

Ministry of Education and Science of the Russian Federation

AGREED AND ACCEPTED

APPROVED

by the Vice-Minister of Education
and Science of the Russian
Federation

by the Rector of the St.Petersburg
State Electrotechnical University
(ETU)

_____ A. Povalko

_____ V. Kutuzov

_____ 2013

_____ 2013

ROAD MAP

for Implementation of the Programme

aimed to Improve Competitiveness of

St Petersburg Electrotechnical University "ETU"

among Leading Global Research and Educational Centres

for 2013- 2020 years

St.Petersburg, 2013

LIST OF EXECUTORS

1. Vladimir M. Kutuzov, Dr.Sc., Professor, Rector
2. Viktor N. Sheludko, Ph.D., Associate Professor, Senior Vice-Rector
3. Michael Yu. Shestopalov, Ph.D., Associate Professor, Vice-Rector for Research
4. Vladimir N. Pavlov, Ph.D., Associate Professor, Vice-Rector for Academic Affairs
5. Victor A. Tupik, Dr.Sc., Associate Professor, Vice-Rector for International Affairs
6. Sergey V. Mamistov, Ph.D., Vice-Rector for Administrative and Maintenance Affairs
7. Yury A. Sklyarsky, Ph.D., Associate Professor, Vice-Rector
8. Vadim F. Ryabov, Deputy to the Senior Vice-Rector
9. Nikolay G. Ryzhov, Ph.D., Associate Professor, Deputy to the Vice-Rector for Research
10. Viktor N. Malyshev, Dr.Sc., Professor, Dean for the School of Radio Engineering and Telecommunications
11. Michail S. Kupriyanov, Dr.Sc., Professor, Dean for the School of Computer Technologies and Informatics
12. Alexander V. Solomonov, Dr.Sc., Professor, Dean for the School of Electronics
13. Viktor V. Putov, Dr.Sc., Professor, Dean for the School of Electrical Engineering and Automation
14. Yuri V. Filatov, Dr.Sc., Professor, Dean for the School of Information, Measurement and Biotechnical Systems
15. Sergey A. Stepanov, Ph.D., Associate Professor, Dean for the School of Economics and Management
16. Victor V. Luchinin, Dr.Sc., Professor, Head of the Micro- and Nanoelectronics Department

17. Boris A. Kalinikos, Dr.Sc., Professor, Head of the Physical Electronic and Technology Department
18. Alexey S. Ivanov, Ph.D., Associate Professor
19. Sergey O. Shaposhnikov, Ph.D., Associate Professor
20. Olga Yu. Belash, Ph.D., Associate Professor, Director of the Marketing Center
21. Maria V. Pavlovskaya, Ph.D., Associate Professor, Head of International Activity Department
22. Dmitry V. Kholodnyak, Ph.D., Associate Professor, Head of International Projects Department
23. Maria A. Kiseleva, Head of International Academic Mobility Department
24. Alexey A. Pogodin, Ph.D., Associate Professor, Head of the Post-Graduates and Doctoral Studies Department
25. Taras V. Kustov, Ph.D., Director of the Institute of the Continuous Education
26. Vladimir G. Pavlovskikh, Head of Publishing Office
27. Yury S. Tatarinov, Ph.D., Associate Professor, Head of IT Department
28. Alexander V. Arseniev, Head of Social Department
29. Sergey A. Kirillov, Head of PR Department

PricewaterhouseCoopers Russia B.V. has consulted in documents preparation

The main document text consists of 46 pages

Appendixes in amount of 5 on 54 pages

Rector

Vladimir M.Kutuzov

St.Petersburg State Electrotechnical

University (ETU)

October 15, 2013

Contents

1.	Target indicators of the University and methods of their achievement.....	5
1.1	University goal and target indicators	5
1.2	Target model of the University	9
1.3	Analysis of main gaps	25
1.4	Strategic initiatives.....	34
2.	Road Map	46
2.1	Mandatory activities for 2013	46
2.2	Road map 2013-2020	50
2.3	Quick wins 2013	65
2.4	Quick Wins, first 6 months of 2014.....	70
2.5	Quick Wins, second 6 months of 2014	75
3.	Appendixes.....	83
	Appendix 1. The calculations principles for the target indicators	84
	Appendix 2. Funding through Subsidy	91
	Appendix 3. Consolidated table of financing.....	96
	Appendix 4. Benchmarking analysis data.....	99
	Appendix 5. Detailed action plan of activities “Road Map” for 2013-2014	101

1. Target indicators of the University and methods of their achievement

1.1 University goal and target indicators

The mission of the University as an educational, research and cultural centre is to ensure high level of professional training and development of social and moral qualities of graduates based on:

- focused acquiring, accumulation and dissemination of knowledge of nature and society;
- efficient organisation and high quality of research in the area of electronics, electric and radio engineering, information technologies, automation and control, biomedical engineering, management, human sciences;
- safeguarding and expanding public moral, cultural and scientific values.

Strategic goal of the University is to set up a research, educational and innovative cluster, the core of which will be the University comparable in terms of its principal features to the best global universities and becoming one of the leading world educational and intellectual centres. This strategic goal should be achieved based on leadership in the educational and research spheres of specialised areas of fundamental and applied sciences in priority directions ensuring a considerable contribution of the University to development of high-tech sectors of national economy, science and education.

As a result of implementation of the Programme for Improvement of International Competitiveness, the University should become:

1. A research and educational core of an international innovative cluster in the area of electronics, radio engineering, telecommunications, tool engineering, ensuring the world-class level of education, intellectual products and developments based on multi-disciplinary and disruptive research in top-priority international areas.

2. The systemic basis for a high-scale and high-quality training of masters and postgraduates (MS and PhD) focused on practical application of their

fundamental and technical knowledge by bringing the contents and quality of educational programmes to the level of highest international standards, based on integration of training, research, entrepreneurship and innovations.

Achievement of the goals set up in the Programme for Improvement of Competitiveness is described in quantitative terms by the system of target indicators, the annual dynamic of which is provided in *Table 1*. The detailed analysis of reference universities carried out during the stage of the roadmap development resulted in some changes (upwards vs the Application) of two basic targets: MI4 and MI5, to comply with the level of Top-100 leading global ratings.

Appendix 1 includes methodologies and sample calculations of basic and supplementary target indicators applied as criteria to measure the University's progress in achieving set goals.

The break-down of target indicators of the Programme to identify the factors driving their dynamic is provided in Appendix 2.

Table 1

Main and additional target indicators of the Program to improve competitiveness of ETU

№	Indicator name	Unit	Indicator dynamic expected by years							
			2013	2014	2015	2016	2017	2018	2019	2020
Main indicators (MI)										
MI1	Ranking Position									
	Global Rankings QS World University Rankings or THE Times Higher Education World University Rankings	position	551-600	501-550	451-500	401-450	301-350	201-250	151-200	51-100
	Subject Ranking QS Electrical & Electronic Engineering or THE Engineering and Technology	position	501-550	451-500	451-500	401-450	301-350	201-250	151-200	51-100
MI2	Number of articles listed in Web of Science and Scopus per one Research and Teaching employee excluding duplications	number	0,51	0,57	0,64	0,81	1,1	1,35	1,7	2,55
MI3	Citation Index per one Research and Teaching employee which is calculated as a summation of articles listed in Web of Science and Scopus excluding its duplications	number	4,2	4,5	5,5	7,0	8,75	10,5	12,75	15,0
MI4	Percentage of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university	%	0,5	1,5	2,5	3,5	4,5	6,0	7,5	9,2
MI5	Percentage of international students following the main educational programs of the University (including students from CIS countries)	%	10,7	11,5	12,5	13,5	13,8	14,0	15,0	16,0
MI6	Average score of the Unified State Exam of the full-time students enrolled at the expense of the federal budget to follow BSc and Specialist degree	score	70,0	71,0	72,2	73,4	74,5	76,0	78,0	80,0
MI7	Percentage of revenues from non-state budget sources in the overall revenue structure of the University	%	52,8	53,8	54,1	56,8	57,6	58,4	59,2	60,0

Additional Indicators (AI)

AI1	Percentage of disciplines delivered in English	%	0,2	0,8	2,5	6	10	15	20	30
AI2	Percentage of the University employees with profound knowledge of English	%	12	15	20	25	30	40	50	60
AI3	Average age of the Research and teaching staff	age	55,2	54,0	53,0	51,5	50,0	49,0	48,0	47,0
AI4	Percentage of articles written with international co-authors	%	12	16	18	20	22	25	28	30

1.2 Target model of the University

Saint Petersburg State Electrotechnical University (ETU) positions itself as a leading research and educational centre generating, disseminating and applying new basic and applied knowledge, based on a deep integration of research, education, innovations and entrepreneurship, to ensure the global competitiveness of high-tech industries of the national economy, subject to projected global trends in education, science, engineering and technologies.

The reference group of leading global universities selected by the University as a benchmark, includes:

Name	2012 general rating position
Uppsala University – UU (Sweden)	81
Karlsruher Institute für Technologie – KIT (Germany)	141
Royal Institute of Technology – KTH (Sweden)	142
Tufts University (USA)	181

Based on the analysis of strategic development and individual indices of the benchmark universities, the target model of the University has been developed as an aggregation of basic qualitative and quantitative features of the University relevant for its stable development and successful implementation of the Programme for Improvement of Competitiveness.

Elements of the University's target model

The target model describes the dynamic, in quantitative and qualitative terms, of the University transformation from its current state to its position in 2020.

The target model is described in five dimensions:

I. Focus

- II. Scientific activity
- III. Education
- IV. Internationalization
- V. Effectiveness

<i>Elements</i>	<i>High-level KPIs 2020</i>	
1 Focus	Number of research platforms	5-6
	Share of income from multidisciplinary platforms	>50%
2 Scientific activity	Number of papers listed in WoS and Scopus	2800
	The percentage of papers written with international co-authors	30%
	Citation index per one Research and teaching employee	15
3 Education	Number of students (BSc, MSc and post-graduates)	6000/2500/600
	Number of Research and Teaching staff/Academic staff (FTE)	1100/800
	Number of Educational programs (Higher/Continuing education)	80/40
4 Internationalization	Percentage of international students	16,0%
	Percentage of international Research and Teaching staff	9,2%
	Number of educational programs in English	40
5 Effectiveness	Annual budget	Rub 6,5 bln
	Percentage of income from research	50%
	Percentage of income from off-budget sources	60%

I. Focus

ETU, a "focused" university. The strategy of focussing on priorities means concentration of all resources and potential of the University and of its strategic partners in priority areas of research and education where ETU may improve its competitiveness and gain leading positions. Unlike classic and polytechnical universities, a specialised electrotechnical university has a limited number of specialised research and educational areas, where competitiveness should be ensured, and a limited number of industries in which the University is striving to gain leading positions. Therefore, the effect from focusing is expected to be greater for ETU than for a wider-profile university.

The Programme to Improve Competitiveness of the University provides for assignment of not more than six priority high-tech research and educational areas identified and approved by the Academic Council of the University as research and educational platforms.

The most promising from the prospective of achieving strategic objectives and "quick wins" in the course of implementation of the Programme for Improvement of Competitiveness are **multi-disciplinary** research and educational areas, including:

- *"Bionic and microsystem robotics and biomedical systems for human being";*
- *"Generation, transformation, recuperation and transmission of electromagnetic energy in a wide spectrum bandwidth".*

Other research and educational areas qualify as breakthrough ones. Successful outcomes in such areas will result in new technologies, materials and devices with new features. These areas include:

- *"Technologies for new electronic components";*
- *"Technologies for novel and renewable energy sources and energy saving";*
- *"Technologies and software for distributed high performance computing systems";*
- *"Technologies for information, control and navigation systems".*

In the course of implementation of breakthrough research projects, a part of them will become multi-disciplinary. Specifically, in the area of "Information, management and navigation technologies", it is planned to create in 2014 **the first world** two-dimensional precision big laser gyroscope, which, once launched, will allow performing unique high-precision measurements of fluctuations of the Earth daily rotation, polar motions and movements of Earth crust. Integration of the Russian big gyroscope in a common network of precision big one-dimensional gyroscopes located in New Zealand, Germany, Italy and USA will make it possible

to carry out multi-disciplinary research projects with researchers from the above countries in such areas as radioastronomy, seismology and geomonitoring.

The principle of focusing is closely related to cooperation with businesses being global leaders in new technologies, research and developments. The principle of "**cooperation with leaders**" allows the University to be involved in the highest-quality international cooperation, participate in advanced research and development, obtain access to advanced technologies which is critical for improvement of the University's competitiveness in general and individual teams of researches in particular.

A good illustration of the principle of focus on leaders is the arrangement reached with IBM Research on implementation of a joint research programme in the area of nanotechnologies, information systems and cognitive computations. The agreement on cooperation between ETU and IBM East Europe/Asia LTD involves setting up a project office in November 2013 to manage the programme of joint research and development, interaction with business, PR, intellectual property protection, joint publications. As a basis for cooperation in the area of research and development, international laboratories of IBM in Zurich (Switzerland), Haifa (Israel), Yorktown (NY, USA) and Almadena (CA, USA) were identified where secondments and joint research projects of the University researchers are planned. If research projects are successfully implemented, the agreement provides for setting up in 2015 research satellite laboratories in ETU with the defined area of research and staff. According to Michael Wirth, IBM Business Development Executive Leader, such agreement is a unique project of IBM in Russia and is considered by the company as support of business innovations.

The actual outcome of the focus on leaders is the forthcoming launch of a joint laboratory of Company "Beneq Oy" and ETU scheduled for 15 November 2013, the principal areas of operation of which are research, development and testing of industrial application of Atomic Layer Deposition (ALD) method with the purpose of implementation of thin-film technologies in goods of various applications. Beneq Oy is a global leader in thin-film technologies. The state-of-

the-art technological equipment installed by the company in ETU will provide to the University scholars an access to advanced technologies and create environment for commercialisation and transfer of technologies to relevant industries.

The quantitative features of this element of the University target model are:

- the number of priority research and educational areas;
- the share of income from multi-disciplinary research areas.

Target indicators of the element	2013	2020
A leading global rating (QS World University Rankings or THE Times Higher Education)	-	51-100
Substantive rating (QS substantive rating Electrical & Electronic Engineering or THE Engineering and Technology)	-	51-100

Element top level KPI	2013	2020
Number of research areas	17	5-6
Income from multi-disciplinary platforms	approx. 30%	more than 50%

II. Research activity

ETU, a research university. Fundamental and applied research is the key component of improvement of qualification and competitiveness of the University's research and teaching staff, the principal element of an efficient educational technology and the core of the process of generation and application of new knowledge. The outcome of research is the basis for regular update and improvement of the contents of principal and supplementary training programmes. The core of the faculty of a research-oriented university is lecturers totally involved in research and development along with students.

By 2020, the target structure of research-and-educational staff staff will include:

- about 800 lecturers involved in research, including at least 100 professors involved in research and at least 80 foreign lecturers,

- about 3000 scholars, including at least 20 post docs.

It is proposed that all 5-6 priority areas of multi-disciplinary and disruptive research will be led by leading world renowned scholars with Hirsch index amounting to at least 25.

The infrastructure ensuring the research component of lecturers' and students' activity will be built on:

- new research laboratories and research and educational centres in all priority research and educational platforms of the University;
- all-university shared centres equipped with research facilities and unique world-class experimental units.

To implement the principle of the full working day for lecturers involved in research and for postgraduate and post doctoral students, research jobs will be set up based on the network of laboratories and centres, their number by 2020 reaching at least 1800.

The new effective contract with lecturers involved in research to be introduced in 2014 will include criteria and KPIs for various categories of research and teaching staff. Contracts will set up the system of incentives for successful specific outcomes of research and teaching activities; personal KPIs of research and teaching staff will take into account the number and level of published articles and monographs, manuals and training aids; training high-quality research staff, including PhD; creation of intellectual property and commercialisation of the rights to their application; participation in collegial bodies of business management and public authorities, etc. To set up a favourable and comfortable environment in the University team and to motivate employees involved in research and development, the University intends to ensure transparency of information on performance of each employee, and public acknowledgement of successful research and teaching staff.

ETU, an innovative university. Innovative activity in the University will primarily be focused on commercialisation of the outcome of its research and development activity.

Under the Programme for Improvement of the University Competitiveness, it is proposed to focus the work of the ETU Technology Transfer Centre on identification of competitive outcomes of research projects, with the purpose of their legal protection and commercialisation in foreign markets of science-based products and technologies. Development of the Technology Transfer Centre involves invitation of foreign specialists who have experience in IP commercialisation and legal protection at the international level. Specifically, for this purpose the signing of an agreement and holding a kick-off seminar related to technology transfer and cooperation with foreign enterprises in R&D with a well-known European company Spinverse Oy Ltd (Finland) is scheduled for 15 November 2013. A demonstrative example of the University's cooperation with this consulting firm was setting up a Beneq-ETU joint laboratory in 2013.

To promote innovative activity, the Programme proposes setting up new material, technical and technological facilities for business incubators whose function will be to establish, train and support teams from among the staff and students who wish and are able to commercialise the University's scientific and technical developments followed by incorporation (with involvement of the University) of small innovative enterprises. Small innovative enterprises, on a contractual basis becoming residents of ETU Technology Park, act as accelerators and catalysts of the transfer of developments and technologies to industry. Currently, the ETU Technology Park established in 1988 has 27 small enterprises, from which seven were set up in 2010-2013 under Federal Law No. 217. In the future, the University intends to set up at least two small innovative enterprises annually.

ETU, a corporate university. "Corporate" means a university actively and systematically interacting with large companies and industrial and economic clusters in the area of targeted (specialised, contracted) staff training, research and development.

Currently ETU is a member of the cluster of radioelectronics, medical engineering and hi-tech engineering officially registered with the government of St

Petersburg. The University also participates in the Federal Technological Platforms "National Software Platform", "UHF Technologies", "Ocean Exploration", "Development of Russian LED Technologies".

Agreements on setting up the following two joint research laboratories in 2013 have been reached: "Ultrabroadband terahertz subnanosecond electronics and photonics" with the A. F. Ioffe Physical Technical Institute of the Russian Academy of Science and "New computational, information and communication technologies laboratory (Future CICT lab)" with the Institute of Information Technologies and Automation of the Russian Academy of Science. Interdisciplinary researches in these laboratories will create a critical mass of knowledge and intellectual capital required to join transnational cooperation in research and development in such international flag initiatives as Graphene Flagship Initiative (GPI) in the area of "Science and technology of graphene for nano-electronics" and Guardian Angels for Smarter Life (GA) consortium in the area of "Smart clothes".

Target indicators of the Element	2013	2020
Number of articles listed in Web of Science and Scopus per one Research and Teaching employee excluding duplications	0,51	2,55
Citation Index per one Research and Teaching employee which is calculated as a summation of articles listed in Web of Science and Scopus excluding its duplications	4,2	15,0
Percentage of articles written with international co-authors	12%	30%

Element high-level KPI	2013	2020
Number of articles listed in Web of Science and Scopus excluding duplications, during the year	383	2805
Number of citations by the summation of articles listed in Web of Science and Scopus, excluding its duplications	3	15
Number of articles written with international co-authors	50	842

Element additional KPI	2013	2020
Amount of R&D (Rub, mln)	800,0	3250,0
Productivity per one Research and Teaching employee (Rub, thousands)	910,0	2950,0

III. Education

ETU is a mid-size university under the globally accepted classification. Currently, the modified (recalculated for all educational forms) average number of students is 6000 people. By 2020, it is planned to have about 9100 students, including 6000 bachelors, 2500 masters and 600 postgraduates. Foreign students are expected to make a contribution to this considerable growth (about 1400 people). At the same time, the number of research and teaching staff should be 1100 people, from which 800 represent the faculty which will ensure the student/lecturer ratio of slightly less than 11.

In accordance with the strategy to priority-focusing, the number of principal training programmes for bachelors and masters should amount to about 80, and the programmes of additional professional training updated based on marketing research of specialised market segments and lasting for one year, up to 40.

We plan that at least 90% students in the bachelor-degree programme and all 100% students in the master-degree programme will study in accordance with the priority ("focus") areas determined by the target model. Any areas of bachelor and master programmes not included in focus groups based on the results of expert and analytical studies will be terminated according to the set schedule at the stage of admission of students, or, if appropriate and recommended by experts, will be transformed into priority areas.

ETU, a master-degree university. In a master-degree (postgraduate degree) university, about 50% of admission should consist of masters and postgraduates. The academic nature of master-degree and postgraduate programmes involves improvement of individual component of studies ensuring elite-level training. The training contents and technologies provide for mandatory independent or team research of students. For this end, the University facilities will have research and educational infrastructure; jobs will be created ensuring mass engagement of masters and postgraduates (MS and PhD) in independent research (postgraduate and master-degree course of full working day).

ETU, a university of continuous education. A modern university should provide an opportunity to obtain professional training at any point of one's life. It is important for an advanced support of professional careers of graduates and for satisfaction of requests from business partners related to professional development of their staff in the area of new and disruptive technologies. Competitiveness in the market of educational services of additional professional training has a considerable impact on promotion of the University's profile in Russia and abroad.

To focus in this area, in 2012 the University established the Institute of Continuous Education as a general university infrastructure to implement the Presidential Programme designed to improve the quality of engineering resources. As a result, ETU became one of the leaders in terms of number of implemented programmes selected on competitive basis. In 2012-2013, the number of people attending additional professional educational programmes doubled, which is fully in line with the University's development priorities. In the future, it is planned to increase the number of people attending additional professional education courses up to 500, which will result in the growth of share of proceeds from this activity and improve financial sustainability of the University at the account of diversification of its sources of finance.

Target indicators of the Element	2013	2020
Average score of the Unified State Exam of the full-time students enrolled at the expense of the federal budget to follow BSc and Specialist degree	70,0	80,0

Element high-level KPI	2013	2020
Number of students (BSc/MSc/post-graduates)	4400/ 1215/ 350	6000/ 2500/ 600
Number of Research and Teaching staff/Academic staff	880/750	1100/800
Number of educational programs (Higher/Additional education)	146/15	80/40

Element additional KPI	2013	2020
Percentage MSc and post-graduates enrolled for the first	28%	48%

year of study		
Percentage annually (continuously) updated educational programs (in terms of special disciplines)	20%	60%
Percentage of main educational programs passed international public accreditation	4%	60%
Number of students following additional professional education	180	500

IV. Internationalization

ETU, an international university. Internationalization of research and educational activity of the University is a necessary and critical condition for improvement of its international competitiveness and response to challenges of globalisation. Internationalisation involves addressing such issues as attraction of leading scholars and professors of global renown, creation of comfortable environment for foreign students, researchers and lecturers, qualitative improvement of research and experimental facilities.

A number of tasks and events of the Programme for Improvement of Competitiveness is designed to address this basic element of the University target model, including recruiting of competitive in the global labour market professors and scholars, attraction and retain of post doc researchers, engagement of leading foreign and Russian scholars to management of research and development projects.

On 15 October 2013, the first research laboratory of Powerful and Extreme Electronics in Diamond-Like Materials will be opened in the University, where research will be headed by a leading US world-renown scholar James E. Butler, developer of the technology of chemical production of diamond films and their diagnostics. A number of leading scholars from Germany, Finland, Singapore, Greece, France, Spain, and Scotland have given their consent to come and participate in joint research projects in 2014. Currently, there are five scholars working in the University who received their PhD in foreign universities. By 2020, the proportion of foreign lecturers and researchers will exceed 9%.

The target structure of research and teaching staff in 2020 could be described as follows:

- Number of world-class scholars - at least **five** people;
- Number of foreign professors - at least **15** people;
- Number of post docs - about **30** people;
- Number of Russians with PhD degree - at least **30** people.

Such structure of research and teaching staff is based on fairly high potential of the University scientific and pedagogical schools, the need to reproduce own academic staff and specific areas of the University research and development projects.

ETU, an academically mobile university. Academic mobility of students, postgraduates, lecturers and researchers is a prerequisite for the University internationalisation and its positioning in the global educational environment. A long-term and systematic cooperation with foreign leading universities will improve the image and awareness of the University in the world. New training programmes to be delivered in English, as well as programmes developed together with the leading foreign universities and research centres based on partnership agreements and accredited by international professional and public bodies will facilitate attraction of foreign students and postgraduates.

A successful example of implementation of academic mobility is creation in 2013 of a joint Engineering School based on bilateral agreement with the Technical University of Ilmenau (Germany). Currently, the first joint programme of academic exchange has been developed, and the first group of Russian and German students was formed for inclusive studies in both Universities in 2013/2014 academic year.

In 2013, ETU for the first time has developed two master degree programmes delivered in English. In 2020, there will be at least 40 basic training programmes with lectures delivered in English. The proportion of foreign students should grow up to 16%.

The target structure of foreign students should be the following by 2020:

- Foreign students from CIS – about 1000 people, or 11% of total number of students.
- Foreign students from South-Eastern Asia, India and China – 270 people, or 3.1% of total number of students;
- Foreign students from Latin American countries – 20 people, or 0.2% of total number of students;
- Foreign students from CIS – about 66 people, or 0.7% of total number of students.

Target indicators of the Element		2020
Percentage of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university		9,2%
Percentage of international students following the main educational programs of the University (including students from CIS countries)	10,7%	16%
Percentage of disciplines delivered in English	0,2%	30,0%
Percentage of the University employees proficient in English at a high level	12%	60%

Element high-level KPI	2013	2020
Number of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university	5	101
Number of international students	644	1456
Number of educational programs in English	2	40
Number of the University employees with profound knowledge of English	120	700

Element additional KPI	2013	2020
Percentage of educational programs in English	1,4%	50%
Percentage of joint MSc and post-graduate study programs including “Dual diploma” program	5%	50%
Number of active partnerships with leading international universities	10	25

V. Efficiency

ETU, a financially sustainable university. Towards 2020, the University's consolidated budget will reach not less than RUB 6.6b, which quadruple growth from the budget of 2013. Worth noting in this context is that 50% of the budgetary income will be research and development (R&D) revenues. The plan is to develop the following sources of finance for the overall budget in order to have 60 per cent worth of its revenue generated from non-budgetary sources:

- Research and development for the benefit of Russian corporations to the amount of RUB 2,650m;
- Research on behalf of international organisations and foundations to the amount of RUB 600m;
- Payable education services to the amount of RUB 500m
- Other income including income from the Endowment fund to the amount of RUB 150m

ETU: an efficient university whose efficient management is driven by functions decentralised to levels and types of activity, quality management based on process approach, broader functions assigned to expert/collegiate bodies of management and by using a project-oriented approach to resolving strategic objectives.

There have been expert analyses committees set up lately, encompassing not less than 50% of third-party scientists and industrial specialists, to lead the way in the priority science and education areas for the university. The plan is to add high-profile foreign scientists to those expert analyses committees for priority science and education areas in 2014. The plan for 213 is to form an international academic board under the Programme for the Improvement of Competitiveness of the University. University management will work with the expert analyses committees to determine the policies and areas of research and levels of R&D finance.

With a view to modernising its management system in the course of sharpening its competitive edge under a relevant programme, the university will explore global best practice and use the findings for optimising the university business processes and the structure of administrative and collegiate management.

The plan for 2014 is to implement a framework of **effective contracts** for all categories of scientists, instructors and administrative staff. The personnel will have key performance indicators developed for them to measure the quality they deliver in science, instruction and administration. The KPIs will underlie the calculation of the incentive component in the salaries payable to such university staff. The contracts will also incorporate qualification criteria and job descriptions. Failure to comply with or deviation from those will lead to the abrogation of the contract.

The university migration towards late 2013 from a budget-financed to a self-sustained organisation will entail changes in the structure and functions of university management. In conformity with the federal law, the founder is to establish and formalise a **supervisory board**, form an endowment fund and change the founder's procedure for appointing the university president.

The implementation of the programme for sharpening the university's competitive edge, too, calls for changes in the structure and functions of university management. The plan for 2014 is to establish or upgrade:

- International Relations Department in charge of supporting the operations of foreign instructors, researchers, post docs, administrative staff and selecting and enrolling foreign students and post-graduates;
- Human Resources Department which manages the relations with recruiting agencies, reproduction and training of scientists and administrative staff for succession purposes and manages career development for the young staff members;
- Centre for Post-Graduate and Doctoral Training in charge of full-day training of post-graduates and PhD students, teaming with foreign

universities for developing training programmes for post-graduates and PhD students and providing support in the course of theses defence;

- Language Training Centre under the Institute for Continuous Education to ensure a substantial improvement of English language knowledge for scientists, instructors and administrative staff. The purpose is to develop training programmes to be delivered in English.

ETU is an electronic university. The electronic university provides latest electronic services for education, scientific research, supports internal and external mobility of participants in the education and scientific research processes. The common information environment encompasses:

- Training process management, including standards for discipline, education programmes, departments, faculties and university at large as well as individual plans for students and instructors;
- Management of research and development process, including intellectual deliverables;
- Management of university projects and targeted programmes;
- Management of human resources, including monitoring the performance of all categories of scientists, instructors and administrative staff;
- Building an open-end library/information environment, including Wi-Fi connection in university buildings and hostels;
- Electronic document management in all areas of activities.

Common IT environment and core processes are managed and supported by a powerful SAP/R3 ERP system. The university is currently operating in a designated mode two SAP/R3 modules, i.e. training process management (chair/faculty level) and human resources management.

Target indicators of the Element	2013	2020
Percentage of revenues from non-state budget sources in the overall revenue structure of the University	52,8%	60,0%
Average ages of Research and teaching staff	55,2	47,0

Element high-level KPI	2013	2020
Annual budget, Rub, mln	1600	6500
Percentage of income from research	47,2%	50,0%

Element additional KPI	2013	2020
Percentage of effective employment contracts with the University employees	-	100%
Percentage of managers and Research and Teaching staff appointed on a competitive basis	-	100%
Percentage of the University premises covered by Wi-Fi	10%	100%
Percentage of learning and methodological literature introduced in the electronic open library accessed for students	20%	100%

1.3 Analysis of main gaps

The analysis under way focuses on gaps between the university's status quo and the 2020 targets with reference to the core and supplementary target indicators and high-level KPIs for the target model components. With a view to quantifying the targets for 2020, the findings had been used from analysing four foreign benchmark universities and two technical universities comparable in size and focus with St Petersburg State Electrotechnical University “LETI” in order to determine the qualification threshold for joining the global 100 top universities under general and discipline ratings.

Name	2012 general rating position, QS 2012/13
Uppsala University – UU (Sweden)	81
Karlsruher Institute für Technologie – KIT (Germany)	141
Royal Institute of Technology – KTH (Sweden)	142
Tufts University (USA)	181
Technical University of Denmark	132
Pohang University of Science and Technology – POSTECH (Korea)	97

See Appendix 4 for detailed findings from this benchmarking exercise. See below the findings from detailed analyses of Programme activity impacts on closing the gaps for target indicators and target model KPIs.

Type of indicator	Target indicator, target model KPIs	2013 value	2020 value
Main target indicator	Number of articles listed in Web of Science and Scopus per one Research and Teaching employee excluding duplications	0.51	2.55
Target model KPIs	Number of articles listed in Web of Science and Scopus per year	383	2805
Main target indicator	Citation Index per one Research and Teaching employee which is calculated as a summation of articles listed in Web of Science and Scopus excluding its duplications	3	15
Target model KPIs	Number of citation per one Research and Teaching employee which is calculated as a summation of articles listed in Web of Science and Scopus excluding its duplications	3	15



Reasons for gaps	Corrective action to bridge the gaps	
Insufficient number of world-class researchers	A 1.2.1	Recruiting research and teaching staff with experience at leading Russian and foreign universities and organizations
	A 3.1.2	Conducting R&D under the direction of specially recruited international and Russian scientists and/or jointly with up-and-coming scientific organizations in interdisciplinary fields of research
Immature in-house infrastructure for research	A 6.1.1	Creating and equipping a network of world-class research centres and laboratories in areas related to the University's scientific and educational platforms
Insufficient number of trained personnel at an age mature enough for drawing maximum performance from publication opportunities	A 1.2.2	Hiring and retaining young researchers and teachers, with experience at leading Russian and foreign universities and scientific organizations
	A 1.2.3	Hiring and retaining post-docs, with experience at leading Russian and foreign universities and scientific organizations
No incentives for driving publication activity	MA 9	Design and implementation of a system of short-term (effective) employment contracts with research and teaching staff of the University
Immature international relations/connections	A 1.3.2	International and domestic mobility of the University's research and teaching staff and managers IN/OUT OF leading Russian and foreign universities, and research and technology centres
Weak position in the global scientific information space	A 5.2.2	Representation of the University in international organizations, associations, companies, and boards of foreign universities
	A 1.2.1	Recruiting research and teaching staff with experience at leading Russian and foreign universities and organizations

Type of indicator	Target indicator, target model KPIs	2013 value	2020 value
Main target indicator	Percentage of revenues from non-state budget sources in the overall revenue structure of the University	52.8%	60,0%
Target model KPIs	Percentage of income form research	47.2%	50,0%
Target model KPIs	Number of citation which is calculated as a summation of articles listed in Web of Science and Scopus excluding its duplications	3	15



Reasons for gaps	Corrective action to bridge the gaps	
Insufficient offer / low-appealing fee-payable programmes for basic / supplementary education	A 4.1.3	Design and implementation of educational programmes in English
	A 4.1.2	Design and implementation of joint programmes with leading Russian and foreign universities and organizations
Low demand for R&D products / deliverables	A 3.1.2	Conducting R&D under the direction of specially recruited international and Russian scientists and/or jointly with up-and-coming scientific organizations in multy-disciplinary research platforms
	A 3.1.3	Conducting R&D under the direction of specially recruited international and Russian scientists and/or jointly with up-and-coming scientific organizations in breakthrough fields of scientific research
Immaturity of endowment or sponsorship as a system	M 2.2.2	Creating and filling the endowment fund
	M 2.2.3	Development of a funding mechanism for named professorial chairs and named sponsored scholarship initiatives

Type of indicator	Target indicator, target model KPIs	2013 value	2020 value
Main target indicator	Percentage of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university	0.5%	9,2%
Target model KPIs	Number of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university	5	101



Reasons for gaps	Corrective action to bridge the gaps	
Comparatively low salaries paid to scientists and instructors	MA 9	Design and implementation of a system of short-term (effective) employment contracts with research and teaching staff of the University
No core disciplines taught in English	A 4.1.3	Design and implementation of educational programmes in English
	A 4.1.2	Design and implementation of joint programmes with leading Russian and foreign universities and organizations
Immature in-house infrastructure for research	A 6.1.1	Creating and equipping a network of world-class research centers and laboratories in areas related to the University's scientific and educational platforms
The student's level of English is insufficient for instruction in English	A 4.1.1	Design of new educational programmes, including programmes developed in the partnership with international universities and teachers
Immature international relations/connections	A 1.2.1	Recruiting research and teaching staff with experience at leading Russian and foreign universities and organizations

Type of indicator	Target indicator, target model KPIs	2013 value	2020 value
Target model KPIs	Number of students (BSc/MSc/post-graduates)	6020 (1215) 350	6000/ 2500/ 600
Target model KPIs	Number of research and teaching staff/academic staff	880/750	1100/800
Target model KPIs	Number of educational programmes (Higher/Additional education)	146/15	80/40



Reasons for gaps	Corrective action to bridge the gaps	
No requisite infrastructure in place to accommodate greater numbers of students	A 6.1.3	Creating and developing an integrated educational complex at the University
No requisite infrastructure in place for research	A 6.1.1	Creating and equipping a network of world-class research centres and laboratories in areas related to the University's scientific and educational platforms
Sustainable numbers of students and levels of R&D	A 1.2.1	Recruiting research and teaching staff with experience at leading Russian and foreign universities and organizations
Education process is insufficiently focused	A 6.1.3	Creating and developing an integrated educational complex at the University
Immature system of additional professional training (APT)	A 4.3.1	Design and implementation of competitive Additional Professional Education programmes in priority areas of scientific research

Type of indicator	Target indicator, target model KPIs	2013 value	2020 value
Additional target indicator	Percentage of disciplines delivered in English	0.2%	30,0%
Main target indicator	Citation Index per one Research and Teaching employee which is calculated as a summation of articles listed in Web of Science and Scopus excluding its duplications	3	15



Reasons for gaps	Corrective action to bridge the gaps
No core disciplines taught in English	A 4.1.3 Design and implementation of educational programmes in English
	A 5.1.1 Promoting educational programmes in English for foreign and Russian citizens
The student's level of English is insufficient for instruction in English	A 4.1.1 Design of new educational programmes, including programmes developed in the partnership with international universities and teachers
Insufficient number of professors and instructors fluent in English	A 1.2.1 Recruiting research and teaching staff with experience at leading Russian and foreign universities and organizations
	A 1.3.4 Organize large-scale English-language training for the University's research, teaching and administrative staff

Type of indicator	Target indicator, target model KPIs	2013 value	2020 value
Main target indicator	Percentage of international students following the main educational programmes of the University (including students from CIS countries)	10.7%	16,0%
Main target indicator	Citation Index per one Research and Teaching employee which is calculated as a summation of articles listed in Web of Science and Scopus excluding its duplications	3	15



Reasons for gaps	Corrective action to bridge the gaps
No core disciplines taught in English	A 4.1.3 Design and implementation of educational programmes in English
	A 4.1.2 Design and implementation of joint programmes with leading Russian and foreign universities and organizations
Insufficient number of internationally certified education or 'double degree' programmes	A 4.1.5 International professional and public accreditation of educational programmes
Low variance of education paths	A 4.1.2 Design and implementation of joint programmes with leading Russian and foreign universities and organizations
	A 4.1.1 Design of new educational programmes, including programmes developed in the partnership with international universities and teachers
Administrative staff, professors and instructors are insufficiently skilled to deal with foreign students	A 1.3.4 Organize large-scale English-language training for the University's research, teaching and administrative staff
No structural units in place to promote education services in the global market or recruit foreign students	A 5.1.1 Promoting educational programmes in English for foreign and Russian citizens
Insufficient infrastructure in place (i.e. no additional classrooms, shortage of hostel accommodation space, etc.)	A 6.2.1 Modernizing University dormitories on the basis of energy-efficient technologies for a comfortable, safe living environment
Foreign students' poor knowledge of Russian	A 6.1.3 Creating and developing an integrated educational complex at the University
Insufficient number of remote education programmes implemented for the benefit of CIS countries	A 6.3.2 Deploying modern e-learning services to support the mobility of participants of the educational process

Type of indicator	Target indicator, target model KPIs	2013 value	2020 value
Additional target indicator	Percentage of the University employees with profound knowledge of English	12.0%	60,0%
Main target indicator	Citation Index per one Research and Teaching employee which is calculated as a summation of articles listed in Web of Science and Scopus excluding its duplications	3	15



Reasons for gaps	Corrective action to bridge the gaps
Insufficient number of professors and instructors fluent in English	A 1.2.1 Recruiting research and teaching staff with experience at leading Russian and foreign universities and organizations
	A 1.3.4 Organize large-scale English-language training for the University's research, teaching and administrative staff
Insufficient number of administrative staff members fluent in English	A 4.1.1 Design of new educational programmes, including programmes developed in the partnership with international universities and teachers

Type of indicator	Target indicator, target model KPIs	2013 value	2020 value
Main target indicator	Average score of the Unified State Exam of the full-time students enrolled at the expense of the federal budget to follow BSc and Specialist degree	70.0	80.0



Reasons for gaps	Corrective action to bridge the gaps
Insufficient effort exerted to retain young talents for the university and insufficient propaganda of the university	A 4.1.6 Design and introduction of educational programmes to prepare for entry and study at the University
	A 4.1.1 Design of new educational programmes, including programmes developed in the partnership with international universities and teachers
Declining level of secondary school students' knowledge of mathematics and physics	A 4.1.6 Design and introduction of educational programmes to prepare for entry and study at the University

Type of indicator	Target indicator, target model KPIs	2013 value	2020 value
Additional target indicator	Average age of research and teaching staff	55.2	47.0



Reasons for gaps	Corrective action to bridge the gaps		
Comparatively low salaries paid to scientists and instructors	MA 9	Design and implementation of a system of short-term (effective) employment contracts with research and teaching staff of the University	
Young professors and instructors have insufficient incentives to stay 'on board' at the university	A 1.2.2	Hiring and retaining young researchers and teachers, with experience in science and researching as well as in educational areas at leading Russian and foreign universities and scientific organizations	
Young professors and instructors have insufficient prospects or incentives for career development	A 1.1.2	Implementing measures to build a talent pool for the University's executives, develop career ladders and design individual career paths	

Type of indicator	Target indicator, target model KPIs	2013 value	2020 value
Main target indicator	Global Rankings QS World University Rankings	-	51-100
Main target indicator	THE Times Higher Education World University Rankings	-	51-100



Reasons for gaps	Corrective action to bridge the gaps
Aggregated reasons as detailed above	Activities under strategic initiatives of the Road Map

1.4 Strategic initiatives

Proposed by the university to close the gap between the status quo and the university target model, a comprehensive set of activities can be structured as six strategic initiatives:

- *Development of staff potential (“Human Resources”)*
- *Improvement of the management system based on the best international practices (“Effective governance and finance”)*
- *International cooperation in the R&D (“Science and Innovation”)*
- *Integration into the global educational environment (“Education”)*
- *Winning the leading positions and create the positive international brand (“World-wide recognition”)*
- *Leading development of the infrastructure and creating a comfortable environment (“Environment and infrastructure”)*

Strategic initiative 1 Human Resources	
Task 1.1	Recruitment and retaining of administrative and management staff who are competitive on global labour market
Task 1.2	Recruitment and retaining of faculty members who are competitive on the global labour market
Task 1.3	Efficient use and development of human resources
Strategic initiative 2 Efficient management and financing	
Task 2.1	Modernisation of the university’s management system
Task 2.2	Modernisation of the university’s financing system
Task 2.3	Organisation of change management system
Strategic initiative 3 Science and innovations	
Task 3.1	R&D in priority areas for Russia and the world
Task 3.2	Development of technology transfer and youth-focused innovation entrepreneurship

Strategic initiative 4 Education	
Task 4.1	Development and implementation of competitive programmes for higher professional education
Task 4.2	Improvement of postgraduate and doctoral course activities
Task 4.3	Development and implementation of competitive programmes for advanced professional education
Strategic initiative 5 Worldwide recognition	
Task 5.1	Promotion of the university activity results
Task 5.2	Development of a positive image of the university
Strategic initiative 6 Environment and infrastructure	
Task 6.1	Development of the university research and educational infrastructure at a world level
Task 6.2	Development of a comfortable and attractive university environment
Task 6.3	Development of open information-communication environment "The Electronic University"

See the part 2 of the document for a break-down of the strategic initiatives to tasks and individual activities. Relevant performance indicators for the activities are also shown there. See Appendix 2 for a matrix linking the Road Map activities and areas of subsidy expenditure in keeping with Resolution no. 211 dated 16 March 2013. See Appendix 3 for a consolidated table of the strategic initiatives and tasks for 2013-2014 financing

Programme implementation management model

Set forth hereinafter are the principles underlying the Programme implementation system:

- Project-oriented structure;
- Support the interaction between the university and its strategic partners;

- Make sure that university staff members, government agencies, employer and general public are properly represented in the university and Programme management bodies;
- Make sure that managerial decisions are taken in an atmosphere of openness and that university staff are involved in the Programme implementation.

This Programme implementation system relies on the following guidelines:

- Make sure there is a close link between the performance of all the university units and the Programme target indicators;
- Build teams of professionals and experts to reform the university key management components;
- Develop corporate commitment principles for the university staff to adhere to in order to transform the university;
- Transform the university structure and systems (HR, finance and economy management, IT) in order to give more incentives to the staff;
- Make timely adjustments to the university strategy, objectives and tasks.

The Programme will be implemented to the latest project management standards. Programme implementation will be structured as a multi-level approach to engaging public, collegiate and administrative bodies of university management.

New bodies within the system of university management (Supervisory Board, International Scientific Board)

A Supervisory Board is being established at the University to reflect its transformation into a self-sustained organisation.

The Supervisory Board will encompass representatives of the Founder, representatives of executive government agencies responsible for public property management and general public representatives, including professionally honoured individuals. Founder representatives are to constitute not less than half the total of government agency representatives. University staff representation cannot exceed one-third of the Supervisory Board line-up.

The Supervisory Board decides upon all the issues of strategic importance to the university, such as:

- Amendments and addenda to the University Charter;
- Establishment and liquidation of university branches as well as opening and closing its representative offices;
- University reorganisation and closure;
- Seizure of university property for operative administration;
- University acting as a founder or member of other legal entities;
- University business and financial operations plan;
- Annual audit of university financial statements and selection of an official auditor.

Alongside this, the university has started forming an **International Academic Board**, a collegiate body to support Programme implementation.

As part of its core functions, the International Academic Board is to:

- Monitor Programme implementation and make expert analyses of relevant reports and deliverables;
- Advise the Programme Managing Committee on strategic issues;
- Provide recommendations on ways to internationalise university operations;
- Assist the university in retaining foreign instructors, staff, students and experts from the international science and education community;
- Assist the development of cooperation between the university and leading global training and research centres;
- Promote university accomplishments internationally.

Membership on the Board is competitively granted to internationally recognised experts meeting the following criteria:

- Untarnished reputation and international recognition;
- Academic experience in areas of strategic importance to the university;
- Managerial experience in science and university education;

- Understanding trends and prospects of scientific and university education development.

The Board is to encompass 12 to 13 members, including its chairperson. The limited line-up reflects each expert's time resource limitations and the need for dividing labour among the experts as well as having to retain experts from a wide range of countries. The university president selects individual members for the Board and submits the list to the Scientific Committee for approval and validity within the term of the Programme. The Scientific Committee also approves amendments to the Board's line-up as proposed by the university president.

Plenary meetings of the Board are to take place not less than semi-annually. Board members are responsible for remote expert reviews of Programme deliverables and reports as well as advice to the Programme Managing Committee using, inter alia, video conference technology. The international projects department is to take charge of day-to-day operations of the Board and play the role of the Board secretariat.

Setting up a Project Management Office

The University has already completed its change management system in terms of operation modes in the course of developing the 2020 Road Map:

- The Programme Managing Committee, as the top body for running the Programme, will be formed on the basis of a cross-functional working group responsible for preparing the university's request for proposal (RFP) and a Plan of Activities (for the Road Map).
- Responsible for implementing individual sets of activities, the working groups have already been formed to implement the 2020 Road Map strategic initiatives:
 - Human Resources Working Group
 - Management and Finance Working Group
 - Education Working Group

- Science and Innovation Working Group
- International Recognition Working Group
- Environment and Infrastructure Working Group

As the core component, the Project Management Office (PMO), now being established, will support structurally the change management exercise. Encompassing staff members with clear-cut responsibilities of which day-to-day Change Management Programme implementation, the Project Management Office is a self-sustained body. Unlike the Programme Managing Committee or the Working Groups, the PMO does not combine its core operations with any other assignments.

A double-level project management office design (Programme manager plus project managers) as part of the change management structure (see Figure 1), has been recognised as the most effective tool for implementing change management programmes in medium-sized organisations with a medium-scope of cross-functional activities to complete.

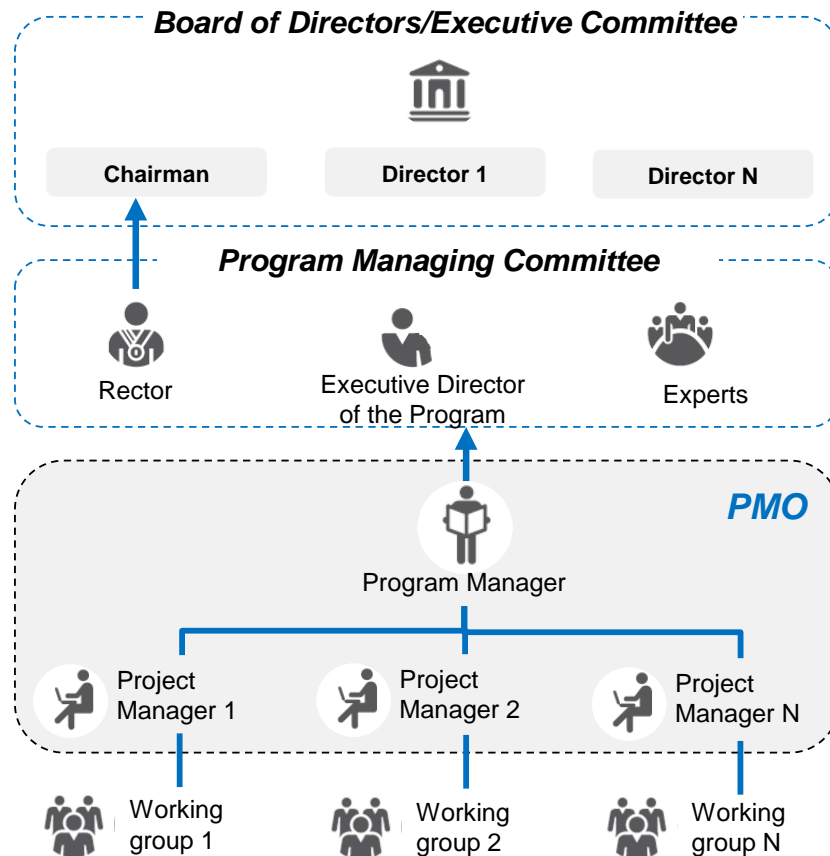


Figure 1 PMO design

As part of such a system, the **top executive body**:

- Agrees the strategy and plan of communications;
- Approves the structure of strategic initiatives and activities;
- Effects strategic management of the core resources.

In its turn, the **Programme Managing Committee**:

- Prioritises initiatives/projects for implementation;
- Assigns the owners;
- Puts together project groups;
- Approves the transformation master plan;
- Analyses activity progress/status reports;
- Revises the project portfolio and takes drastic/urgent decisions regarding projects;
- Approves the results and validates the project completion status.

Project office:

- Proposes a list of initiatives/activities;
- Assigns project managers;
- Develops implementation plans for individual projects;
- Plans project resources and assesses the validity/relevance of retaining third-party experts, where applicable;
- Monitors and controls the project implementation plans;
- Resolves project implementation problems as they arise, escalates critical issues to the Managing Committee level.

Working Groups and field units of the university within such a system:

- Propose projects/initiatives;
- Support the development of master plans and resource planning;
- Participate in developing work plans;
- Implement plans of individual projects;

See the diagram in Figure 2 for more detailed PMO functions at different stages of the Change Programme.

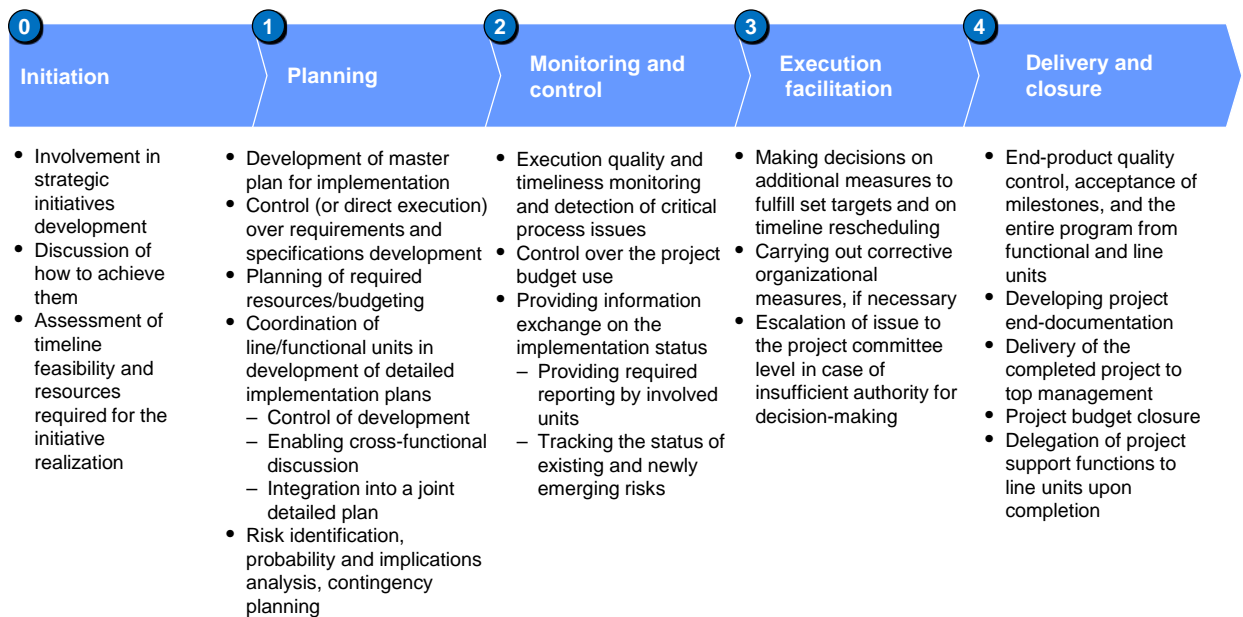


Figure 2 PMO functions

Importantly enough, PMO takes charge not all but key and cross-functional projects of the Programme. Upon the approval of the Road Map, the structure of the activities needs to be finalised to establish the PMO terms of reference/scope of authority.

Change management

The approach applied at Stage 4 is the one to be rolled out to ensure a successful change management implementation.

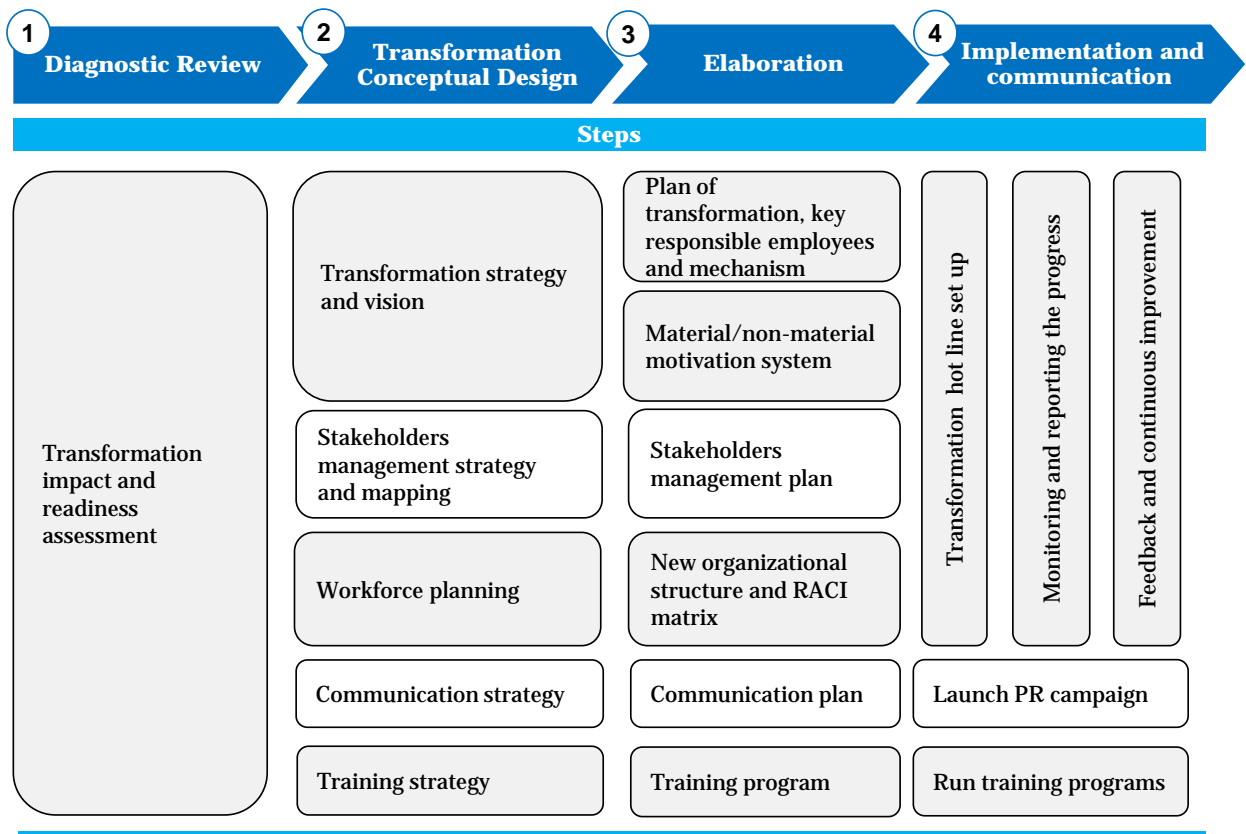


Figure 3 Change management framework

The plan is to implement the following at the **Diagnostic Review** stage:

- Analyse the university organisation structure, the decision-taking process, corporate culture and the resource requirement for implementing the transformation;
- Appraise the performance of managers, rank-and-file staff and potential participants of the transformation process in order establish the level of university maturity for change;
- Determine the level of resources required to implement the transformation and identify the key persons to take charge of implementing the change;
- Charter a map of stakeholders to be affected by change.

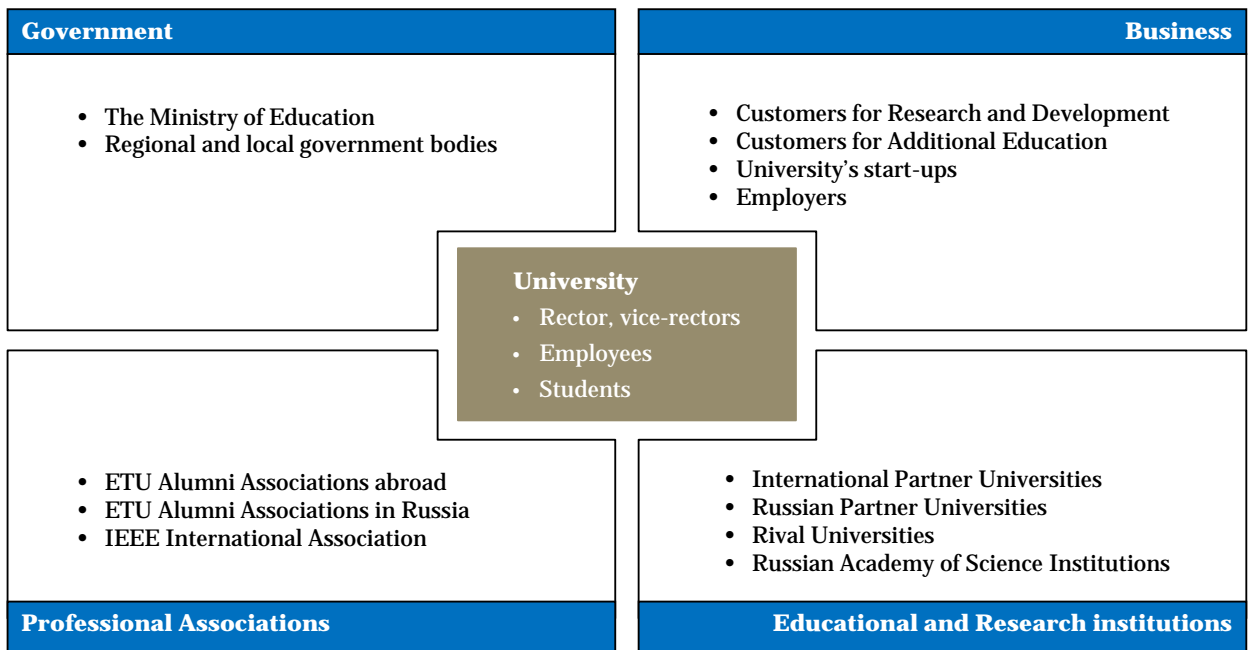


Figure 4 Stakeholders mapping sample

- SWOT: an analysis of internal and external drivers of change and potentially potent of affecting the Programme implementation;
- Identify the informal leaders potentially to act as "change agents"; assess their level of interest in change;
- Assess the training requirement (Development Needs Analysis, DNA);
- Analyse the risks involved and develop tools (safeguards) to minimise them;

The following steps will be implemented at the **conceptual design** stage:

- Develop a vision and specific/measurable targets for transformation for uniform understanding by all the change process participants;
- Develop a concept for a PR campaign, including its strategy and communication plan, with a view to having effective communication channels in place;
- Involve the university management to ensure support at all stage of the transformation process;
- Appoint the change leader to steer the process strategically;
- Determine the level of change required strategically for the organisation structure and plan the quality and quantity requirement for human resources;

- Develop a strategic plan for stakeholder involvement; determine communication methods for diverse groups (e.g. students, university staff, partnering universities, professional associations, business partners, etc.).

The plan is to develop the following at the **elaboration** stage:

- Detailed plan of transformation, including a list of people in charge of implementing steps at each transformation stage and change integration mechanisms;
- Effective system of tangible and intangible incentives to motivate different groups of the change process participants;
- System of indicators/metrics to measure the performance in achieving the official objectives;
- Operating plan for managing relations with the stakeholders;
- New organisation structure for the university;
- RACI responsibilities matrix;
- Operating communication plan chartering effective communication channels for individual stakeholder groups;
- Plan for training different transformation process participants (management, PMO, project managers, etc.). The plan is to be developed on the basis of training requirement findings, including the development of methods/formats of instruction (e.g. seminars, master classes, individual meetings, e-learning, etc.);
- Plan for intermediate results, criteria for assessing the performance in achieving relevant results (target management);
- Regular deliverables for different groups of the transformation process participants and stakeholders.

The following initiatives will be put into reality at the **implementation and communication** stage:

- Implement plans for communication and training; keep track of the intermediate results;

- Set up a service unit to support the process of transformation which is expected to supply on a timely basis day-to-day information, resolve ad hoc issues and, where required, escalate problems to the PMO level;
- Establish a reliable feed-back communication channels at each transformation stage;
- Use the university in-house information system for building in it a database for recorded knowledge of the process and results of the change management implementation;
- Prepare regular deliverables for different groups of the transformation process participants and stakeholders;
- Use the feedbacks as the basis for subsequent adjustments, where required, to individual activities/steps/models/mechanisms of implementation.

2. Road Map

2.1 Mandatory activities for 2013

Activities	Deadline for implementation	Result
	17.09.2013	Regulations and internal protocols were drafted to receive the approval of the Russian Ministry of Education and Science. These documents ensure the transition from a state-funded institution to an autonomous state institution within the framework of current legislation.
<i>Objective 1</i> Develop and agree with the Russian Ministry of Education and Science an action plan for university transition from a state-funded institution to an autonomous state institution.	25.07.2013	University-wide Order no.1657 of 25.07.2013 "For organising the implementation of the Programme of Improving the Competitiveness of the University".
<i>Objective 2</i> Develop and agree with the Russian Federation Ministry of Education and Science regulations and internal protocols, which will ensure the transition from a state-funded institution to an autonomous state institution within the framework of current legislation by the end of 2013	17.09.2013	<p>Protocol No.1 from a meeting of the university's scientific council of 5 May 2013.</p> <p>Protocol No.1 from the conference of the university's employees of 12 May 2013.</p> <p>Series of documents prepared for changing the university.</p> <p>Draft charter for the university as an autonomous educational</p>

		institution
	31.12.2013	Series of protocols, which will spell out the procedure for appointing the university president (rector) by the founding institution preceded by a competitive selection in the form of an international competition organised by the Russian Ministry of Education and Science.
<i>Objective 1</i> Develop and agree the system and criteria for the competitive selection of the university president (rector) in the form of an international competition	31.12.2013	Package of regulations
<i>Objective 2</i> Develop projects and obtain from the Russian Ministry of Education and Science an approval for tender committee regulations and composition	31.12.2013	Package of regulations
<i>Objective 3</i> Holding open international competition and appointment of the university president (rector) by the founding institution	31.12.2013	Package of regulations
	31.12.2013	Forms of labour contracts for rector and vice-rectors that foresee achieving objectives approved in the university's development programme and a procedure for the institution's founding to evaluate the results of the rector and vice-rectors' work.
<i>Objective 1</i> Development and approval at the labour union's conference of the university's new charter, which foresees the appointment of the rector by the founding institution on the	12.09.2013	New university charter, approved at the conference of the university's employees

basis of an open international competition, as well as the university's transition to an autonomous state institution.		
<i>Objective 2</i> Development and approval by the founding institution of draft contracts for the rector and vice rectors that would foresee objectives approved in the university's development programme and the procedure for the founding institution to evaluate the performance of the rector and the vice rectors.	31.12.2013	Forms of labour contracts for the university president and his vice-presidents
	15.10.2013	Series regulations for the organs overseeing the programme
<i>Objective 1</i> Creating organs to manage the programme (managing committee, working groups, project office)	25.07.2013	University-wide Order no.1657 of 25.07.2013 "For organising the implementation of the Programme of Improving the Competitiveness of the University"
<i>Objective 2</i> Selection of an outside expert to develop documents and coordinator joint efforts	01.09.2013	Contracts with PwC
<i>Objective 3</i> Development of plans to carry out 2013 programme	15.10.2013	Road Map for the implementation of the 2013-2030 Programme
	15.10.2013	
<i>Objective 1</i> Development of draft "Provision of the programme's international scientific committee"	01.10.2013	Provision for programme's international scientific committee
<i>Objective 2</i> Selection, discussion and approval of personnel for the line-up	15.10.2013	Line-up approved for the International Scientific Committee

	31.12.2013	Provision for paying university employees, with consideration of the performance criteria for research and teaching staff.
<i>Objective 1</i> Development and testing of performance criteria for the work of various academic staff	31.12.2013	Criteria for evaluating the academic performance of academic staff of various categories (assistants, senior instructors, lecturers, professors, department chairs, and deans). Provision for paying university employees, with consideration of the performance criteria for research and teaching staff.
<i>Objective 2</i> Development and testing of a system to specify the quality of scientific work by the university's research and teaching staff	31.12.2013	Indicator system for the performance of various categories of the university's research and teaching staff Provision for paying university employees, with consideration of the performance criteria for research and teaching staff.

2.2 Road map 2013-2020

№	Strategic Initiatives (SI) / Tasks (T) / Activities (A)	Performance Indicators	Unit	Financing / The value of Performance Indicators								
				2013	2014		2015	2016	2017	2018	2019	2020
					frst 6 months	scnd 6 months						
SI 1	Human Resources			49,4	68,0	94,3	241,8	268,7	284,9	290,9	290,9	290,9
T 1.1	Recruiting as managers and administrators who are competitive on the global labour market			1,0	3,4	4,0	10,6	16,4	16,6	18,1	20,6	20,6
A 1.1.1	Recruiting managers and administrators and research and teaching staff with experience at leading Russian and foreign universities and organizations	Number of executives with previous work experience or secondments at leading foreign universities and companies	Number of people, accumulated	2	4	7						
A 1.1.2	Implementing measures to build a talent pool for the University's executives, develop career ladders and design individual career paths	The average age of research and teaching staff members and executives	age	54	53,5	53						
		The percentage of executives under 40	%	7,7%	8%	9%						
T 1.2	Recruiting Research and teaching staff who are competitive on the global market			19,3	28,5	41,1	123,9	127,6	143,6	145,1	148,6	149,6
A 1.2.1	Recruiting research and teaching staff with experience at leading Russian and foreign universities and organizations	The percentage of research and teaching staff with previous work experience or internships at leading foreign universities and organizations among the total number of research and teaching staff	Number of people, accumulated	3	8	15						

A 1.2.2	Hiring and retaining young researchers and teachers, with experience in science and researching as well as in educational areas at leading Russian and foreign universities and scientific organizations	The number of research and teaching staff under 35 years old with a degree or experience in leading Russian and foreign universities and organizations	Number of people, accumulated	0	5	10						
A 1.2.3	Hiring and retaining post-docs, with experience at leading Russian and foreign universities and scientific organizations	The number of research and teaching staff under 35 years old with a degree or experience in leading Russian and foreign universities and organizations	Number of people, accumulated	0	5	10						
T 1.3	Effective deployment and development of human resources			29,1	36,1	49,3	107,3	124,7	124,7	127,7	121,7	120,7
A 1.3.1	Developing and enhancing competencies and skills for university's employees	The percentage of University employees who have had advanced professional training	%	4%	11%	14%						
A 1.3.2	International and domestic mobility of the University's research and teaching staff and managers IN/OUT OF leading Russian and foreign universities, and research and technology centres	The percentage of executives who have had secondments at leading foreign universities and companies among the total number of executives	%	3%	8%	11%						
		The percentage of research and teaching staff who have taken part in academic mobility programmes	%	2%	2%	6%						
A 1.3.3	Training a high-profile research and teaching staff in the University leading research groups in the format of R&D projects by interdisciplinary and breakthrough areas (Education through Research)	Number of articles published in peer-reviewed journals, listed in the Web of science and Scopus databases	accumulated from the beginning of the year	383	205	456						
		Number of doctoral and candidate-level dissertations defended	accumulated from the beginning of the year	52	20	56						

A 1.3.4	Organize large-scale English-language training for the University's research, teaching and administrative staff	Percentage of the University employees with profound knowledge of English	%	12%	13%	15%						
SI 2	Effective Governance and Finance			82,7	75,7	109,7	174,3	126,0	120,6	113,9	114,7	116,0
T 2.1	Modernization of the University's governance structures			40,5	32,4	45,3	67,9	37,1	34,0	35,3	36,1	37,4
MA 2	Develop an action plan, draft regulations and internal regulatory documents, providing for a change in the type of institution by the end of 2013 under current legislation	Package of documents available	yes/no	yes								
A 2.1.1	Modernization of the University's governance structures on the basis of international best practice	Status of activities executed	%	10%	15%	25%						
A 2.1.2	Fostering a supervisory board of the University	Established the Supervisory Board of the University	yes/no	yes								
A 2.1.3	Establishing an International Scientific Board of the University and ensuring its activity	Established International Scientific Board of the Programm	yes/no	yes								
A 2.1.4	Modernization of the structure and functional control of the educational activities of the university	The share of employers satisfied by the quality of the education gained by graduates	%	75,5%	76%	77%						
A 2.1.5	Establishing an HR function at the University	Number of hired Research and Teaching staff with experience or internship in the leading international universities and organizations	people, accumulated	3	8	15						

A 2.1.6	Establishing an International department of the University	Percentage of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university	%	0,5%	1%	1,5%	
		Percentage of international students following the main educational programs of the University	%	10,7%	10,7%	11,5%	
A 2.1.7	The modernization and expansion of the strategic partnership	Number of active partners agreements	number	36	41	47	
A 2.1.8	Modernization of the Marketing department	Number of respondents - legal entities	accumulated from the beginning of the year	30	25	50	
		Number of respondents - natural persons	accumulated from the beginning of the year	1000	800	1300	
A 2.1.9	Establishing a forecast and analytical center at the University	Number of conducted forecast (analytical) researches requested by the management team of the Program	number	1	2	2	
MA 8	Developing, testing and establishing performance criteria for University faculty	Percentage of employees signed the effective contacts in the total number of employees of the relevant category	%	0%	0%	100%	
MA 9	Design and implementation of a system of short-term faculty employment contracts, taking into account the performance criteria of their academic activities under contract renewal and formation of the variable part of an employee's salary	Percentage of employees signed the effective contacts in the total number of employees of the relevant category	%	0%	0%	100%	

A 2.1.10	Development, testing and establishing performance criteria for the administrative and managerial employees	Percentage of employees who have signed effective contracts in the total number of employees of the relevant category	%	0%	0%	100%						
A 2.1.11	Design and introduction of fixed-term (effective) contracts with University research and teaching staff	Number of employment contracts with executives selected through a competitive process	%	0%	0%	100%						
OM 3	Establishing procedures for appointing the University rector by the University's founders	Percentage of employees who have signed currently valid employment contracts among the total number of employees in the relevant category	yes/no	no	no	yes						
OM 4	Changes to the Charter and applicable employment contracts of the rector and vice-rectors	Introduction of the documents changed	yes/no	no	no	yes						
T 2.2	Modernization of the University's finance governance structures			8,0	18,8	28,2	54,2	36,7	34,4	34,4	34,4	34,4
A 2.2.1	Transformation of budget planning and financial management on the basis of strategic target indicators	Availability of KPIs system for the university and its departments level	%	0%	0%	20%						
A 2.2.2	Creating and filling the endowment fund	Established endowment fund	yes/no	no	no	yes						
A 2.2.3	Development of a funding mechanism for named professorial chairs and named sponsored scholarship initiatives (effective 2015)	The number of named professorial chairs	effective 2015									
		The number of sponsored scholarships for University students	effective 2015									

MA 5	Presentation of the University's financial statements in accordance with International Financial Reporting Standards	Statements presented in accordance with IFRS OS	yes/no	no	no	да						
T 2.3	Organization of a change management system			34,2	24,5	36,2	52,2	52,2	52,2	44,2	44,2	44,2
MA 1	Design, coordination and approval of the Action Plan ("road map") for the implementation of programmes to improve the University's competitiveness	Road Map approved	yes/no	yes								
A 2.3.1	Establish the office and ensure the Project Management operation (PMO)	Number of the Program activities managed by PMO	number	15	23	24						
A 2.3.2	Organization of a change management process	The status of activity executed	%	0%	30%	100%						
SI 3	Science and Innovation			504,5	305,8	377,3	739,8	671,6	687,4	699,9	710,0	718,7
T 3.1	Conducting R&D in domestic and international priority areas			491,8	293,6	359,1	708,8	640,9	655,4	667,9	677,9	686,6
A 3.1.1	Foresights of technological development trends in scientific and educational platforms of the University	Amount of R&D carried out under the supervision of leading foreign and Russian scientists and/or jointly with up-and-coming scientific organizations	RUB, m, accumulated from the beginning of the year	330	150	380						
A 3.1.2	Conducting R&D under the direction of specially recruited international and Russian scientists and/or jointly with up-and-coming scientific organizations in multy-disciplinary research platforms	Total amount of R&D	RUB, m, accumulated from the beginning	800	450	1000						

		of the year					
		The number of articles published in peer-reviewed international journals, carried in the Web of Science and Scopus databases	accumulated from the beginning of the year	383	205	456	
		The number of articles published in reviewed Russian journals	accumulated from the beginning of the year	250	150	325	
A 3.1.3	Conducting R&D under the direction of specially recruited international and Russian scientists and/or jointly with up-and-coming scientific organizations in breakthrough fields of scientific research	Total amount of R&D	RUB, m, accumulated from the beginning of the year	800	450	1000	
		The number of articles published in peer-reviewed international journals, carried in the Web of Science and Scopus databases	accumulated from the beginning of the year	383	205	456	
		The number of articles published in reviewed Russian journals	accumulated from the beginning of the year	250	150	325	
A 3.1.4	Conducting R&D projects jointly with leading Russian and international high-tech companies	The percentage of income from off-budget sources within the University's total income	%	52,8%	52,8%	53,8%	
		The number of articles published in peer-reviewed international journals, carried in the Web of Science and Scopus databases	accumulated from the beginning of the year	383	205	456	

A 3.1.5	Organizing a competitive open grant programme to conduct promising scientific research aimed to creating an advanced scientific and technological reserve (University Research Grant Programme)	The number of articles published in peer-reviewed international journals, carried in the Web of Science and Scopus databases	accumulated from the beginning of the year	383	205	456						
T 3.2	Fostering technology transfer and innovation-driven entrepreneurship among young scientists			12,7	12,2	18,2	31,1	30,7	32,0	32,0	32,1	32,1
A 3.2.1	Intellectual Property commercialization and technology transfer on the global markets	The number of applications for legal protection of intellectual property	accumulated from the beginning of the year	85	43	90						
		Number licence agreements signed	accumulated from the beginning of the year	4	3	8						
A 3.2.2	Developing experimental samples, models and prototypes of scientific and technical products of the University with a high potential for commercialization in global markets	Number of developed experimental samples, models and prototypes of scientific and technical products of the University which have high potential to be commercialized on the global market	number	0	0	2						
		The number of articles published in peer-reviewed international journals, carried in the Web of Science and Scopus databases	accumulated from the beginning of the year	383	205	456						
A 3.2.3	Organizing scientific and technical creativity and innovation-driven entrepreneurship among young scientists	The number of articles published by post-graduates and research and teaching staff under 35 years old in reviewed journals, carried by the Web of Science and Scopus databases	accumulated from the beginning of the year	45	35	60						
		The number of articles published by post-graduates and research and teaching staff under 35 years old in reviewed Russian journals	accumulated from the beginning of the year	90	70	120						

A 3.2.4	Developing business-incubator activity to establish the University start-ups	The number of start-ups established by the University	accumulated from the beginning of the year	0	1	2						
SI 4	Education			71,5	96,4	109,7	221,4	203,1	200,1	199,1	199,1	193,1
T 4.1	Design and implementation of competitive educational programmes for higher professional education			59,9	80,3	90,5	167,5	152,5	144,5	141,5	141,5	134,5
A 4.1.1	Design of new educational programs, including programs developed in the partnership with international universities and teachers	Number of new educational programmes	accumulated from the beginning of the year	0	2	4						
A 4.1.2	Design and implementation of joint programmes with leading Russian and foreign universities and organizations	Number of ongoing joint educational programmes with leading Russian and foreign universities and organizations	number	4	4	10						
A 4.1.3	Design and implementation of educational programmes in English	Number of subjects taught in English	number	16	18	26						
		Number of programmes in English	number	2	2	6						
		Number of students who take programmes in English	people	0	0	45						
A 4.1.4	Developing a system of international and domestic academic mobility for students and post-graduates	Number of international students and post-graduates who study under the program of international mobility in ETU	people	26	26	100						
		Number of ETU students and post-graduates abroad	people	25	25	80						

A 4.1.5	International professional and public accreditation of educational programmes	Number of internationally accredited programmes	number	10	10	20							
A 4.1.6	Design and introduction of educational programs to prepare for entry and study at the University	The Unified State Exam results posted by students who have been admitted to daytime studies with access to federal budget funds for undergraduates and specialist educational programmes	average score	70	70	71							
T 4.2	Improving post-graduate and doctoral studies			2,3	6,1	8,7	26,9	27,1	27,1	30,1	30,1	30,1	
A 4.2.1	Enhancing post-graduate and doctoral programmes based on best Russian and international practices	Number of international post-graduates and those working towards a doctoral degree	people	35	33	39							
		Number of doctoral and candidate-level dissertations defended by University staff or students	accumulated from the beginning of the year	56	23	57							
A 4.2.2	Design and implementation of advanced personnel training programmes, including in English, jointly with leading Russian and foreign universities and research institutions	Number of programmes aimed at training post-graduates and those working on a doctoral dissertation implemented jointly with leading universities and organizations	number	0	0	5							
		Number of programmes in English aimed at training post-graduates and those working on doctoral dissertations	number	0	0	4							
A 4.2.3	Create opportunities for graduate students and researchers to earn PhDs (effective 2015)	Number of post-graduates and University employees who have earned a PhD	effective 2015										

T 4.3	Design and implementation of competitive Additional Professional Education programmes			9,3	10,1	10,5	27,0	23,5	28,5	27,5	27,5	28,5
A 4.3.1	Design and implementation of competitive Additional Professional Education programmes in priority areas of scientific research	Annual income from continuing education programmes	RUB, m, accumulated from the beginning of the year	11	6	14						
		Number of students of the additional education programmes (head count)	people	1000	600	1400						
		Number of students of the additional education programmes (FTE)	people	150	90	190						
		Total number of additional education programmes	number	60	65	80						
A 4.3.2	Development and introduction of additional educational programmes for students under the request of the strategic partners	The total number of additional educational programmes with strategic partners	number	3	4	6						
SI 5	Worldwide recognition			21,7	29,5	40,5	82,7	86,7	88,7	90,7	92,7	94,7
T 5.1	Promoting the results of the University's activities			12,8	17,5	25,7	52,3	56,3	58,3	60,3	62,3	64,3
A 5.1.1	Promoting educational programmes in English for foreign and Russian citizens	The percentage of foreign students enrolled in the University's educational programmes	%	10,7%	10,7%	11,5%						
A 5.1.2	Promoting educational programmes in Russian for foreigners	The percentage of income from off-budget sources in the University's total income	people	644	644	723						

A 5.1.3	Increasing the publishing activity of the University's research and teaching staff	The number of articles published in reviewed journals, carried in the Web of Science and Scopus databases, per one research and teaching employee	number	0,51	0,53	0,57						
		The number of article citations in reviewed journals, carried in the Web of Science and Scopus databases, per one research and teaching employee	number	4,2	4,3	4,4						
A 5.1.4	Promoting the University's scientific and technical products and services in the Russian and foreign markets	The number of international conferences and exhibitions organized by the University	accumulated from the beginning of the year	12	5	14						
		The number of exhibits presented at international exhibitions	accumulated from the beginning of the year	7	3	11						
		The number of papers presented at international conferences, symposiums, congresses, seminars and forums	accumulated from the beginning of the year	110	90	170						
A 5.1.5	Developing an employment and career support system for University students and graduates by working with employers and alumni associations	The percentage of University graduates employed within one year after graduation	%	99%	99%	99%						
T 5.2	Fostering a positive image of the University			8,9	12,0	14,8	30,4	30,4	30,4	30,4	30,4	30,4
A 5.2.1	PR promotion of the University in Russian and foreign media outlets , including Internet-based PR promotion programme	The number of media publications about the University for the year	accumulated from the beginning of the year	110	90	200						

		Number of the unique international visitors of the site	thousands people, accumulated from the beginning of the year	48	40	100						
A 5.2.2	Representation of the University in international organizations, associations, companies, and boards of foreign universities	The University website's ranking in the "Webometrics" rating	number	10	10	20						
MA 6	Data collection and annual reporting for the QS international rating	Data submitted to the Raiting	yes/no	да	да	да						
MA 7	Data collection and submission of annual data for the QS subject ranking	Data submitted to the Raiting	yes/no	да	да	да						
SI 6	Environment and infrastructure			123,9	130,6	184,3	502,8	286,0	270,8	255,5	226,4	208,7
T 6.1	Building a world-class university research and educational infrastructure			71,7	58,5	87,6	191,4	116,8	107,0	125,7	103,8	95,8
A 6.1.1	Creating and equipping a network of world-class research centres and laboratories in areas related to the University's scientific and educational platforms	Total amount of R&D	RUB, m, accumulated from the beginning of the year	800	450	1000						
A 6.1.2	Developing and equipping University-wide community centres, including centres of excellence, competence centres, resource centres, and prototyping centres	Total amount of R&D	RUB, m, accumulated from the beginning of the year	800	450	1000						

A 6.1.3	Creating and developing an integrated educational complex at the University	The area of premises modernized and equipped with modern equipment and PC	sq.m, accumulated	160	920	2200						
T 6.2	Building a comfortable and attractive environment of the University			37,1	53,9	75,2	233,4	97,9	113,9	59,5	68,0	69,5
A 6.2.1	Modernization and reconstruction of dormitories	The total area of modernized premises of dormitories	sq.m, accumulated	0	940	1410						
A 6.2.2	Developing an engineering and general infrastructure of the University	The total premises of the University, provided by unimpeded access to disabled people	sq.m, accumulated	0	6500	6500						
		Total area of modernized recreation zones	sq.m, accumulated	0	700	1400						
		Number of modernized university infrastructural departments	number	0	2	4						
A 6.2.3	Creating an attractive social environment to enhance the health, cultural and intellectual development of the University's staff and students	The total area of premises modernized	sq.m, accumulated	0	300	450						
T 6.3	Developing an open "Electronic University" information and communication environment			15,1	18,2	21,5	78,0	71,4	50,0	70,3	54,6	43,4
A 6.3.1	Creating an ERP-based unified information space	Number of departments using ERP-system	number	3	3	7						
A 6.3.2	Deploying modern e-learning services to support the mobility of participants of the educational process	The number of modern electronic services available for use by participants of the educational process	number	5	6	8						

A 6.3.3 Creating an open library and information environment	The status of the activity executed	%	0	15%	40%	
A 6.3.4 Developing the University's publishing and printing services based on "print-on-demand" technology	Number of publications in the printed sheets, issued using the technology	printed sheets, accumulated from the beginning of the year	100	300	900	
A 6.3.5 Modernizing the University's IT infrastructure	The status of the activity executed	%	0%	10%	15%	

2.3 Quick wins 2013

Quick wins	Achieved and expected impact <i>(list of performance indicators, target indicators and KPIs affected by quick wins, their incremental growth currently and going forward)</i>
SI 1 Human Resources	
Develop a system of performance indicators for personnel	<p>Percentage of employees signed the effective contract to the total number of employees of the relevant category 2013 – 0%, 2014 – 100%, 2015 – 100%, 2020 – 100%</p> <p>Percentage of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university 2013 – 0,5%, 2014 – 1,5%, 2015 – 2,5%, 2020 – 9,2%</p> <p>Number of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university 2013 – 5, 2014 – 12, 2015 – 22, 2020 – 101</p>
Engage the leading scientist James Butler in cutting-edge research into diamond-like structures Butler(HI>50)	<p>Percentage of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university 2013 – 0,5%, 2014 – 1,5%, 2015 – 2,5%, 2020 – 9,2%</p> <p>Number of the international professors, teachers and researchers in the total number of Research</p>

	<p>and Teaching staff including Russian citizens with PhD degree awarded by an international university</p> <p>2013 – 5, 2014 – 12, 2015 – 22, 2020 – 101</p> <p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases per employee of research and teaching staff</p> <p>2013 – 0,51, 2014 – 0,57, 2015 – 0,64, 2020 – 2,55</p> <p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases</p> <p>2013 – 383, 2014 – 456, 2015 – 544, 2020 – 2805</p> <p>Number of citations per employee of research and teaching staff which is calculated as a summation of articles listed in Web of Science and Scopus excluding its duplications</p> <p>2013 – 4,2, 2014 – 4, 2015 – 5,5, 2020 - 15</p> <p>The total amount of R&D, Rub, mln</p> <p>2013 – 800, 2014 – 1000, 2015 – 1150, 2020 – 3250</p>
SI 2 Effective management and finance	
Setting up a project office	<p>Number of activities managed by PMO</p> <p>2013 – 15, 2014 – 23, 2015 - 25, 2020 - 10</p>
SI 3 Science and innovation	
Join forces with Beneq Ltd to launch a laboratory for	The total amount of R&D, Rub, mln

<p>research into and commercial application of the Atomic Layer Deposition (ALD). Support the implementation of thin-film technology in Russian factories</p>	<p>2013 – 800, 2014 – 1000, 2015 – 1150, 2020 – 3250</p> <p>Percentage of revenues from non-state budget sources in the overall revenue structure of the University</p> <p>2013 – 52,8%, 2014 – 53,8%, 2015 – 54,1%, 2020 – 60%</p>
<p>Join forces with St Petersburg's Institute of Informatics and Automation under the Russian Academy of Sciences (SPIIRAN) for launching a joint laboratory for new computer, information and communication technologies</p>	<p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases per employee of research and teaching staff</p> <p>2013 – 0,51, 2014 – 0,57, 2015 – 0,64, 2020 – 2,55</p> <p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases</p> <p>2013 – 383, 2014 – 456, 2015 – 544, 2020 – 2805</p>
<p>Work with the Institute of Physics and Technology named after Joffe to establish a scientific/education consortium</p>	<p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases per employee of research and teaching staff</p> <p>2013 – 0,51, 2014 – 0,57, 2015 – 0,64, 2020 – 2,55</p> <p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases</p> <p>2013 – 383, 2014 – 456, 2015 – 544, 2020 – 2805</p>
<p>Sign a unique contract with IBM for launching collaboration in nano technologies, information systems and cognitive computations</p>	<p>The total amount of R&D, Rub, mln</p> <p>2013 – 800, 2014 – 1000, 2015 – 1150, 2020 – 3250</p> <p>Percentage of revenues from non-state budget sources in the overall revenue structure of the University</p>

	<p>2013 – 52,8%, 2014 – 53,8%, 2015 – 54,1%, 2020 – 60%</p> <p>Percentage of research and teaching staff who took part of the programmes of academic mobility in the reported year</p> <p>2013 – 2%, 2014 – 8%, 2015 – 16% , 2020 – 25%</p>
SI 4 Education	
International accreditation of 10 education programmes	<p>Number of international accredited programmes</p> <p>2013 – 10, 2014 – 20, 2015 – 30, 2020 – 50</p> <p>Percentage of international students following the main educational programs of the university</p> <p>2013 – 10,7%, 2014 – 11,5%, 2015 – 12,5%, 2020 – 16%</p> <p>Number of international students following the main educational programs of the university</p> <p>2013 – 644 , 2014 – 743, 2015 – 863, 2020 – 1456</p> <p>Average score of the Unified State Exam of the full-time students enrolled at the expense of the federal budget to follow BSc and Specialist degree</p> <p>2013 – 70, 2014 – 71, 2015 – 72,2, 2020 – 80</p>
Development and approval of 2 education programmes to be delivered in English	<p>Number of programmes delivered in English</p> <p>2013 – 2, 2014 – 6, 2015 – 11, 2020 – 40</p> <p>Number of disciplines delivered in English</p>

	<p>2013 – 16, 2014 – 26, 2015 – 60 , 2020 – 750</p> <p>Number of students following English programmes. 2013 – 0, 2014 – 45, 2015 – 140, 2020 – 3000</p> <p>Percentage of international students following the main educational programs of the university 2013 – 10,7%, 2014 – 11,5%, 2015 – 12,5%, 2020 – 16%</p> <p>Number of international students following the main educational programs of the university 2013 – 644 , 2014 – 743, 2015 – 863, 2020 – 1456</p>
SI 5 International recognition	
"Double Master Degree' programme kick-off in team with Technical University of Ilmenau (Germany)	<p>Percentage of international students following the main educational programs of the university 2013 – 10,7%, 2014 – 11,5%, 2015 – 12,5%, 2020 – 16%</p> <p>Number of international students following the main educational programs of the university 2013 – 644 , 2014 – 743, 2015 – 863, 2020 – 1456</p> <p>Number of ongoing joint educational programmes with leading Russian and foreign universities and organization 2013 – 4, 2014 – 10, 2015 – 17, 2020 – 40</p> <p>Number of students and post-graduates of ETU who taking part in the programmes of domestic</p>

	and international mobility 2013 – 25, 2014 – 80, 2015 - 110 , 2020 - 450
SI 6 Environment and infrastructure	

2.4 Quick Wins, first 6 months of 2014

Quick wins	Achieved and expected impact <i>(list of performance indicators, target indicators and KPIs affected by quick wins, their incremental growth currently and going forward)</i>
SI 1 Human Resources	
Retain a leading scientist with a profile in large laser gyroscope development on the basis of new physical operation principles and measurement information processing	<p>Percentage of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university 2013 – 0,5%, 2014 – 1,5%, 2015 – 2,5%, 2020 – 9,2%</p> <p>Number of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university 2013 – 5, 2014 – 12, 2015 – 22, 2020 – 101</p> <p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases per employee of research and teaching staff</p>

	<p>2013 – 0,51, 2014 – 0,57, 2015 – 0,64, 2020 – 2,55</p> <p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases</p> <p>2013 – 383, 2014 – 456, 2015 – 544, 2020 – 2805</p> <p>Number of citations per employee of research and teaching staff which is calculated as a summation of articles listed in Web of Science and Scopus excluding its duplications</p> <p>2013 – 4.2, 2014 – 4, 2015 – 5,5, 2020 - 15</p> <p>The total amount of R&D, Rub, mln</p> <p>2013 – 800, 2014 – 1000, 2015 – 1150, 2020 – 3250</p>
<p>Retain a leading foreign administrator to take charge of foreign students enrolment</p>	<p>The percentage of executives with previous work experience or internships at leading foreign universities and organizations among the total number of executives</p> <p>2013 – 3%, 2014 – 11%, 2015 – 15%, 2020 – 20%</p> <p>Percentage of international students following the main educational programs of the university</p> <p>2013 – 10,7%, 2014 – 11,5%, 2015 – 12,5%, 2020 – 16%</p> <p>Number of international students following the main educational programs of the university</p> <p>2013 – 644 , 2014 – 743, 2015 – 863, 2020 – 1456</p>
<p>SI 2 Effective management and finance</p>	

<p>Establish a personnel management department</p>	<p>The percentage of executives with previous work experience or internships at leading foreign universities and organizations among the total number of executives 2013 – 3%, 2014 – 11%, 2015 – 15%, 2020 – 20%</p> <p>Percentage of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university 2013 – 0,5%, 2014 – 1,5%, 2015 – 2,5%, 2020 – 9,2%</p> <p>Number of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university 2013 – 5, 2014 – 12, 2015 – 22, 2020 – 101</p> <p>Percentage of the university employees who passes professional qualification training in the reported year 2013 – 4%, 2014 – 14%, 2015 – 20%, 2020 – 35%</p> <p>Average age of research and teaching staff 2013 – 54, 2014 – 53, 2015 – 52, 2020 – 47</p> <p>The percentage of executives under 40 2013 – 7%, 2014 – 9%, 2015 – 10%, 2020 – 15%</p>
<p>Set up an international office</p>	<p>The percentage of executives with previous work experience or internships at leading foreign</p>

	<p>universities and organizations among the total number of executives 2013 – 3%, 2014 – 11%, 2015 – 15%, 2020 – 20%</p> <p>Percentage of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university 2013 – 0,5%, 2014 – 1,5%, 2015 – 2,5%, 2020 – 9,2%</p> <p>Number of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university 2013 – 5, 2014 – 12, 2015 – 22, 2020 – 101</p> <p>Percentage of the university employees with profound knowledge of English 2013 – 12%, 2014 – 15%, 2015 – 20%, 2020 – 50%</p>
SI 3 Science and innovation	
<p>Join forces with the Institute of Silicate Chemistry of the Russian Academy of Sciences to launch the Laboratory for Developing Micro- and Nano-Electronic Structures and New Materials for Prospective Radio Electronic Devices</p> <p>Join forces with the Institute of Applied Astronomy of the Russian Academy of Sciences to launch the Laboratory for Basic and Applied Coordinates, Time</p>	<p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases per employee of research and teaching staff 2013 – 0,51, 2014 – 0,57, 2015 – 0,64, 2020 – 2,55</p> <p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases 2013 – 383, 2014 – 456, 2015 – 544, 2020 – 2805</p>

and Navigation Support	
SI 4 Education	
SI 5 International recognition	
SI 6 Environment and infrastructure	
Launch a centre for supporting foreign students' adaptation	<p>Percentage of international students following the main educational programs of the university 2013 – 10,7%, 2014 – 11,5%, 2015 – 12,5%, 2020 – 16%</p> <p>Number of international students following the main educational programs of the university 2013 – 644 , 2014 – 743, 2015 – 863, 2020 – 1456</p>
Launch a Russian Language centre	<p>Percentage of international students following the main educational programs of the university 2013 – 10,7%, 2014 – 11,5%, 2015 – 12,5%, 2020 – 16%</p> <p>Number of international students following the main educational programs of the university 2013 – 644 , 2014 – 743, 2015 – 863, 2020 – 1456</p>
Improve 90 unites of accommodation in the hostel for foreign students	<p>Percentage of international students following the main educational programs of the university 2013 – 10,7%, 2014 – 11,5%, 2015 – 12,5%, 2020 – 16%</p> <p>Number of international students following the main educational programs of the university 2013 – 644 , 2014 – 743, 2015 – 863, 2020 – 1456</p>

2.5 Quick Wins, second 6 months of 2014

Quick wins	Achieved and expected impact <i>(list of performance indicators, target indicators and KPIs affected by quick wins, their incremental growth currently and going forward)</i>
SI 1 Human Resources	
Retain a leading scientist in radio electronics, information technologies and communications	<p>Percentage of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university 2013 – 0,5%, 2014 – 1,5%, 2015 – 2,5%, 2020 – 9,2%</p> <p>Number of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university 2013 – 5, 2014 – 12, 2015 – 22, 2020 – 101</p> <p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases per employee of research and teaching staff 2013 – 0,51, 2014 – 0,57, 2015 – 0,64, 2020 – 2,55</p> <p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases</p>

	<p>2013 – 383, 2014 – 456, 2015 – 544, 2020 – 2805</p> <p>Number of citations per employee of research and teaching staff which is calculated as a summation of articles listed in Web of Science and Scopus excluding its duplications</p> <p>2013 – 4.2, 2014 – 4, 2015 – 5,5, 2020 - 15</p> <p>The total amount of R&D, Rub, mln</p> <p>2013 – 800, 2014 – 1000, 2015 – 1150, 2020 – 3250</p>
Retain a leading foreign administrator	<p>The percentage of executives with previous work experience or internships at leading foreign universities and organizations among the total number of executives</p> <p>2013 – 3%, 2014 – 11%, 2015 – 15%, 2020 – 20%</p>
A 100% transition of scientists and instructors to the effective contract arrangements	<p>Percentage of employees signed the effective contract to the total number of employees of the relevant category</p> <p>2013 – 0%, 2014 – 100%, 2015 – 100%, 2020 – 100%</p> <p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases per employee of research and teaching staff</p> <p>2013 – 0,51, 2014 – 0,57, 2015 – 0,64, 2020 – 2,55</p> <p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases</p> <p>2013 – 383, 2014 – 456, 2015 – 544, 2020 – 2805</p>
Launch a language centre	<p>Percentage of the university employees with profound knowledge of English</p> <p>2013 – 12%, 2014 – 15%, 2015 – 20%, 2020 – 50%</p>

	<p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases per employee of research and teaching staff</p> <p>2013 – 0,51, 2014 – 0,57, 2015 – 0,64, 2020 – 2,55</p> <p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases</p> <p>2013 – 383, 2014 – 456, 2015 – 544, 2020 – 2805</p>
SI 2 Effective management and finance	
Develop a system of incentives for the departments	<p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases per employee of research and teaching staff</p> <p>2013 – 0,51, 2014 – 0,57, 2015 – 0,64, 2020 – 2,55</p> <p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases</p> <p>2013 – 383, 2014 – 456, 2015 – 544, 2020 – 2805</p> <p>Percentage of revenues from non-state budget sources in the overall revenue structure of the University</p> <p>2013 – 52,8%, 2014 – 53,8%, 2015 – 54,1%, 2020 – 60%</p>
Implement an IFRS reporting system	<p>Percentage of revenues from non-state budget sources in the overall revenue structure of the University</p> <p>2013 – 52,8%, 2014 – 53,8%, 2015 – 54,1%, 2020 – 60%</p>

SI 3 Science and innovation	
<p>Establish a centre for bioanalytical research, methods of control and diagnostics</p>	<p>Percentage of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university 2013 – 0,5%, 2014 – 1,5%, 2015 – 2,5%, 2020 – 9,2%</p> <p>Number of the international professors, teachers and researchers in the total number of Research and Teaching staff including Russian citizens with PhD degree awarded by an international university 2013 – 5, 2014 – 12, 2015 – 22, 2020 – 101</p> <p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases per employee of research and teaching staff 2013 – 0,51, 2014 – 0,57, 2015 – 0,64, 2020 – 2,55</p> <p>Number of articles published in peer-reviewed journals and listed in Web of Science and Scopus databases 2013 – 383, 2014 – 456, 2015 – 544, 2020 – 2805</p> <p>The total amount of R&D, Rub, mln 2013 – 800, 2014 – 1000, 2015 – 1150, 2020 – 3250</p> <p>Percentage of revenues from non-state budget sources in the overall revenue structure of the University</p>

	2013 – 52,8%, 2014 – 53,8%, 2015 – 54,1%, 2020 – 60%
SI 4 Education	
International accreditation of 10 education programmes	<p>Число международных аккредитованных программ 2013 – 10, 2014 – 20, 2015 – 30, 2020 – 50</p> <p>Доля иностранных студентов, обучающихся на основных образовательных программах вуза. 2013 – 10,7%, 2014 – 11,5%, 2015 – 12,5%, 2020 – 16%</p> <p>Число иностранных студентов, обучающихся на основных образовательных программах вуза 2013 – 644 , 2014 – 743, 2015 – 863, 2020 – 1456</p> <p>Средний балл ЕГЭ студентов вуза, принятых по очной форме обучения за счет средств федерального бюджета по программам бакалавриата и программам подготовки специалистов 2013 – 70, 2014 – 71, 2015 – 72,2, 2020 – 80</p>
Development and approval of 5 education programmes to be delivered in English	<p>Number of international accredited programmes 2013 – 10, 2014 – 20, 2015 – 30, 2020 – 50</p> <p>Percentage of international students following the main educational programs of the university 2013 – 10,7%, 2014 – 11,5%, 2015 – 12,5%, 2020 – 16%</p> <p>Number of international students following the main educational programs of the university</p>

	<p>2013 – 644 , 2014 – 743, 2015 – 863, 2020 – 1456</p> <p>Average score of the Unified State Exam of the full-time students enrolled at the expense of the federal budget to follow BSc and Specialist degree</p> <p>2013 – 70, 2014 – 71, 2015 – 72,2, 2020 – 80</p>
Launch 2 training programmes for disciplines taught in English	<p>Percentage of international students following the main educational programs of the university</p> <p>2013 – 10,7%, 2014 – 11,5%, 2015 – 12,5%, 2020 – 16%</p> <p>Number of international students following the main educational programs of the university</p> <p>2013 – 644 , 2014 – 743, 2015 – 863, 2020 – 1456</p> <p>Number of students following English language programmes</p> <p>2013 – 0, 2014 – 45, 2015 – 140, 2020 – 3000</p>
Double the enrolment of foreign students for master's degree training from 60 to 120 people to arrive a the total of 750 students	<p>Percentage of international students following the main educational programs of the university</p> <p>2013 – 10,7%, 2014 – 11,5%, 2015 – 12,5%, 2020 – 16%</p> <p>Number of international students following the main educational programs of the university</p> <p>2013 – 644 , 2014 – 743, 2015 – 863, 2020 – 1456</p>
SI 5 International recognition	
Initial stage of implementing the "Double Master Degree' programme in team with the Technological	<p>Percentage of international students following the main educational programs of the university</p> <p>2013 – 10,7%, 2014 – 11,5%, 2015 – 12,5%, 2020 – 16%</p>

<p>Institute of Xuzhou</p>	<p>Number of international students following the main educational programs of the university 2013 – 644 , 2014 – 743, 2015 – 863, 2020 – 1456</p> <p>Number of ongoing joint educational programmes with leading Russian and foreign universities and organization 2013 – 4, 2014 – 10, 2015 – 17, 2020 – 40</p> <p>Number of students and post-graduates of ETU who taking part in the programmes of domestic and international mobility 2013 – 25, 2014 – 80, 2015 - 110 , 2020 - 450</p>
<p>Establish an Association of LETI Graduates.</p>	<p>Percentage of revenues from non-state budget sources in the overall revenue structure of the University 2013 – 52,8%, 2014 – 53,8%, 2015 – 54,1%, 2020 – 60%</p> <p>Number of the university representatives who are members of international organizations, associations as well as holding executives positions in international companies and in the board of international universities 2013 – 10, 2014 – 20, 2015 - , 2020 –</p>
<p>SI 6 Environment and infrastructure</p>	
<p>Equip the hostel with facilities for barrier-free access for low-mobility community groups</p>	<p>Average score of the Unified State Exam of the full-time students enrolled at the expense of the federal budget to follow BSc and Specialist degree 2013 – 70, 2014 – 71, 2015 – 72,2, 2020 – 80</p>

	Number of publications about ETU in the mass media per year
--	---

3. Appendixes

Appendix 1. The calculations principles for the target indicators

Appendix 2. Funding through the subsidy

Appendix 3. Consolidated table of financing

Appendix 4. Benchmark analysis data

Appendix 5 Detailed action plan of activities -“Road map” for 2013-2014

Appendix 1. The calculations principles for the target indicators

1. World Rank:

QS World University Rankings or THE Times Higher Education World University Rankings.

QS Ranking by the Electrical and Electronic Engineering subject or THE Ranking by the Electrical and Electronic Engineering subject

2. Number of papers in the Web of Science and Scopus per one research and teaching staff excluding duplicates

KPI₂ is a ration between (i) total articles contributed by the university staff and recorded in the databases of Web of Science and Scopus in the report year, and (ii) the average headcount of research and teaching staff in the reported year.

Calculation formula:

$$\text{KPI}_2 = A / E_a,$$

where

A stands for total articles contributed by the university staff and recorded in the databases of Web of Science and Scopus in the reported year net of duplications (the source of information is a direct request to Web of Science and Scopus databases);

E_a is the average headcount of research and teaching staff in the reported year estimated in keeping with the Guidance for Completing Federal Statistical Survey Forms approved by the Russian Federal Statistics Agency (ROSSTAT) under Order no.435 of 24.10.2011.

Example of 2012 calculations.

$$A = 70;$$

$$E_a = 761;$$

$$\text{KPI}_2 = 70 / 761 = 0,09$$

3. Citation index per one research and teaching staff, calculated on the basis of a total number of papers registered in the Web of Science and Scopus databases excluding their duplications

KPI₃ is a ratio between (i) total citations of all the articles by the University staff members for the last 5 years registered in the databases of the Web of Science or Scopus (net of duplications) and (ii) the average number of scientists/instructors in the reported year.

Calculation formula:

$$KPI_3 = \frac{\sum_{i=0}^4 C_{y-i}}{E_a},$$

where

C_y – total citations of articles contributed by the university staff and registered in Web of Science and Scopus data bases excepting duplicates (the source of information is a direct request to Web of Science and Scopus databases)

y – the reported year;

E_a – the average total of research and teaching staff in the reported year.

Example of 2012 calculations.

$$\sum_{i=0}^4 C_{y-i} = 3116;$$

$$E_a = 761;$$

$$KPI_3 = 3116 / 761 = 4,1$$

4. Number of foreign professors, lecturers and researchers among the university scientists and instructors, including Russian nationals holding PhD degrees from foreign universities

KPI₄ is a per cent ratio between (i) foreign nationals acting as professors, instructors and researchers with a record of work (not less than 6 months) at foreign universities and research organisations, including Russian nationals holding doctorate degrees from foreign universities, and (ii) the average number of scientists and researchers in the reported year.

Calculation formula:

$$KPI_4 = E_f / E_a * 100,$$

where

E_f is the number foreign nationals acting as professors, instructors and researchers with a record of work (not less than 6 months) at foreign universities and research organisations and Russian nationals holding doctorate degrees from foreign universities;

E_a is the average total of research and teaching staff.

Example of 2012 calculations.

$$E_f = 4;$$

$$E_a = 761;$$

$$KPI_4 = 4 / 761 * 100 = 0,5\%$$

5. Number of foreign students following the core curriculum of the university (including students from CIS countries)

KPI_5 is a per cent ratio between (i) foreign students and post-graduates reduced to FTE, including CIS students and post-graduates, following the core university curriculum and (ii) total students and post-graduates reduced to FTE following the core university curriculum in the reported year.

Calculation formula:

$$KPI_5 = N_{fs} / N_s * 100,$$

where

N_{fs} stands for total foreign students and post-graduates reduced to FTE from CIS countries following the core university curriculum;

N_s stands for total students and post-graduates reduced to FTE following the core university curriculum in the report year.

Example of 2012 calculations.

$$N_{fs} = 617;$$

$$N_s = 5782;$$

$$KPI_5 = 617 / 5782 * 100 = 10,6$$

6. The average Uniform State Exam (USE) score among the University students enrolled for tuition under the federal budget for full-time attendance

to follow Bachelor and Specialist curriculum programmes

KPI₆ is a ratio between (i) the sum of average USE scores of students enrolled for the full-time tuition based on their USE performance, excepting those who were enrolled by results of targeted admission and entered the University's BSc training programs on non-competitive basis (ii) total students enrolled for full-time attendance in their first year of federal budget-funded training based on their USE performance excepting those who were enrolled by results of targeted admission and entered the University's BSc and Specialist training programs on non-competitive.

Calculation formula:

$$KPI_6 = \frac{\sum_{j=1}^{(N_k+N_o)} P_j}{(N_k+N_o)},$$

where

P_j stands for the average USE score of j -student enrolled for full-time federal budget-funded attendance to follow the BSc and Specialist training programmes;

N_k – number of students enrolled excepting those who were enrolled by results of targeted admission and on a non-competitive basis;

N_o – number of students enrolled without having to take the entrance exams

Example of 2012 calculations.

$$\sum_{j=1}^{(N_k+N_o)} P_j = 60415 \text{ points};$$

$N_k = 825$ students;

$N_o = 38$ students;

$$KPI_6 = 60415 / (825 + 38) = 70,0 \text{ points}$$

7. Amount of income from non-budgetary sources within the structure of university income

KPI₇ is a per cent ratio between (i) a non-budgetary sourced inflow of financial and non-financial assets and (ii) the total inflow of financial and non-financial assets in the reported period,

excepting inflow sourced by the Program for the University competitiveness increase

Calculation formula:

$$KPI_7 = I_x / Inc * 100,$$

where

I_x stands for the amount of influx of non-budgetary sourced financial and non-financial assets for the reported period;

Inc stands for the total influx of financial and non-financial assets for the reported period excepting inflow sourced by the Program for the University competitiveness increase

Example of 2012 calculations.

$$I_x = 991.8 \text{ (RUBm);}$$

$$Inc = 1771.4 \text{ (RUBm);}$$

$$KPI_7 = 991.8 / 1771.4 * 100 = 56$$

8. Share of disciplines taught in English

KPI_8 is a per cent ratio between (i) disciplines taught in English and (ii) total disciplines taught at the university.

Calculation formula:

$$KPI_8 = D_e / D * 100,$$

where

D_e is the number of disciplines taught in English;

D is the overall number of disciplines taught at the university.

Example of 2012 calculations.

$$D_e = 15;$$

$$D = 3009;$$

$$KPI_8 = 15 / 3009 * 100 = 0,5\%$$

9. Number of staff with profound knowledge of English

KPI_9 is a per cent ratio between (i) the number of university scientists, instructors, administrative and managerial staff members holding their core positions and documents in the reported year which certify their knowledge of English at a level not lower than Upper-Intermediate and (ii)

the average total of scientists, researchers, administrative and managerial staff members.

Documents certifying an individual's knowledge of English would be as follows:

1. Certificates of English language knowledge at a level not lower than Upper-Intermediate (B-2; TOEFL, not lower than 550 PBT/ 80 iBT; IELTS, not lower than 6.0, etc.)
2. Other documents certifying an individual's using English as a medium of instruction abroad for the aggregate total of not less than half a year.

Calculation formula:

$$KPI_9 = E_c / E * 100$$

where

E_c is the number of university scientists, instructors, administrative and managerial staff members holding their core positions and documents in the reported year which certify their knowledge of English at a level not lower than Upper-Intermediate;

E is the average total of university scientists, teachers, administrative and managerial staff members.

Example of 2012 calculations.

$$E_c = 91;$$

$$E = 988;$$

$$KPI_9 = 91 / 988 * 100 = 9,21\%$$

10. Average age of scientists and researchers

KPI_{10} is a ratio between (i) the sum of products of the age of scientists and researchers holding their core positions in the reported year times their position rates (salaries) and (ii) the sum-rates payable to the scientists and researchers holding their core positions as at a given date.

Calculation formula:

$$KPI_{10} = \frac{\sum_{i=1}^{E_9} Y_i * C_i}{\sum_{i=1}^{E_9} C_i},$$

where

Y_i is the age of each scientist and researcher holding their core positions in the reported year;

C_i is the amount of salary for each scientist and researcher holding their core positions in the

report year;

E_s is the number of scientists and researchers holding their core positions in the report year.

Example of 2012 calculations.

$$\sum_{i=1}^{E_s} Y_i * C_i = 52219.$$

$$\sum_{i=1}^{E_s} C_i = 945;$$

$$KPI_{10} = 52219 / 945 = 55,3\%$$

11. Amount of publications made in team with foreign scientists

KPI_{11} is a per cent ratio between (i) university staff members' articles registered in the databases of the Web of Science and Scopus, net of duplications, co-authored with foreign scientists in the reported year and (ii) total articles by university staff members as registered in the databases of the Web of Science and Scopus, net of duplications, achieved in the reported year.

Calculation formula:

$$KPI_{11} = A_{co} / A * 100,$$

where

A_{co} is the number of articles by university staff members registered in the databases of the Web of Science and Scopus, net of duplications, co-authored with foreign scientists in the reported year;

A is the total number of articles by university staff members registered in the databases of the Web of Science and Scopus, net of duplications, in the reported year (the source of information is a direct request to Web of Science and Scopus databases);

Example of 2012 calculations.

$$A_{co} = 15;$$

$$A = 70;$$

$$KPI_{11} = 15 / 70 * 100 = 21,4\%$$

Appendix 2. Funding through Subsidy

Activities under Resolution 211/ Road Map Task	Finance		
	General	2013	2014
Implement measures aimed at building a senior university management succession pool and retaining experienced specialists with a track record of working for leading foreign and Russian universities and research organisations to hold	183,5	6,3	14,9
T 1.1 Recruiting research and teaching staff, as well as managers and administrators who are competitive on the global labour market	108,8	0,6	5,3
T 2.1. Modernization of the University's governance structures (partly)	74,7	5,7	9,6
Implement actions aimed at attracting junior research and academic staff with a track record of research and academic work with leading foreign and Russian universities and research organisations	272,9	6,2	35,1
T 1.2 Recruiting Research and teaching staff who are competitive on the global market (partly)	215,7	4,0	29,5
T 2.1. Modernization of the University's governance structures (partly)	48,2	2,2	5,6
T 2.2 Modernization of the University's finance governance structures (partly)	9,0	0,0	0,0
Implement international and all-Russia faculty academic mobility programmes in the form of secondments, development of competencies, professional retraining and in other	626,3	25,7	66,1

forms			
T 1.3. Effective deployment and development of human resources (partly)	576,0	16,0	51,0
T 2.1. Modernization of the University's governance structures (partly)	50,3	9,7	15,1
Take measures aimed at improving the performance of postgraduate and doctorate programmes	414,4	14,0	43,0
T 1.3. Effective deployment and development of human resources (partly)	234,2	12,0	30,0
T 4.2. Improving post-graduate and doctoral studies	180,2	2,0	13,0
Take measures aimed at supporting students, postgraduates, interns, and junior faculty staff	361,2	15,1	49,6
T 2.1. Modernization of the University's governance structures (partly)	26,5	3,5	4,0
T 2.2 Modernization of the University's finance governance structures (partly)	9,0	0,0	0,0
T 3.2. Fostering technology transfer and innovation-driven entrepreneurship among young scientists (partly)	36,4	2,3	4,5
T 4.1. Design and implementation of competitive educational programmes for higher professional education (partly)	168,0	2,0	30,0

T 4.3. Design and implementation of competitive Additional Professional Education programmes (partly)	14,5	2,5	1,5
T 5.1. Promoting the results of the University's activities (partly)	36,0	1,0	4,0
T 6.2. Building a comfortable and attractive environment of the University (partly)	70,8	3,8	5,6
Introduce new joint study programmes in cooperation with leading foreign and Russian universities and research organisations	1819,4	84,0	246,8
T 2.1. Modernization of the University's governance structures (partly)	77,2	8,0	23,1
T 2.2 Modernization of the University's finance governance structures (partly)	109,8	2,7	19,8
T 2.3. Organization of a change management system (partly)	151,5	11,5	25,4
T 4.1. Design and implementation of competitive educational programmes for higher professional education (partly)	652,3	39,2	97,1
T 4.3. Design and implementation of competitive Additional Professional Education programmes (partly)	75,0	2,0	5,0
T 6.1. Building a world-class university research and educational infrastructure (partly)	382,1	8,0	50,0
T 6.2. Building a comfortable and attractive environment of the University (partly)	137,8	4,7	6,4

T 6.3. Developing an open "Electronic University" information and communication environment (partly)	233,7	7,9	20,0
Take measures to attract students from leading foreign universities to study at universities in Russia, including through partnership educational programme with foreign universities and university associations	777,6	50,8	156,0
T 2.1. Modernization of the University's governance structures (partly)	50,3	9,7	15,1
T 4.1. Design and implementation of competitive educational programmes for higher professional education (partly)	59,0	6,0	12,0
T 5.1. Promoting the results of the University's activities (partly)	137,0	6,3	13,7
T 5.2. Fostering a positive image of the University	202,0	8,0	23,0
T 6.2. Building a comfortable and attractive environment of the University (partly)	329,3	20,8	92,2
Implement, as part of research plans under the Russian Long-Term University Fundamental Scientific Research Programme and with focus on priority international fundamental and applied research areas: Research projects to be led by leading foreign and Russian scholars and (or) in team with prospective research organisations, including opportunities for establishing relevant units within university infrastructure	5272,3	390,3	576,6
T 1.2 Recruiting Research and teaching staff who are competitive on the global market (partly)	711,6	15,3	40,1

T 2.1. Modernization of the University's governance structures (partly)	14,5	0,5	2,0
T 2.2 Modernization of the University's finance governance structures (partly)	109,8	2,7	19,8
T 2.3. Organization of a change management system (partly)	151,5	11,5	25,4
T 3.1. Conducting R&D in domestic and international priority areas	3015,0	272,2	326,9
T 3.2. Fostering technology transfer and innovation-driven entrepreneurship among young scientists (partly)	184,5	10,0	23,8
T 5.1. Promoting the results of the University's activities (partly)	225,6	5,0	24,0
T 6.1. Building a world-class university research and educational infrastructure (partly)	550,8	62,8	92,6
T 6.2. Building a comfortable and attractive environment of the University (partly)	137,8	4,7	6,4
T 6.3. Developing an open "Electronic University" information and communication environment (partly)	171,3	5,9	15,7

Appendix 3. Consolidated table of financing

Strategic initiative/tasks		Level of finance, RUB million		Level of finance in 2013, RUB million		Level of finance in 2014, RUB million	
		Total	Including subsidy	Total	Including subsidy	Total	Including subsidy
SI 1	Human Resources	1 879,9	1 846,2	49,4	47,9	162,3	155,9
T 1.1	Recruiting managers and administrators who are competitive on the global labour market	111,3	108,8	1,0	0,6	7,4	5,3
T 1.2	Recruiting Research and teaching staff who are competitive on the global market	927,3	927,3	19,3	19,3	69,6	69,6
T 1.3	Effective deployment and development of human resources	841,4	810,2	29,1	28,0	85,3	81,0
SI 2	Effective Governance and Finance	1 033,6	882,1	82,7	67,6	185,4	164,8

T 2.1	Modernization of the University's governance structures	365,9	341,6	40,5	39,2	77,7	74,4
T 2.2	Modernization of the University's finance governance structures	283,5	237,6	8,0	5,4	47,0	39,7
T 2.3	Organization of a change management system	384,1	302,9	34,2	23,0	60,7	50,7
SI 3	Science and Innovation	5 415,2	3 235,9	504,5	284,5	683,1	355,2
T 3.1	Conducting R&D in domestic and international priority areas	5 182,2	3 015,0	491,8	272,2	652,7	326,9
T 3.2	Fostering technology transfer and innovation-driven entrepreneurship among young scientists	233,0	220,9	12,7	12,3	30,5	28,3
SI 4	Education	1 493,4	1 149,0	71,5	53,7	206,1	158,6
T 4.1	Design and implementation of competitive educational programmes for higher professional education	1 112,7	879,3	59,9	47,2	170,8	139,1
T 4.2	Improving post-graduate and doctoral studies	188,4	180,2	2,3	2,0	14,8	13,0

T 4.3	Design and implementation of competitive Additional Professional Education programmes	192,3	89,5	9,3	4,5	20,5	6,5
SI 5	Worldwide recognition	627,7	600,6	21,7	20,3	70,0	64,7
T 5.1	Promoting the results of the University's activities	409,6	398,6	12,8	12,3	43,2	41,7
T 5.2	Fostering a positive image of the University	218,1	202,0	8,9	8,0	26,8	23,0
SI 6	Environment and infrastructure	2 189,0	2 013,6	123,9	118,4	314,9	288,9
T 6.1	Building a world-class university research and educational infrastructure	958,3	932,9	71,7	70,8	146,1	142,6
T 6.2	Building a comfortable and attractive environment of the University	808,3	675,7	37,1	33,9	129,1	110,6
T 6.3	Developing an open "Electronic University" information and communication environment	422,4	405,0	15,1	13,7	39,7	35,7

Appendix 4. Benchmarking analysis data

	ETU 2012	Uppsala University – UU (Sweden)	Karlsruher Institute für Technologie – KIT (Germany)	Royal Institute of Technology – KTH (Sweden)	Tufts University (USA)
The ratio of students to Academic staff (FTE)	8,17	19,36	17,97	17,49	11,35
Ratio of doctoral and candidate-level dissertations defended to the total number of BSc graduates	0,08	0,12	0,18	0,7	0,4
Percentage of international students	10,6%	12%	17%	30%	10%
The ratio of doctoral and candidate-level dissertations defended to Academic staff (FTE)	0,08	0,34	0,36	0,4	0,64
Percentage of international Academic staff	0	8%	14%	28%	11%
The number of Research and Teaching staff with the high citation index by Thomson ISI	0	4	1	1	4
The number of articles indexed by SCI-E и SSCI for the last year (2012)	200	4088	1998	2136	2937
The number of articles in Nature и Science journals (2012/total)	0	22 (392)	4(99)	6(64)	11(375)
Average number of citations per one University article (accumulated for the last 3 years)	4,10	7,58	6,69	6,76	7,92
The number of publication per an employee of	0,09	1,57	0,39	2,02	2,33

Research and Teaching staff					
Average number of citations per an employee of Academic staff	0,36	10,66	4,6	7,62	12,72
Percentage of articles written with international co-authors	21,4%	58%	55%	58%	35%
Income received form research for business per one Academic employee (FTE), thousand \$	12,14	315,4	291,7	302,1	178,9
Total budget of the University per one Academic employee (FTE), thousand \$	66,67	602,36	815,02	NA	858,26

Appendix 5. Detailed action plan of activities “Road Map” for 2013-2014

Assessment of the size and financing schedule of individual activities is preliminary and is made for the general reference

№	Strategic Initiatives (SI) / Tasks (T) / Activities (A)	Financing		
		2013	2014 first 6 mnths	second 6 mnths
SI 1	Human Resources	49,4	68,0	94,3
T 1.1	Recruiting managers and administrators who are competitive on the global labour market	1,0	3,4	4,0
A 1.1.1	Recruiting managers and administrators and research and teaching staff with experience at leading Russian and foreign universities and organizations	0,7	2,7	3,1
	Analysis of the current system of selection and recruitment of executives			
	Set requirements to the management staff in line with the best international standarts and designing job descriptions of executives, including competencies and skills required			
	Assessment of professional competency of the existing management team			
	Searching and recruiting managerial staff with the qualifications required to meet the needs of the University			
	Financing employment contracts signed			

A 1.1.2	Implementing measures to build a talent pool for the University's executives, develop career ladders and design individual career paths	0,3	0,7	0,9
	Determining the requirements for the qualifications level and personal competencies of managerial staff			
	Identifying employees who work in the University and who have a potential to achieve the required level of skills as well as organizational skills to perform the managerial work			
	Identifying external candidates with the required level of skills as well as organizational skills to take the leadership position in the university			
	Attract successful and effective teachers and researchers as a back-up to perform the key administrative responsibilities			
	Introduce incentive schemes for employees to improve their professional skills			
	Development and implementation of a system of individual career pathes			
T 1.2	Recruiting Research and teaching staff who are competitive on the global market	19,3	28,5	41,1
A 1.2.1	Recruiting research and teaching staff with experience at leading Russian and foreign universities and organizations	15,3	16,0	24,0
	Analysis of the current approach to selection and recruitment of Research and teaching staff			
	Analysis of Russian and global labour market of Research and teaching staff			
	Designing Job Descriptions for Research and Teaching staff in line with the best world standards			
	Assessment of research and teaching staff to be in compliance with new requirements			
	Searching and recruiting for research and teaching staff with the qualifications required to meet the needs			

	of the University by own efforts or using a recruitment agency			
	Financing employment contracts signed			
A 1.2.2	Hiring and retaining young researchers and teachers, with experience in science and researching as well as in educational areas at leading Russian and foreign universities and scientific organizations	4,0	6,1	7,4
	Analysis the global labour market for young research and teaching staff, their conditions of work and remuneration packages of the benchmarking Universities			
	Designing regulations and methodology to search and recruit the young reserch and teaching staff			
	Development of competitive motivation remunertion package for young reserch and teaching staff			
	Searching and attracting of young research and teaching staff with experience at leading Russian and foreign universities and scientific organizations			
	Financing employment contracts signed with young research and teaching staff			
A 1.2.3	Hiring and retaining post-docs, with experience at leading Russian and foreign universities and scientific organizations	0,0	6,4	9,6
	Analysis the global labour market for post-docs, their conditions of work and remuneration packages of the benchmarking Universities			
	Design of regulations and methodology to search and recruit post-docs			
	Development of competitive motivationremuneration package for post-docs			
	Searching and attracting of researching post-docs with experience at leading Russian and foreign universities and scientific organizations in order to conduct research and teaching activity at the University			

	Financing employment contracts signed with post-docs who conduct research			
T 1.3	Effective deployment and development of human resources	29,1	36,1	49,3
A 1.3.1	Developing and enhancing competencies and skills for university's employees	8,0	8,6	9,4
	Analysis of the current staffing situation and identify the needs of employees in professional growth			
	Design individual development plans as well as development and implementation of the goals in order to monitor the plans' implementation			
	Set requirements for the the University staff professional and personal competencies as well as designing policies and procedures for its further development			
	Creating a system of professional improvement trainings of young research and teaching staff in order to keep and develop the traditions of the University			
	Development of mandatory programs to train young employees of the University			
	Implementation of the professional improvement training and development of competencies programs for young employees at the University			
	Analysis of global best practices in professional improvement trainings and development of competencies of the employees			
	Introduction of professional improvement training and development of competencies programs for employees in leading Russian and foreign universities, research centers and centers of professional improvements			
	Organization of internship programs for the employees in the leading Russian and foreign universities and			

	research centers			
M 1.3.2	International and domestic mobility of the University's research and teaching staff and managers IN/OUT OF leading Russian and foreign universities, and research and technology centres	5,0	9,1	13,5
	Development of the mobility policies and procedures			
	Establishing contacts and agreements with leading Russian and foreign universities, research and technology centers			
	Introduction of mobility for the research, teaching and managerial employees in leading Russian and foreign universities and centers (70 person-months in 2014)			
M 1.3.3	Training a high-profile research and teaching staff in the University leading research groups in the format of R&D projects by interdisciplinary and breakthrough areas (Education through Research)	12,0	12,0	18,0
	Analysis of global best practices to train the high -profile Research and Development staff			
	Development of regulatory and methodological support for training of the high-profile teaching staff in the leading research groups of the University in the form of R & D projects on multidisciplinary and breakthrough areas ("Education through Research")			
	Development of regulatory documentation for organization and conduction of the competitions to ensure financing the leading groups			
	Organizing and conducting competitions in order to finance 10 leading research groups focused on the training of the high-profile teaching staff			
	Organization and carrying out at least 3 lectures, workshops and master classes during the year with the participation of leading Russian and foreign scientists in promising research areas from the leading university research groups			

M 1.3.4	Organize large-scale English-language training for the University's research, teaching and administrative staff	4,1	6,3	8,4
	Set requirements to the level of English language commanded by research, teaching and administrative staff of the University			
	Set the requirements to the structure, functional responsibilities, staff of the new language center of the University			
	Establishment of a new language center in line with the requirements set (recruitment of 3 additional specialists)			
	Develop own and/or purchase a third-party training plans and different levels work programs to train employees with the English language			
	English language training for at least 100 employees of the university per year			
	Organization of the language internships in foreign universities and partner organizations			
	Preparing for the certification of a new language center in order to obtain the right to issue international certificates			
	Accreditation of the language center to obtain the right to issue international certificates			
	Organization of testing of the language center graduates to obtain certificates of the level of English proficiency independently or with assistance of the third-party organizations			
SI 2	Effective Governance and Finance	82,7	75,7	109,7
T 2.1	Modernization of the University's governance structures	40,5	32,4	45,3

MA 2	Develop an action plan, draft regulations and internal regulatory documents, providing for a change in the type of institution by the end of 2013 under current legislation	0,5	0,0	0,0
M 2.1.1	Modernization of the University's governance structures on the basis of international best practice	7,0	3,8	4,2
	Best practice analysis of university organizational structure			
	Conduct the management audit of the existing organizational structure			
	Design of the targeted organizational structure			
	Development of the transformation plan of the university organizational structure			
	Move to the targeted organizational structure			
	Best practice analysis for universities business processes			
	Conduct the audit of the existing business processes			
	Analysis of existing informational support system for the business processes			
	Preparation of the business processes map - "as is"			
	Development of the targeted design of the university business processes - "to be"			
	Development of master plan of business processes redesign			
	Preparation of specifications for the university business processes informational support system			
	Pilot launching of renewed business processes in the separate department of the university			

	The large-scale introduction of the targeted business processes system			
M 2.1.2	Fostering a supervisory board of the University	0,1	0,0	0,0
	Perform required changes and amendments in the University Charter			
	Develop the draft of regulations about the supervisory board of the university			
	Compile and approve the preliminary list of members of the Supervisory board of the University by the Founder			
	Approval of the personal members by the Founder			
M 2.1.3	Establishing an International Scientific Board of the University and ensuring its activity	0,5	0,8	1,2
	Perform required changes and amendments in the University Charter			
	Develop the draft of regulations about the International Scientific Board of the Programm			
	Compile and approve the preliminary list of members of the International Scientific Board by the Founder			
	Approval of the personal members by the Founder			
M 2.1.4	Modernization of the structure and functional control of the educational activities of the university	6,4	4,2	4,8
	Analysis and formalization of the education management system requirements under the new environment			
	Introduction of functional, qualification, organizational changes into the education management system			
	Formalization of the quality characteristic for the educational process			

	Modernization of the education quality control system			
	Introduction of the system of students' rating and portfolio			
	Modernization of the tutor system			
	Building the individual educational paths and educational plans for students			
	Introducing the passports of the resource support for the educational program			
	Introducing the check system which controls the compliance of educational plans to the graduate competency model			
	Modernization of the students and employers survey system to ensure the satisfaction by the quality of educational programmes			
M 2.1.5	Establishing an HR function at the University	1,4	2,2	3,5
	Identifying objectives, functional, staffing and procedure of interaction with other University departments			
	Development of measures to upgrade existing HR department in accordance with the new requirements			
	Select and recruit the employees of the HR department			
M 2.1.6	Establishing an International department of the University	19,6	11,8	19,7
	Definition of tasks and functional of International Department and modernization of the International Department structure			
	Increase the number of employees of the International Department from 18 till 40 people			

	Organize the professional qualification training for International department employees			
	Modernization of the program of strategic partnership in order to expand its scope			
M 2.1.7	The modernization and expansion of the strategic partnership	0,0	5,0	5,0
	Analysis of the current partnerships of the University			
	Mapping key partners			
	Development of the partnership concept for each activity of the university (science and research, technology commercialization, education, academic mobility, etc.)			
	Reject the ineffective partnerships			
	Searching and attracting the new partners in line with the new concept			
M 2.1.8	Modernization of the Marketing department	1,0	1,0	1,5
	Development of regulatory and methodological support of the marketing department			
	Recruitment of the additional employees in line with the new department requirements			
	Integration of marketing functions under the one department			
	Creation and organization of the student marketing agency			
	The development of information-analytical system for recording and analyzing of the marketing research results			

M 2.1.9	Establishing a forecast and analytical center at the University	1,0	1,4	2,2
	Development and approval of the regulations of forecasting and analytical center by the Scientific board			
	Development and approval of short- and long-term working plans			
	Set the requirements to the staff and recruitment of the employees who have the required qualifications			
	Introduce activities to ensure the successful realization of the Program			
	Form the official reporting of the University except the financial part			
	Realization of integration into the information and analytical system called "Monitoring"			
MA 8	Developing, testing and establishing performance criteria for University faculty	1,5	0,0	0,0
MA 9	Design and implementation of a system of short-term faculty employment contracts, taking into account the performance criteria of their academic activities under contract renewal and formation of the variable part of an employee's salary	0,0	1,1	1,6
M 2.1.10	Development, testing and establishing performance criteria for the administrative and managerial employees	1,5	0,0	0,0
M 2.1.11	Design and introduction of fixed-term (effective) contracts with University research and teaching staff	0,0	1,1	1,6
OM 3	Establishing procedures for appointing the University rector by the University's founders	0,0	0,0	0,0
OM 4	Changes to the Charter and applicable employment contracts of the rector and vice-rectors			

T 2.2	Modernization of the University's finance governance structures	8,0	18,8	28,2
M 2.2.1	Transformation of budget planning and financial management on the basis of strategic target indicators	5,4	8,9	14,9
	Development of balanced strategic KPIs of the University and its department as well as monitoring mechanisms			
	Development of regulations and methodologies of the University, which provide a transformation of the budget planning and financial management system based on the targeting of strategic KPIs			
	Development of technical specifications for IT budgeting and financial management system based on the targeting of strategic KPIs			
	Development of IT-based budgeting and financial management system, ensuring the functioning of the system of budget planning and accounting based on using the common databases - (Section 4)			
M 2.2.2	Creating and filling the endowment fund	0,0	0,3	0,3
	Development of regulatory documents (The Charter)			
	Selection of the management company			
	Approval of regulatory documents and the selected management company by the decision of Scientific and the Supervisory Board of the University			
	Identifying the endowment fund partners			
	Attraction of the Alumni association of the university to establish endowment fund			
	Filling the endowment fund			

M 2.2.3	Development of a funding mechanism for named professorial chairs and named sponsored scholarship initiatives (effective 2015)	0,0	0,0	0,0
MA 5	Presentation of the University's financial statements in accordance with International Financial Reporting Standards	2,6	9,6	13,0
	<p>Creating a structural department, which provides preparation of financial statements in accordance with IFRS OS</p> <p>Analysis of accounting and reporting data for 2013 as well as development of a list of adjustments and disclosures required. Development of a methodological framework for reporting under IFRS OS</p> <p>Evaluation of non-financial assets in accordance with IFRS OS</p> <p>Development and implementation of an information support system for collecting, processing and presentation of financial statements in accordance with IFRS OS</p> <p>Preparation and transformation of the accounting data for the preparation of financial statements in accordance with IFRS OS. Training of personnel involved in the procedure for the preparation of IFRS OS</p> <p>Audit of financial statements under IFRS OS</p>			
T 2.3	Organization of a change management system	34,2	24,5	36,2
MA 1	Design, coordination and approval of the Action Plan ("road map") for the implementation of programmes to improve the University's competitiveness	10,2	0,0	0,0
M 2.3.1	Establish the office and ensure the Project Management operation (PMO)	18,0	17,5	28,2
	Development of the department organizational structure and identification of the activity list that will be in			

	the area of responsibility of PMO			
	Design of functional instructions and regulations			
	Selection and recruitment of the personnel			
	Embedding the PMO into the program control system			
	The organization of the working space for the effective functioning of the PMO			
M 2.3.2	Organization of a change management process	6,0	7,0	8,0
	Diagnostic Review stage			
	Assess impact and readiness of the University to the transformation			
	Transformation Conceptual Design stage			
	Design a transformation strategy and vision			
	Identify stakeholders management strategy and perform stakeholders mapping			
	Perform Workforce planning			
	Design an Communication strategy			
	Design a Training strategy			
	Elaboration stage			
	Develop the transformation plan and mechanisms and identify key responsible employees			

	Develop material/non-material motivation system			
	Create a Stakeholders management plan			
	Design a new organizational structure and RACI Matrix			
	Design and develop the communication plan			
	Conduct Training programs			
	Implementation and communication stage			
	Set up the transformation "hot line"			
	Monitoring and reporting the progress			
	Launch PR campaign			
	Run thaining programs			
	Obtain a feedback and perform continious improvement			
SI 3	Science and Innovation	504,5	305,8	377,3
T 3.1	Conducting R&D in domestic and international priority areas	491,8	293,6	359,1
A 3.1.1	Foresights of technological development trends in scientific and educational platforms of the University	0,0	1,6	2,4
	Development of methodology for conducting a foresight of technological development of the research platform			
	Compelling the list of scientific platforms to conduct a foresight of technological development as well as			

	developing the calendar plan and getting approval on the international science board			
	Conducting 5-6 foresights of technological development of scientific platforms			
	Introduce changes in the strategy of the University development in accordance with results of foresights conducted			
М 3.1.2	Проведение научных исследований и разработок с привлечением к руководству ведущих иностранных и российских ученых и/или совместно с перспективными научными организациями по междисциплинарным научным направлениям	311,8	195,0	230,8
	Execution of the project "Generation, transformation, recuperation and transmission of electromagnetic energy in a broad spectral range from MICROWAVES to x-rays " EFIR "			
	Execution of the project "Bionic robotics, biomedical and environmental systems for human life and its functionality extension "Interface"			
	Compelling the list of new projects on interdisciplinary research areas for approval at the International Scientific Board			
	Building the project management collegial team, developing specifications, project schedule and its approval by the International Scientific Board			
	Development of methods of cooperation with the leading Russian and foreign scientists within the framework of the implementation of new projects on interdisciplinary research areas			
	Development of methods of cooperation with scientific organizations in the joint realization of projects on interdisciplinary research areas			
	Implementation of projects on interdisciplinary research areas approved by the International Scientific Board			

A 3.1.3	Conducting R&D under the direction of specially recruited international and Russian scientists and/or jointly with up-and-coming scientific organizations in breakthrough fields of scientific research	100,0	42,8	64,1
	Implementation of the project "Distributed computing technologies and rapid methods of intellectual analysis of large amount of data and processes for the development of software and technological cluster of system knowledge generation and management of anthropogenic systems"			
	Implementation of the project "Information and communication technologies, telecommunications and radio engineering systems"			
	Implementation of the project "development and research of measurement and control systems to ensure the security of the industrial, civil projects and projects of a special use"			
	Implementation of the project "nano and Metamaterials for quantum, bio and cognitive information technology "INTELLECT"			
	Compelling for approval at the International Scientific Board of the list of new projects regarding breakthrough scientific lines (platforms)			
	Formatting of the project management office, developing the specifications, project schedules and its approval by the International Scientific Board			
	Development of methods of cooperation with the leading Russian and foreign scientists within the framework of the implementation of projects for breakthrough scientific lines			
	Development of methods for interacting with prospective scientific organizations in the joint execution of projects on breakthrough scientific lines			
	Execution of projects on breakthrough scientific lines approved by the International Board			

A 3.1.4	Conducting R&D projects jointly with leading Russian and international high-tech companies	60,0	38,4	41,6
	Scientific studies of the commercial application of ALD-method in conjunction with Beneq Ltd (Finland)			
	Scientific studies in the development of large lazer gyroscopes based on new physical operating principles, and processing of measurement data, Geodetic Observatory in Wentzel (Germany)			
	Scientific studies of the cloud environment profiling resources for distributing calculated data based on the analysis of metadata with IBM			
	Scientific studies in high-performance modules of renewable energy sources and energy-saving technology of automated material handling with ABP Induction (Germany), EFD Induction (Norway), JSC " " Power Machines " "(Russia)			
	Creating a list of research and development for the potential execution together with leading Russian and foreign high-tech companies and its approval by the International Scientific Board			
	Contracting partnership with the leading high-tech companies			
	Development of technical specifications, schedules of research and development and its approval			
	Carrying out research and development in cooperation with leading Russian and foreign high-tech companies			
A 3.1.5	Organizing a competitive open grant programme to conduct promising scientific research aimed to creating an advanced scientific and technological reserve (University Research Grant Programme)	20,0	15,8	20,2
	Development of regulatory and methodological support of an open grant competition			
	Compiling and approval of the promising scientific studies aimed to create prospective scientific and			

	technological capacity			
	Carrying 3 open grant competitions per one year to perform scientific studies			
	Execution of prospective scientific studies aimed to create an prospective scientific and technological capacity			
T 3.2	Fostering technology transfer and innovation-driven entrepreneurship among young scientists	12,7	12,2	18,2
A 3.2.1	Intellectual Property commercialization and technology transfer on the global markets	1,4	1,7	3,7
	Launching Portable X-ray system for dentistry and maxillofacial surgery which has been already developed			
	Launching Portable Immunoassay Analyzer			
	Receiving 2-3 international patents on the technologies developed per one year			
	Analysis of scientific and technical products market and evaluation of innovative potential of intellectual property of the university			
	Conducting the patents research and legally protect the intellectual property of the university including abroad			
	Participation in international exhibition, presentations, conferences regarding results of progressive applied scientific research			
	Introduction of the results of international property and consulting in technology transfer			
A 3.2.2	Developing experimental samples, models and prototypes of scientific and technical products of the University with a high potential for commercialization in global markets	9,0	8,6	12,0

	Set up new requirements for experimental samples for further commercialization			
	Design of normative documents for tender to develop the experimental samples , models and prototypes of scientific and technical products			
	Tendering for the execution of 3-4 projects per year to build experimental samples , models and prototypes of scientific and technical products			
	Execution of projects to create experimental samples , models and prototypes of scientific and technical products of the University with a high potential for commercialization in global markets			
A 3.2.3	Organizing scientific and technical creativity and innovation-driven entrepreneurship among young scientists	0,5	1,0	1,5
	Building the program of schools for young people and seminars in innovative-driven entrepreneurship			
	Development of normative documents on the organization of innovative projects competitions			
	Organization and conducting schools for young people as well as seminars in the field of innovative entrepreneurship (2-3 events per year)			
	Organization and conduct annual competition of student scientific, technical and innovative projects			
A 3.2.4	Developing business-incubator activity to establish the University start-ups	1,8	0,9	1,1
	Develop policies and procedures for competitive selection of projects and business teams			
	Organization of the competitive selection of innovative projects and business teams from academic and teaching staff of the University (5-6 teams to be financed)			
	Preparation and establishment of the university start-ups (2 start-ups per year)			

	Modernization of the business incubator based on the best international practices			
SI 4	Education	71,5	96,4	109,7
T 4.1	Design and implementation of competitive educational programmes for higher professional education	59,9	80,3	90,5
A 4.1.1	Design of new educational programs, including programs developed in the partnership with international universities and teachers	25,3	28,4	27,1
	The review, preparation and organization of the entry into the CDIO			
	Building opportunities and identifying promising areas for developing the educational programs			
	Set up the new requirements for educational programs			
	Development of study and teaching materials of new BSc and MSc of high demand			
	Development of study and teaching materials of new educational programs focusing on CDIO Standards			
	The organization of open competitions for the development of educational programs under the new requirements			
	Testing the quality of the new curriculum and further improvement if needed			
	Introduction of new educational programs			
A 4.1.2	Design and implementation of joint programmes with leading Russian and foreign universities and organizations	12,0	14,9	18,2
	Selection of partner institutions to develop joint educational programs			

Preparation and making agreements of intent with partner universities to organize joint educational programs

Design of approved plans and schedules for joint educational programs

Developing an appropriate joint educational programs in compliance with the approved standards and discussing the possibility of double degree program

Review curricula of universities who are potential partners, searching for opportunities

Building new curricula, requiring the development of new programs and courses

Joint development and introduction of programs with universities who are the members of the CDIO

Testing the quality of new joint educational programs and continuous improvement based on the mutual agreement

The introduction of new joint educational programs

A 4.1.3 Design and implementation of educational programmes in English

9,0

12,0

18,0

Need analysis for English language educational programs on local and foreign markets

Determining academic disciplines within the existing educational programs appropriate for teaching in English

Determining the need for additional resources for the designing of programs in English , sourcing and hiring the staff needed

Development of curricula and teaching materials for educational programs and separate disciplines in English

	Testing the quality of educational programs and training courses in English and improve them			
	Introduce some disciplines in the English language into the Russian language programs			
	Introduce the basic educational programs in English			
A 4.1.4	Developing a system of international and domestic academic mobility for students and post-graduates	2,2	15,5	15,6
	Modernization of the academic mobility program regulations			
	Selection of universities and partner organizations for programs of academic mobility			
	Making agreements with foreign and Russian universities and scientific organizations on joint implementation of programs of academic mobility			
	Development of individual training programs based on the standards of education			
	Introducing the programs of academic mobility of the University students in Russian and foreign universities and research centers (2013 - 20 st. , And 15 pg . , 2014 - 40 and 30)			
	Introducing programs of academic mobility of students of Russian and foreign universities in the University (2014 - 20 Chinese, 10 Europeans)			
A 4.1.5	International professional and public accreditation of educational programmes	6,0	5,3	6,7
	Selection of the accrediting organization for professional accreditation of educational programs			
	Selection of educational programs of the University which are appropriate for accreditation			
	Self-assessment of educational programs of the University for compliance with the terms of professional			

	public accreditation			
	Preparation of materials for each educational program for presentation under accreditation			
	Professional public accreditation of the educational programs of the University			
A 4.1.6	Design and introduction of educational programs to prepare for entry and study at the University	5,4	4,2	4,9
	Development and implementation of supplementary educational programs for schoolchildren in core disciplines			
	Organization of specialized preparatory classes at leading schools of St. Petersburg			
	Creating a junior technical schools and organizing trainings for talented young people			
	Organizing and conducting school competitions in core disciplines for schoolchildren			
	Conducting and participating in international competitions, conferences, competitions			
T 4.2	Improving post-graduate and doctoral studies	2,3	6,1	8,7
A 4.2.1	Enhancing post-graduate and doctoral programmes based on best Russian and international practices	2,3	2,1	2,7
	Analysis of the best Russian and foreign practices of training highly qualified staff			
	Development of the project of modernization of post-graduate and doctoral studies			
	Improving the regulatory and methodological support for functioning of the institute of post-graduate and doctoral studies			

	Create a tutor system for post-graduates			
	Launching the model "Full time Post-graduate"			
M 4.2.2	Development and realization of training programmes for high-qualified staff (post-graduates and doctorants) together with the leading international and local universities and scientific organizations, including programmes in English	0,0	4,0	6,0
	Demand analysis for English training programs for highly qualified staff on the Russian and international markets			
	Determining the need for additional resources for the development of programs in English as well as searching and recruiting staff needed			
	Development of curricula and teaching materials for English programs (18 programs till 2020)			
	Development and implementation of training programs for higher qualified staff in cooperation with leading Russian and foreign universities as well as research institutions (10-15 programs till 2020)			
	Launching the teaching of some disciplines in English			
	Execution of the higher qualified staff training programs in English			
A 4.2.3	Create opportunities for graduate students and researchers to earn PhDs (effective 2015)	0,0	0,0	0,0
	Best practices analysis in preparation to the defense of thesis as well as in decision making to award the PhD			
	Development of regulatory and procedural framework of the International Council to award a PhD degree in the ETU			

	<p>Selection of candidates and obtaining approval from the leading international scientists to participate in the work of international boards of ETU</p> <p>Creation of international boards which award a PhD in ETU , together with partner universities</p> <p>Developing long-term partnerships with leading international universities for graduate students and researchers to obtain the PhD degree</p> <p>Implementation of individual learning paths and creation of individual support for graduate students and doctoral students to defense thesis in the leading foreign universities</p>			
T 4.3	Design and implementation of competitive Additional Professional Education programmes	9,3	10,1	10,5
A 4.3.1	Design and implementation of competitive Additional Professional Education programmes in priority areas of scientific research	6,8	9,1	10,0
	<p>Demand and competitiveness analysis of the separate programs of continuing education</p> <p>Development of curricula, working programs and study and methodological materials of the new courses for professional qualification improvement</p> <p>Development of standard package of training courses and workshops for professionals of individual industries</p> <p>Promotion of new continuing educational programs in the breakthrough knowledge areas on the market</p> <p>Execution of programs of continuing professional education in priority lines of research</p>			
A 4.3.2	Development and introduction of additional educational programmes for students under the request of the strategic partners	2,5	1,0	0,5

	Analysis of suggestions made by strategic partners for a set of additional competencies of graduates			
	Compelling of curriculum for additional activities taking into account the main programmes curriculum			
	Development of educational programmes as well as learning and methodological materials for additional education			
	Testing of additional educational programmes in focus groups and discussing with strategic partners the correction changes which should be made into the curriculum			
	Launching the corrected additional educational programmes			
SI 5	Worldwide recognition	21,7	29,5	40,5
T 5.1	Promoting the results of the University's activities	12,8	17,5	25,7
A 5.1.1	Promoting educational programmes in English for foreign and Russian citizens	3,6	3,3	4,8
	Determination of educational programs to promote			
	Determination of geographical preferences and partner universities to promote the educational programs			
	Design and production of marketing materials			
	Presenting the educational programs in the partner universities and national government bodies responsible for education			
	Participating in the exhibitions and conferences			
	Introduce core summer schools			

A 5.1.2	Promoting educational programmes in Russian for foreigners	3,2	2,9	4,2
	Determination of educational programs to promote			
	Determination of geographical preferences and partner universities to promote the educational programs			
	Introduction of the Preparatory department for foreigners			
	Introduction of Russian language center			
	Production of advertising materials			
	Participating in the exhibitions and conferences			
	Presenting the educational programs in the national government bodies responsible for education			
	Introduce core summer schools			
A 5.1.3	Increasing the publishing activity of the University's research and teaching staff	3,0	6,0	9,0
	Development of activities to stimulate scientific, research and teaching staff to publish articles in the scientific journals included in Web of Schiene and Scopus			
	Introducing and managing the center of technical support for Russian and international publishing activity (consists of 5 employees)			
	Execution of technical translation and assistance for scientific, research and teaching staff of the university during the process of publishing in the scientific journals included in Web of Science and Scopus			
A 5.1.4	Promoting the University's scientific and technical products and services in the Russian and foreign	2,0	3,7	5,3

	markets			
	Determining the list of exhibitions, conferences, seminars, forums and other events which could be interesting to participate in			
	Holding international events in the University			
	Participating in the international exhibitions, conferences, symposiums, congresses, seminars, forums focused on interdisciplinary and breakthrough scientific research areas of the university			
A 5.1.5	Developing an employment and career support system for University students and graduates by working with employers and alumni associations	1,0	1,6	2,4
	Establishing and managing the center of careers for students and graduates of the University			
	Establishing and managing the Alumni association			
	Building a long-term relationships with alumni of the university and obtaining a regular feedback			
	Making a long-term agreement for professional training of graduates upon the requests of the employers			
	Making agreement with Russian and international companies for students internship programs			
T 5.2	Fostering a positive image of the University	8,9	12,0	14,8
A 5.2.1	PR promotion of the University in Russian and foreign media outlets , including Internet-based PR promotion programme	8,1	9,0	10,2
	Establish the press-cutting service in the University			
	Establish the editorial office for the website of the University			

	Design and active use of the university house style			
	Design and introduction of the strategy to promote and create a positive brand of the University			
	Manage the publications in Russian and international mass media			
A 5.2.2	Representation of the University in international organizations, associations, companies, and boards of foreign universities	0,7	3,0	4,5
	Organize the entrance and activities of the university in targeted international organizations and associations			
	Create a database of experts of the university and establish expert support for the employees			
	Develop incentive schemes of the personal participation in the international organizations and associations			
MA 6	Data collection and annual reporting for the QS international rating	0,1	0,0	0,1
MA 7	Data collection and submission of annual data for the QS subject ranking	0,1	0,0	0,1
SI 6	Environment and infrastructure	123,9	130,6	184,3
T 6.1	Building a world-class university research and educational infrastructure	71,7	58,5	87,6
A 6.1.1	Creating and equipping a network of world-class research centres and laboratories in areas related to the University's scientific and educational platforms	33,5	15,4	23,0
	"Establishment of a center for bioanalytical research, methods of control and diagnostics (" INTERFACE ")")"			
	Create a Scientific and educational center named "Future systems, materials and information and communication technology"			

	Creating a cluster of science intensive computer technology			
	Establishment of the measurement and control systems center to ensure the safety for moving crafts and industrial projects			
A 6.1.2	Developing and equipping University-wide community centres, including centres of excellence, competence centres, resource centres, and prototyping centres	29,3	21,7	32,5
	Creating a design center named "Design and technology of prospective information and communication as well as radio electronic devices"			
	Creating a resource center for computational tasks and computer simulation of complex systems			
	Establishment of the Centre of microtechnology and diagnostics			
	Creating a competence center of metrology, algorithmic, smart metering, dynamic measurement, standardization, design of experiments, modeling and analysis of signals (fields), magnetic measurements, GIS technology			
A 6.1.3	Creating and developing an integrated educational complex at the University	8,9	21,5	32,0
	Modernization of classrooms and laboratories of the University to introduce the modern ways of study process organization			
	Building the infrastructure of integrated learning centers and laboratories for the CDIO technology use			
	Buying software for the study and science processes organization			
	Establishment of The Foreign Languages Center (Russian language studies for foreigners , foreign language studies for Research and development, administrative staff and other employees of the			

	University)			
	Developing the Institute of Continuing Education infrastructure			
T 6.2	Building a comfortable and attractive environment of the University	37,1	53,9	75,2
M 6.2.1	Modernization and reconstruction of dormitories	17,5	39,1	52,0
	Execution of the project of reconstruction of dormitories for 240 beds			
	Modernization of the dormitory rooms to ensure operation for not less than new 90 beds per year			
A 6.2.2	Developing an engineering and general infrastructure of the University	9,4	8,1	9,7
	Modernization of International Department Infrastructure			
	Modernization of marketing center infrastructure			
	Creation of infrastructure of post graduates and doctoral studies			
	Modernization and equipping of the transfer technology center premises			
	Development and implementation of the project to ensure unimpeded access to the university buildings and dormitories for disabled people			
	Modernization of the recreation zones and organization of informational environment inside the university (including interactive signs with information in Russian and English)			
	Modernization of the integrated system to keep the comfortable temperature in the university buildings in accordance with the hygiene requirements of the indoor environment (including distribution networks of			

	heat and hot water)			
	Establish facilities in conference rooms which provides simultaneous translation into English			
	Establish the HR department infrastructure			
	Modernization of programming and analytical center			
	Modernization of accounting and finance control management systems			
	Creation and equipment of reconstruction and development of infrastructure department			
A 6.2.3	Creating an attractive social environment to enhance the health, cultural and intellectual development of the University's staff and students	10,3	6,6	13,5
	Reconstruction and equipping of the existing sports facilities			
	Transforming new premises into the sports complex, including the power sports area (arm wrestling, powerlifting, etc) and table tennis			
	Rental of sports facilities.			
	Building the animation and creative center for cultural events FZP (5,630,000 rubles).			
	Reconstruction of existing facilities and equipment			
	Rental of premises			
	Opening multimedia studio for audio and video recording			
T 6.3	Developing an open "Electronic University" information and communication environment	15,1	18,2	21,5

A 6.3.1	Creating an ERP-based unified information space	1,4	9,4	11,1
	Moving to the new version of the ERP (for all modules)			
	Modernization of subsystem for administrating of the training process and the integration of external modules of the "Management of educational activities" subsystem			
	Modernization of HR subsystem and extention of informational fields for the form of effective contract			
	External support			
	Deploying the ERP HCM - HR and Talent Management			
	Modernization of Finance management subsystem			
	Creation of informational subsystem aimed to support the department of doctoral and post-graduates			
	Development of subsystem - Dormitories and household services			
	Development of an integrated subsystem of informational support of research unit			
	Development a system of administrative electronic document circulation and records keeping managementsystem of the university			
	Development and implementation of an integrated corporate subsystem of analytical data processing and support in decision making (BI ETU)			
	Creation of a common informational subsystem to ensure support for the admission campaign			
	Modernization and further development of intranet of the University			

Purchasing of additional specialized software and deployment of work stations for developers of electronic training materials, trainings for the university employees

The deployment of active distance learning services and control of knowledge those who enrolled to follow BSc and MSc programs

A 6.3.2 Deploying modern e-learning services to support the mobility of participants of the educational process

2,0

1,7

2,5

System adaptation for the needs of internaional students

Design and develop an online portal for the laboratory works

Expand the e-learning system

Introduce a learning content management system by providing the sistem with samples of works, exams and learning materials

Introduce webinars and lectures' broadcast delivered by the leading scientists in the format of vidoeconferencing

Develop a testing system and sytem of distanced scientific olimpiads

Introduce the system of recording and translation of lectures

Arrange the placement of author'slearning materials and provide the assess to it with a feedback system launched

Establish the system of personal accounts -"dashboards" and individual study plans with the assess from the mobile devices

A 6.3.3	Creating an open library and information environment	0,0	1,8	1,9
	Providing the new programs with educational and scientific literature, including in foreign languages, and creating information resources packages by the areas of training			
	Providing a common access to all library resources and organizing a common interface for accessing information resources			
	Purchase the licence to access IEEE Digital library			
	Modernization of working places for students and employees and update of computers and software			
	Establish a library informational center on the basis of the library to ensure support for those who use the library and to develop the publication activity of the authors			
	Implementation of selective distribution of information, differentiated services and training of post-graduates and research and teaching staff			
	Provide the informational support for authors and assist in publishing activities			
A 6.3.4	Developing the University's publishing and printing services based on "print-on-demand" technology	10,9	2,3	3,0
	Creation of automated work spaces for editors who will prepare and issue electronic publications			
	Complete equipping the technological chain for manufacturing of scientific and educational literature using post printing equipment to work on the system "Print on Demand" (Print-on-demand)			
	Modernization of the risography section using modern IT technologies on the basis of hardware and software complex RISO			

	Establish the offset printing center			
	Equipping of the offset printing center			
A 6.3.5	Modernizing the University's IT infrastructure	0,8	3,0	3,0
	Creating a university data center for optimal automatic control of computing resources and data storage resources, ensuring the 24h smooth operation of information systems of the university.			
	Modernization and expansion of the network infrastructure of the university and deployment of wireless zones (Wi-Fi)			