	15000000,00
	d) Improvement of tertiary education – postgraduate programs and doctorates	6347500,00	0,00	0,00	0,00	18000000,00	9000000,00	13600000,00	6800000,00
	e) Supporting	20798400,00	2700000,00	0,00	2700000,00	260000000,00	130000000,00	248400000,00	124200000,00

	undergraduates, graduates, interns and young faculty members and researchers								
	f) Development of joint educational programs with leading international and Russian Universities and research organizations	5975036,00	0,00	0,00	0,00	84000000,00	42000000,00	160000000,00	80000000,00
	g) Recruiting international students to study in Russian Universities, including joint (double degree) programs with international Universities, and applicants who showed creative abilities and interest in science (research and development) activities	8838362,00	5335000,00	0,00	3500000,00	144000000,00	72000000,00	173800000,00	86900000,00
	h) Fundamental and applied	0,00	127500000,00	0,00	15850000,00	231000000,00	115500000,00	331600000,00	165800000,00

	scientific research in collaboration with Russian and international organizations:								
	<i>R&amp;D projects with the involvement of leading Russian and international researchers as project leaders and/or projects in collaboration with advanced scientific organizations, including the option of setting up structural units at participating universities</i>	0,00	27500000,00	0,00	6800000,00	135000000,00	67500000,00	246600000,00	123300000,00
	<i>R&amp;D projects together with Russian and international high-tech organizations, including the option of setting up structural units at participating universities</i>	0,00	100000000,00	0,00	9050000,00	96000000,00	48000000,00	85000000,00	42500000,00



2.	Funding of 5-100 Competitiveness Enhancement Program Additional Activities: Non-Government	0,00	0,00	0,00	0,00	0,00	0,00
3.	Funding of 5-100 Competitiveness Enhancement Program: Other sources	0,00	0,00	0,00	0,00	0,00	0,00
4.	Total amount of subsidy	150000000,00					

## **Appendix 2. Methodology for calculating additional indicators**

### **Methods of calculating additional indicator 1.**

The average age of the academic and teaching staff is calculated based on the

following formula:  $\frac{\sum_{i=1}^n \text{Rate}_i * \text{Age}_i}{n}$ , where  $\text{Age}_i$  is the age of faculty,  $\text{Rate}_i$  is their salary and n is the total labor costs. The data on the number of the academic and teaching staff and age of faculty is provided by the university on the basis of the personnel department database.

### **Methods of calculating additional indicator 2.**

Calculation of the volume of ongoing research per faculty is based on the

following formula:  $\frac{m+p}{n}$ , where m is the target subsidies budget implementation (in the areas of scientific research), p is the cost of scientific research in income-generating areas of activity and n is the average number of academic and teaching staff of the university. The data is taken from the target subsidies budget implementation and the revenues and expenditures for scientific research at the expense of income-generating activities sections of the university budget.

### **Methods of calculating additional indicator 3.**

Calculation of the share of the academic and teaching staff with Hirsch index

above 10 is based on the following formula:  $\frac{m}{n}$ , where m is the number of the academic and teaching staff with Hirsch index above 10, and n is the average number of the academic and teaching staff of the university. Hirsch index data of SibFU academic and teaching staff is taken from the reference and bibliographic science citation databases of the Web of Science and Scopus.

#### **Methods of calculating additional indicator 4.**

Calculation of the share of Master's degree students with Bachelor's or specialist degrees of other universities is based on the following formula:  $\frac{m}{n}$ , where m is the number of the Master's degree students with Bachelor's or Specialist degrees of other universities and n is the total number of Master's degree students. The data is provided by the university on the basis of the copies of the enrolled to the Master's programs students' diplomas which are stored at the educational department.

#### **Methods of calculating additional indicator 5.**

Specifies the position (range) in the overall rankings, published on the website of the corresponding rankings:

1. Webometrics – <http://www.webometrics.info/>
2. SCImago – <http://www.scimagoir.com/>
3. Worldwide Professional University Ranking (RankPro) – <http://www.cicerobook.com/en/ranks>