



MISIS

National University of
Science and Technology

Rector's Introduction



Dear colleagues and partners!

NUST MISIS, relying on the basics of the classical education, is a dynamically developing innovative research and educational centre. We form our own scientific and educational agenda, develop a creative, international university environment, train researchers and engineers for the future – bright and successful members of our society who are able to work in team to solve most important scientific and technological problems in an innovative economy.

This has become possible largely due to the successful implementation of the NUST MISIS Creation and Development Program for 2009–2017, approved on June 30th, 2009 by the order of the Government of the Russian Federation.

The aim of the Creation and Development Program is to form modern institution of higher education which trains specialists of all levels, as well as conducts world-class research and developments, makes a significant contribution to the development of backbone economy, science and education sectors of the Russian Federation. The objective of the program was achieved through the coordinated implementation of a set of interrelated activities in terms of time, resources and results. The system of activities was built in accordance with the following principles: complexity, concentration on critical areas, flexibility and adaptability, co-financing and attraction of extra-budgetary resources. The Program activities were implemented in the following areas: development of advanced academic programs and technologies; creation of a generation system and knowledge dissemination, competitive industrial technologies and innovations; formation of modern university infrastructure and management system. The volume of financial support for the Program's activities amounted 1,8 billion Rubles from the Federal budget, and 1,6 billion Rubles from extra-budgetary funds. Since 2014, the Program has been implemented by NUST MISIS from the extra-budgetary sources. All tasks were solved, and performance indicators were fully implemented during the period of the Program.

The basis for the further progress, which allowed the University to become the winner of the 5-100 Project: the state competitiveness enhancement program among world-leading research and educational centres – has become possible thanks to the implementation for the Creation and Development Program at NUST MISIS.

The strategic goal of NUST MISIS is to strengthen its positions in the fields of materials science, metallurgy and mining, as well as to significantly strengthen its positions in the fields of bio-, nano- and IT-technologies by 2020.

A number of strategic initiatives are envisaged as part of the Project 5-100's «road map»: implementation of mechanisms to ensure the concentration of resources on breakthrough areas, strengthening of research and academic staff, attraction of talented students and postgraduates, creation of a University infrastructure that meets modern requirements.

According to the results of the Project 5-100 «road map» defense, NUST MISIS entered the group of absolute leaders in 2017. The results of NUST MISIS activities were highly assessed by experts in Russia and abroad, which resulted in strengthening of the University's positions in prestigious national and international rankings. NUST MISIS has strengthened its positions in world's leading academic rankings, and for the first time has entered the THE, QS and ARWU rankings by subject in six directions at once: the TOP-50 of the «Engineering – Mining» subject ranking, and TOP-100 in «Engineering – Metallurgy».

Summing up the results of 2017, we can say with confidence that the staff of NUST MISIS has achieved outstanding results in all areas of activity: educational, research, cooperation with the business community. In 2018 NUST MISIS is celebrating a significant date – a century since the founding of its predecessor, the Moscow Mining Academy. NUST MISIS is a deserving follower of its legendary predecessors.

Alevtina Chernikova
Rector of NUST MISIS

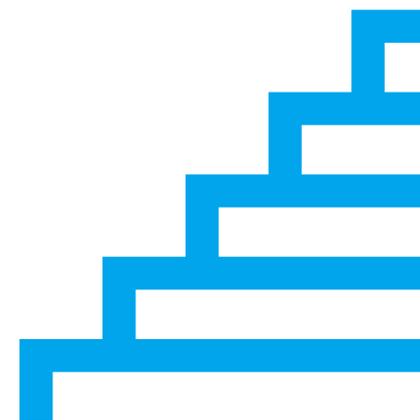


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ABOUT THE UNIVERSITY

01

ABOUT THE UNIVERSITY

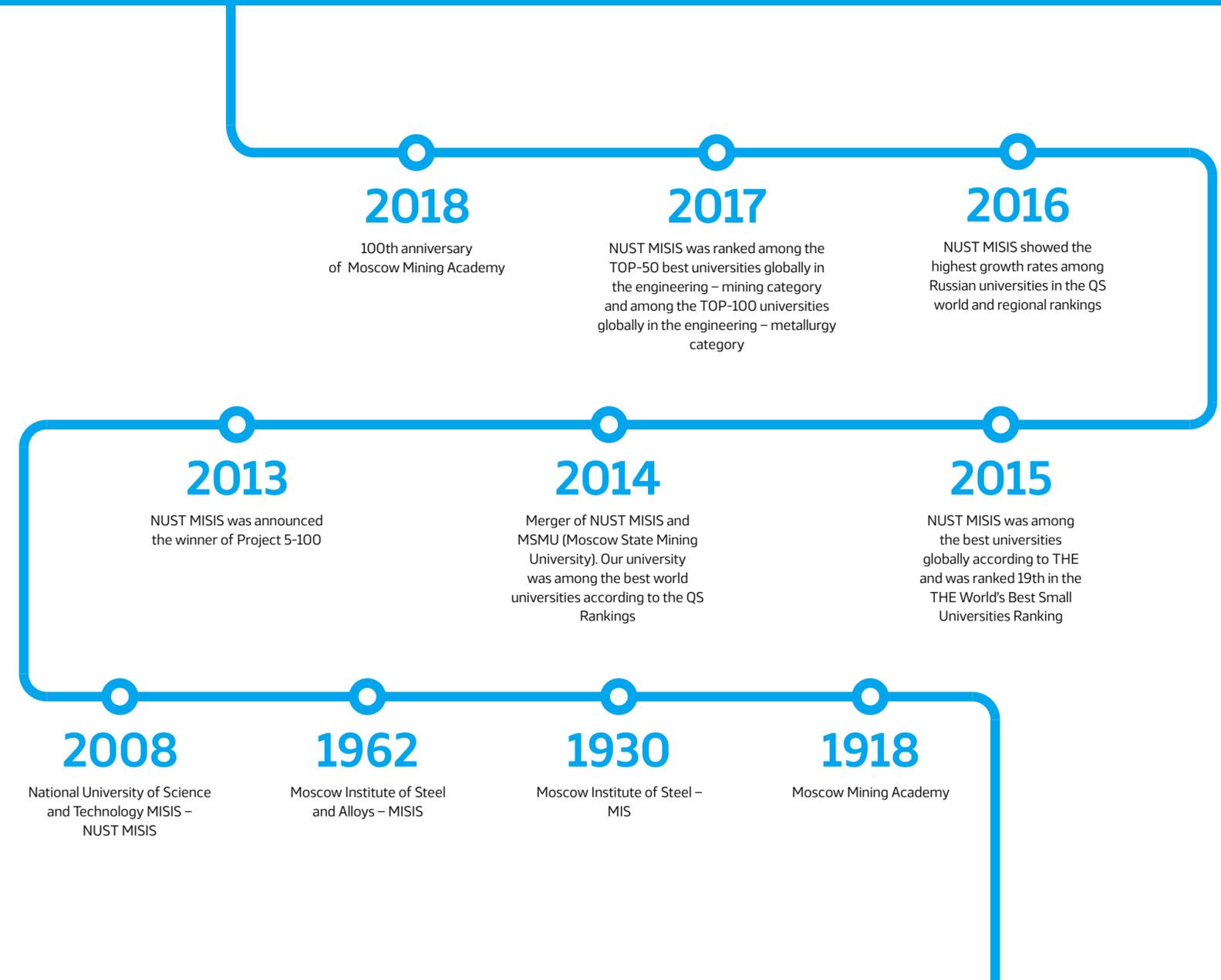
Colleges	9
International School of Business and Technology	1
Branches	5
Research laboratories	> 30
World-class engineering centres	3
Small innovative enterprises	> 30
Shared use centre	1
Employees	4 000
Doctors and candidates of sciences	> 1 000
Students	> 17 000
Foreign students	24%



HISTORY



Building of the Moscow Mining Academy



NUST MISIS IN INSTITUTIONAL RANKINGS

NUST MISIS IN RANKINGS BY SUBJECT

601+

THE World University Rankings

TOP-200

THE BRICS

301+

THE Europe

31

in the QS ranking by subject
in the engineering – mining
category

76

in the ARWU ranking by subject
in the engineering – metallurgy
category

251+

in the QS ranking by subject
in the materials science category

501+

QS World University Rankings

61

QS BRICS

57

QS Emerging Europe&Central
Asia

220

in the U.S. News Best Global
Universities-2017
in the materials
science category

351+

in the QS ranking by subject
in the engineering – technology
category

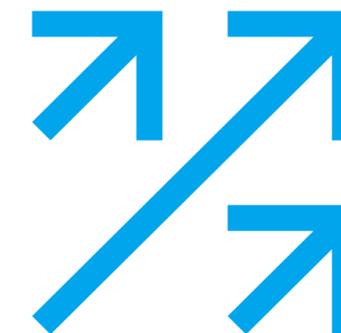
401+

in the THE ranking
in the engineering –
technology category



“Against the background of tight competition in the market of modern higher education with standards of education and science changing daily, we have to move quickly. An improved position of NUST MISIS that moved from the 800+ group to the 600+ group in Times Higher Education World University Ranking in 2017 is a significant achievement for the university and a real cause for celebration”.

Phil Baty
Editorial Director of The Times Higher Education Ranking

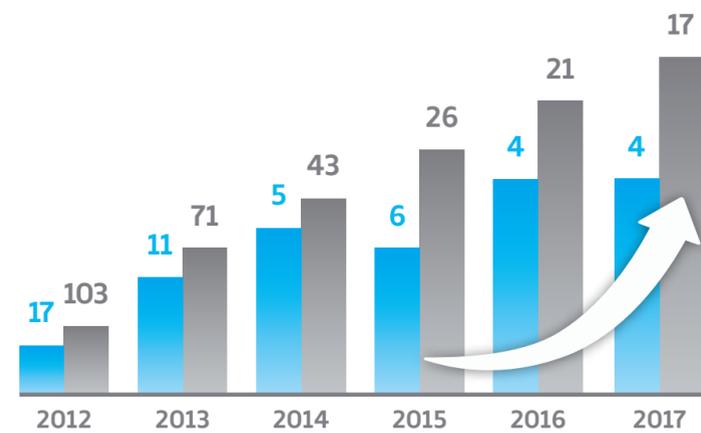


451+

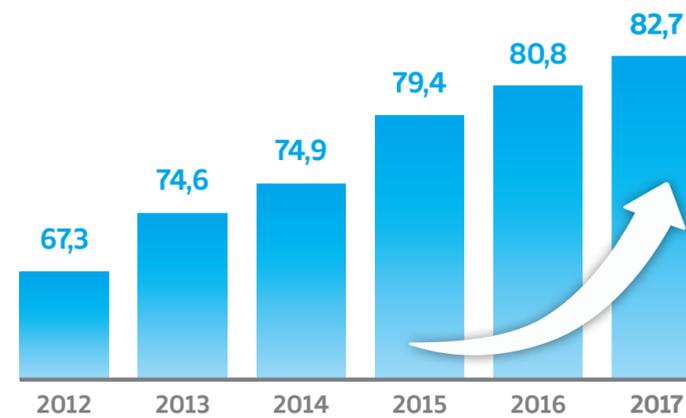
in the QS ranking by subject
in the physics category

NUST MISIS IN NATIONAL RANKINGS

ADMISSION QUALITY IMPROVEMENT



AVERAGE USE GRADE GROWTH



Technical universities, over 300 admission quotas

All universities, over 300 admission quotas

NUST MISIS is ranked first among Russian universities majoring in electric power and power engineering according to Monitoring the Quality of Admission to Russian Universities in 2017.



02



EDUCATIONAL ACTIVITIES

EDUCATIONAL SYSTEM

Education levels

4

Fields of study

136

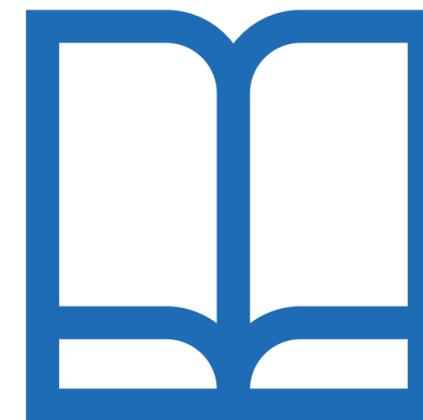
Educational programs

265

Educational programs in English

9

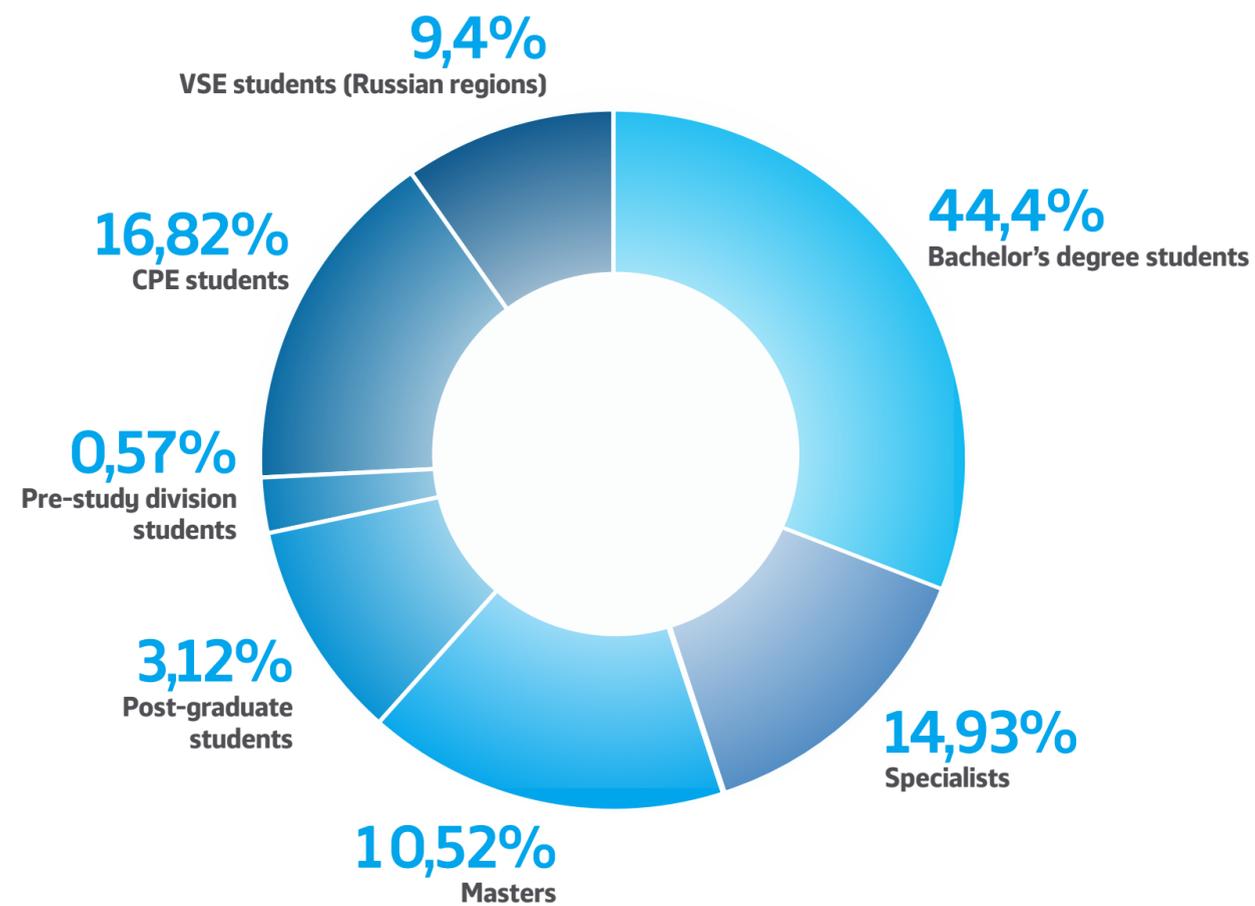
In the field of education, the primary focus is continuous improvement of curricula quality. The educational activities have been restructured. Admission to bachelor's and specialist's degrees has reduced, while admission to master's degree programs has doubled. New master's degree programs are developed every year, including courses in English.



STUDENTS STRUCTURE

More than 17,000 people study at NUST MISIS in all fields of study: vocational secondary education (VSE), bachelor's, specialist's, master's degree programs, post-graduate and continuing professional education (CPE) programs.

Students per fields of study, %:



ADMISSION CAMPAIGN



The admission campaign of 2017 has become the most successful for NUST MISIS for the most recent years. Since 2012, the average USE grade in the our university has increased from 67,3 up to 82,7.

Each third entrant admitted to NUST MISIS in 2017 has a certificate of secondary education with honours, and each second – the average USE grade of 240 and higher. The number of winners and medallists of academic olympics admitted to our university without taking entrance examinations has increased by 50%. In 2017, the competitive selection at NUST MISIS exceeded 50 applicants per seat. The most popular colleges are: College of IT and Automated Control Systems, as well as College of New Materials and Nanotechnology.



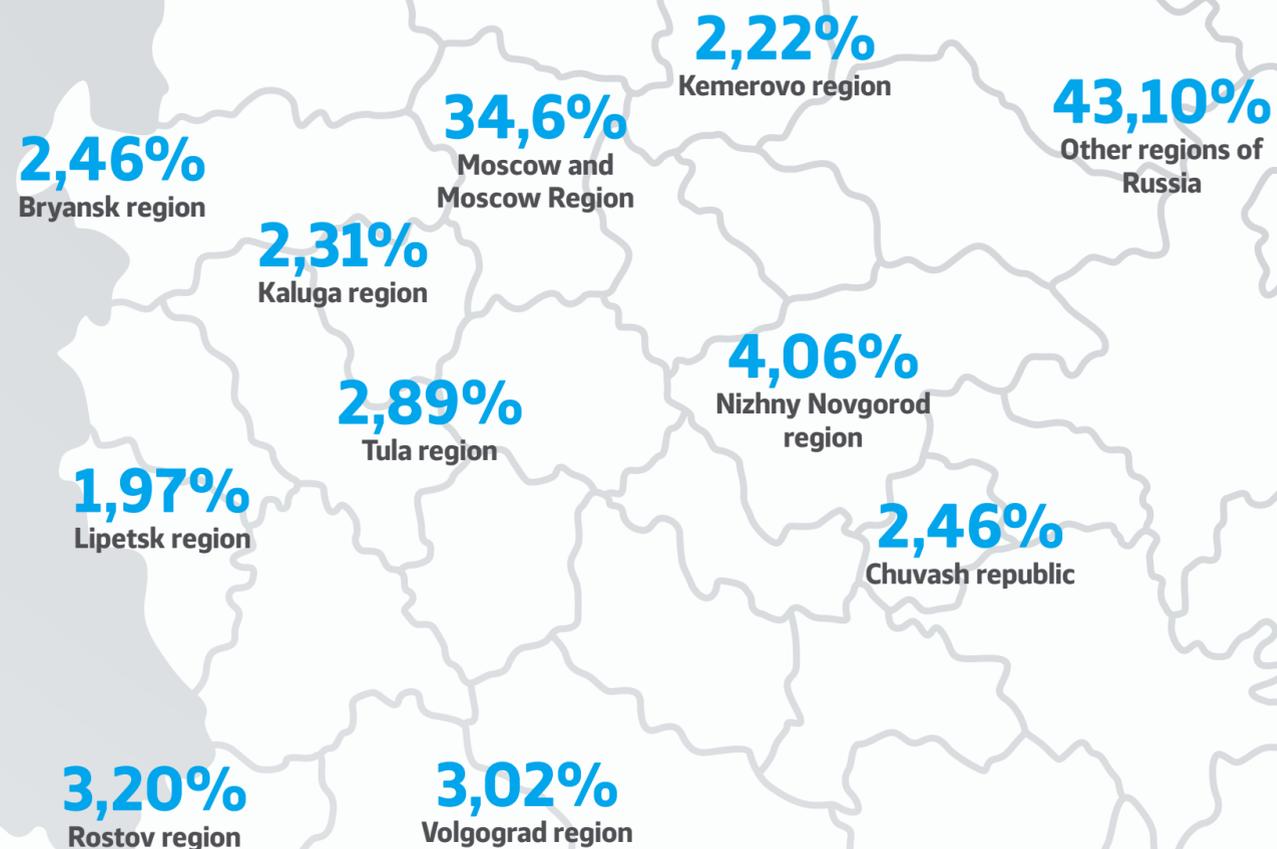
356

students participated in the international competition named after A.A. Bochvar to be admitted to the master's degree program with NUST MISIS.



DISTRIBUTION OF ENROLLED STUDENTS BY CONSTITUENT ENTITIES OF THE RUSSIAN FEDERATION (WITHOUT BRANCHES)

In 2017 NUST MISIS enrolled the total of 3,885 new students.



BEST PRACTICES OF THE ADMISSION CAMPAIGN

As part of the occupational navigation program, NUST MISIS is implementing over 30 projects attended in 2017 by 160,000 school students from all over Russia, CIS countries and far-abroad states. In addition to traditional programs, such as academic olympics, Welcome Days and University Saturdays, NUST MISIS implements projects jointly with the Department of Education of Moscow, as well as its own special ones.

Automation of services

Each year, more and more entrants select engineering majors. To make the admission process more comfortable for entrants, in 2017 the mechanism of filing documents was automated: electronic queuing and registration the online filing service via the personal account continued operating and the entire work flow process was digitised. It allowed to considerably reduce queues and update the details of entrants on the website of our university in the real time mode.

Best MISIS – Creating the Future scholarship

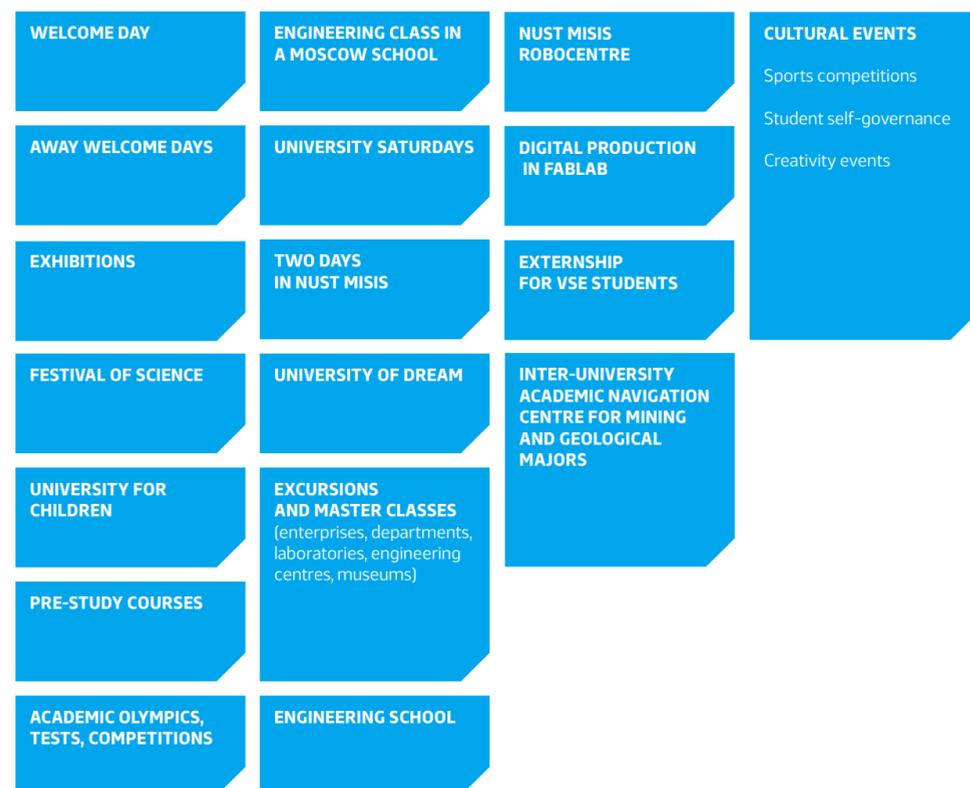
In 2017, NUST MISIS increased the minimum monthly scholarship up to 15,000 Rubles. It is given to entrants who gained 240 and more USE grades per three disciplines, as well as winners of the academician A.A. Bochvar competition entering the master's degree program.

Engineering class in a Moscow school

Student of the NUST MISIS engineering class, junior of the Moscow school Alyona Nikiforova won the Russian stage of Intel International Science and Engineering Fair, the largest international pre-university academic competition. She will present her academic and research project of an oil vacuum cleaner in May 2018 at the final stage of the competition to take place in Pittsburgh (USA).

OCCUPATIONAL NAVIGATION

Moscow and Moscow region



Russian regions



Far-abroad countries and CIS states



Identification and support of talented youth



COLLABORATION WITH CHILD EDUCATIONAL CENTRES



NUST MISIS has developed and is implementing the occupational navigation program, pursuant to which it actively cooperates with leading national educational centres.

Sirius

NUST MISIS has become a participant of the first educational program entitled "Big Challenges" with Educational Centre Sirius. The university is currently supervising the new materials section organised by five largest metals companies: OMK, NLMK, Mechel, Chelpipe and Severstal. Within a month, schoolchildren of classes 8-10 from various Russian towns/cities worked on five academic projects under the direction of their tutors – scientists and lecturers of NUST MISIS.



Orlenok

In December 2017, NUST MISIS and All-Russian Child Educational Centre Orlenok signed a cooperation agreement, under which the university undertakes to develop a special educational program for the new materials major.

Artek

In 2017, NUST MISIS became a thematic partner of educational centre Artek. The university developed the program entitled "New Materials and New Technologies: a School of Engineering Solutions or How to Make a Discovery?" designed to identify and support gifted children willing to acquire an engineering education.

For the first time ever, Artek hosted academic olympics entitled "MISIS Lights Stars", whose final was attended by over 350 schoolchildren from all across Russia. Winners and medallists will obtain additional 10 points to their USE grade for the purposes of admission to NUST MISIS.



EDUCATIONAL ENVIRONMENT

Digital educational environment

The integration of digital technologies into educational activities enabled the university to transform the majority of its educational processes, from the revision of the educational content system and functions of a modern lecturer to upgrading major vocational educational programs and technologies of implementing the same. NUST MISIS has implemented training platform LMS Canvas used to manage student self-studies and mixed education. As of now, over 2,500 students are enrolled in 250 programs.

English for engineers

Touchstone@MISIS is a joint project of NUST MISIS and the University of Cambridge that is second to none in the Russian education sector. Having completed 4 years of studying English, students take an exam and acquire one of the most highly-demanded international certificates in IELTS. For 8 years of this program's existence, 400 students with a bachelor's degree and the advanced level in English graduated from the university.

Centre of the Russian language

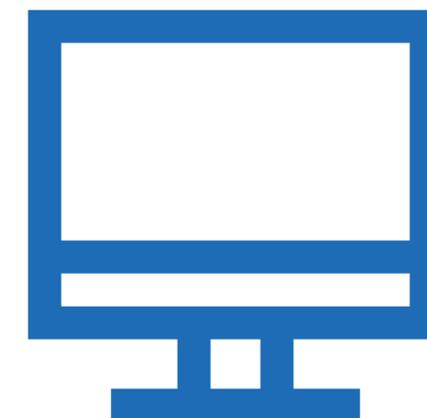
The work of the centre that has succeeded the department of Russian as a foreign language created in 1952 is designed to educate entrants and students from CIS states and far-abroad countries. The centre is involved in academic, methodological, educational and country-specific activities intended to teach foreign students to use the business language and an academic tone of letters. Graduates of the centre become winners and medallists of all-Russian and inter-university academic olympics in the Russian language and culture of speech.



ACCREDITATION OF EDUCATIONAL PROGRAMS

State accreditation as of late 2017

Total accredited programs	123
Bachelor's degree	59
Master's degree	23
Specialist's degree	4
Post-graduate studies	17
VSE	20
International quality mark EUR-ACE® – master's degree program	6
Professional and public accreditation – master's degree programs	8
Professional and public accreditation – VSE	2



NEW EDUCATIONAL STANDARDS



NUST MISIS higher education standards taking account of popular professional standard, international requirements to the quality of an engineering education and the global CDIO initiative are the fundamentals for developing educational programs that are competitive both in the Russian and international labour markets.

The following 24 educational programs acquired professional and public accreditation: 14 bachelor's degree programs, 8 master's degree programs and 2 VSE programs.

13 bachelor's degree programs and 6 master's degree programs have the EUR-ACE® quality mark.

Our university offers 8 English-speaking master's degree programs, of which two have an international accreditation with ASIIN: Multicomponent nanostructured coatings, Nanofilms and Quantum physics for advanced materials engineering.

The university has a license to carry out educational activities in 135 fields of study.

ENGLISH-LANGUAGE SUMMER SCHOOLS

In 2017, NUST MISIS continued arranging English-speaking summer schools allowing to get acquainted with university activities, work in an international multi-discipline team, take lectures and attend master classes held by the leading Russian and foreign scientists



More than 100 students from China, Poland, Ethiopia, Nigeria, Pakistan, Ghana, India, the Czech Republic, Spain, Croatia, Greece, Iran, the Netherlands and other countries attended trainings in NUST MISIS summer schools.

International Summer School of the Russian Language

Summer School of 2017 Mainstreams in IT: Big Data and Project Management

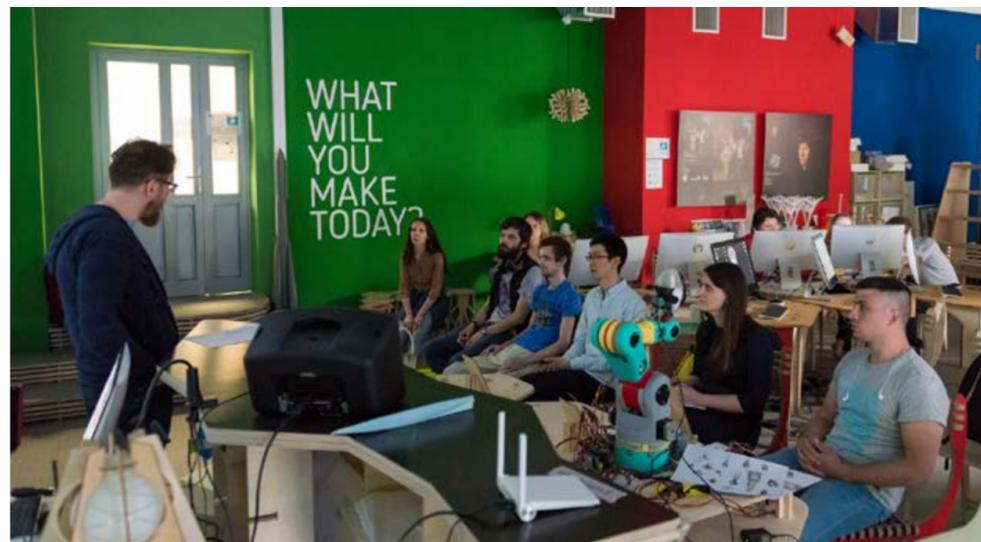
Summer School of 2017 Materials and Technologies

NEW MASTER'S DEGREE PROGRAMS

Master's degree programs Digital Production Technologies and Materials

The year 2017 saw the first Russian graduating class of the master's degree program entitled "Digital Production Technologies and Materials" opened jointly with the Institute for Advanced Architecture of Catalonia (IAAC) based on the department of non-ferrous metals science and FabLab of NUST MISIS.

As a graduation paper, masters implemented their own project – an independently designed and manufactured functional device.



Students implement projects together with major architects, designers and engineers from Europe and the United States.



NEW MASTER'S DEGREE PROGRAMS

Master's degree programs with partners

In 2017, NUST MISIS started the Master's Degree with Partners project composed of educational programs implemented by the university jointly with other Russian leading universities and high-tech companies.



Financial and Industrial Groups: Engineering Systems and Technologies, analytics and Finance jointly with the Financial University under the Government of the Russian Federation

The first Russian master's degree program designed to teach engineers with competencies in the area of economics and finance, as well as financial experts with engineering and technology expertise. Industrial partners: HATCH and KPMG.

Strategic Management of International Commodity Companies jointly with MGIMO of the Ministry of Foreign Affairs of Russia and Non-Profit Partnership of Encouraging the Development of Mining Industries

The key advantage of the program is the combination of the primary competences of two leading Russian universities. The basic disciplines are: technologies, business processes and microeconomics of commodity companies, corporate governance and strategic management of mining enterprises, as well as geopolitics and geoeconomics, global commodity markets, foreign trade activities, international technology market and international law.

Corporate and Industry-Specific Innovation Systems Based on the Inter-Disciplinary Analysis and Synthesis jointly with the Financial University under the Government of the Russian Federation and Lobaev Arms

Inter-university master's degree program designed to train specialists for arranging high-tech business in Russia and abroad. Graduates will have a set of inter-disciplinary competences – from the design and assembly of modern machines to the development of business plans and attraction of investors.

ONLINE

23
online course are
launched at
openedu.ru

NUST MISIS opened pre-master's degree online courses for entrants to subject-oriented master's degree university programs. Nine courses were developed by leading scientists specifically for the national platform of open education and enable future masters to praise a high level of education in the university in the test drive mode and acquire additional points on admission.

56,000
participants of online
courses on openedu.ru

56,000 participants of NUST MISIS online courses were registered on the openedu.ru platform in 2017.

>10,000
participants on EdX

More than 10,000 participants registered for 2 English-language online courses developed for the EdX platform.



In 2017, NUST MISIS joined the top-priority educational project entitled “Modern Digital Educational Environment in the Russian Federation” aimed at high-quality and affordable online training of Russians with the help of digital technologies.

ADDITIONAL VOCATIONAL EDUCATION

First graduates of the MBA Industrial Enterprise Management course

The first graduates of the program developed jointly with United Metallurgical Company are 26 line managers of 4 Russian metallurgical works. The program is aimed at career enhancement in the area of effective industrial engineering. Participants not only acquired theoretical expertise but also got acquainted with the experience of industrial engineering of the leading Russian and foreign enterprises.

First admission for the MBA Strategic Management at Mining Enterprises course

The training under the only Russian target program of educating future managers of mining companies is based on the Centre of Strategic Management and Commodity Market Conditions of the Mining Institute of NUST MISIS. The first participants of the program are employees of such coal companies, as SUEK, Karakan Invest Group of Companies, Russian Coal, Management Company Northern Kuzbass, etc. It is a joint project of the Inter-University Educational Centre participated by NUST MISIS, MGIMO of the Ministry of Foreign Affairs of Russia and Non-Profit Partnership Encouraging the Development of Mining Industries.



Presentation of MBA projects



“OMK has been cooperating with NUST MISIS for many years already; together we have successfully implemented many large projects. Expertise provided by the university is of a very practical nature, I know it at first hand.”

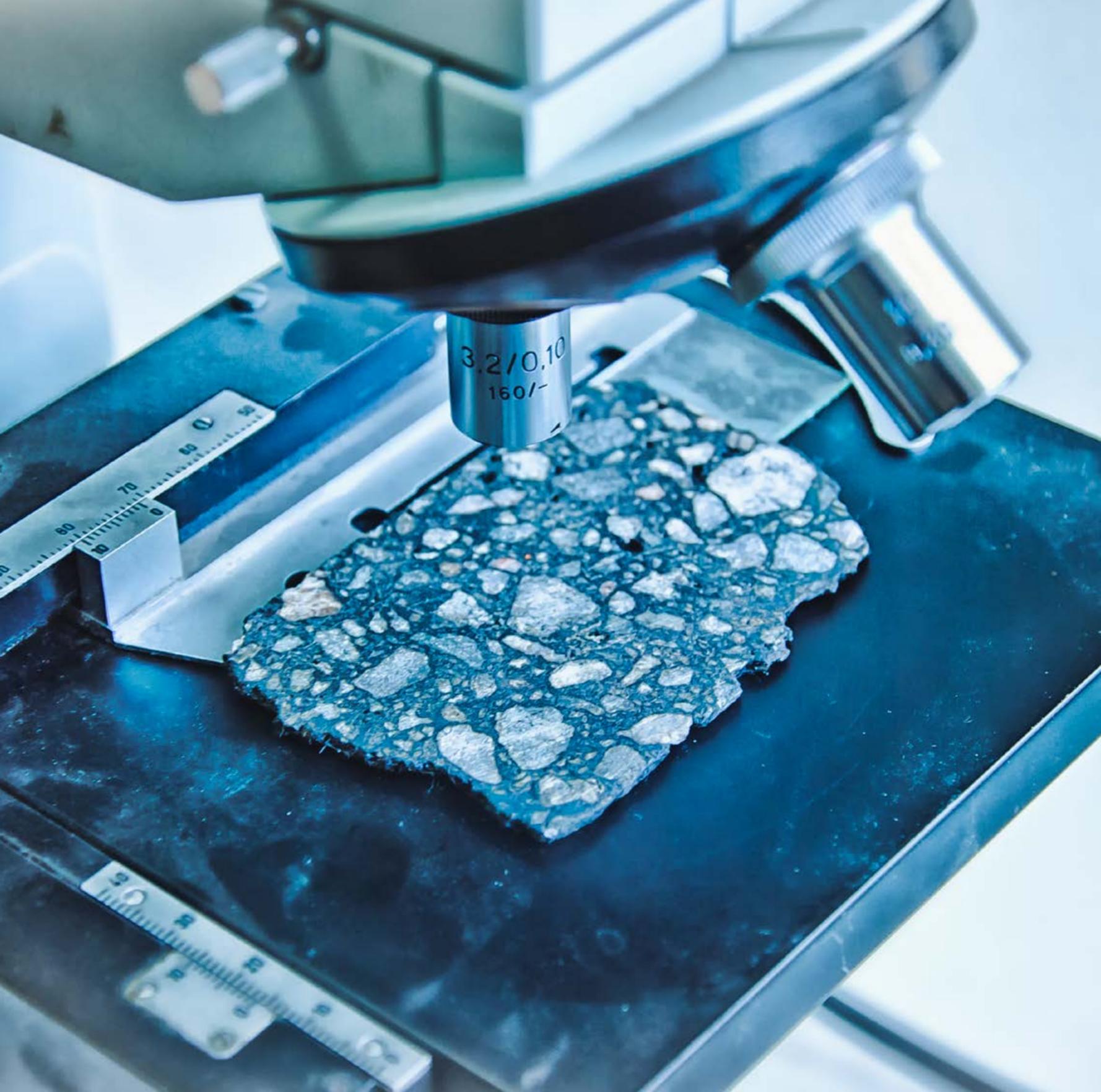
Anatoly Sedykh,
Chairman of the Board of Directors, OMK

03

RESEARCH ACTIVITIES



RESEARCH ACTIVITIES



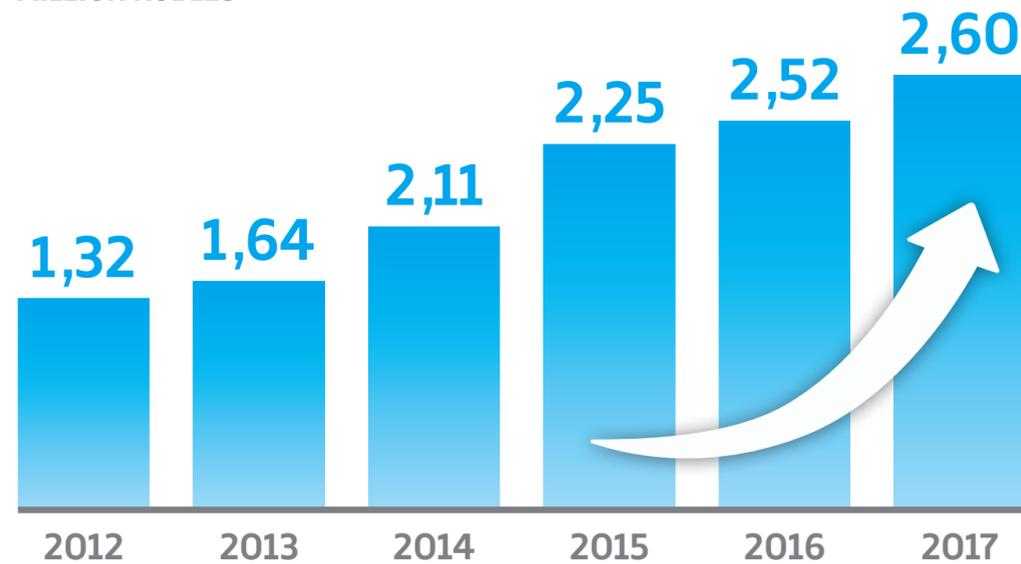
	2015	2016	2017
Number of doctors and candidates of sciences	> 1,000	> 1,000	> 1,100
Number of academicians who completed advanced training	288	302	330
Tutors who completed retraining	32%	35%	38%
Tutors conducting research and project work	38%	39%	42%
Professors with work experience at the world's leading university centres	24,5%	24,5%	24,5%

As one of the leading technical universities in Russia, NUST MISIS is also a full-featured research and development centre specialising in such strategic areas, as materials science, metallurgy, mining, biomaterials, nano- and IT technologies. The University operates more than 30 modern labs and 3 world-class engineering centres engaging leading Russian and foreign scientists.

FINANCING OF SCIENCE

In 2017, the amount of financing of the research and development (R&D) conducted by the NUST MISIS research team significantly increased both due to the orders of business entities and the federal ones.

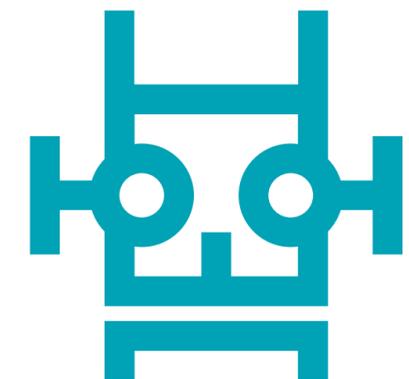
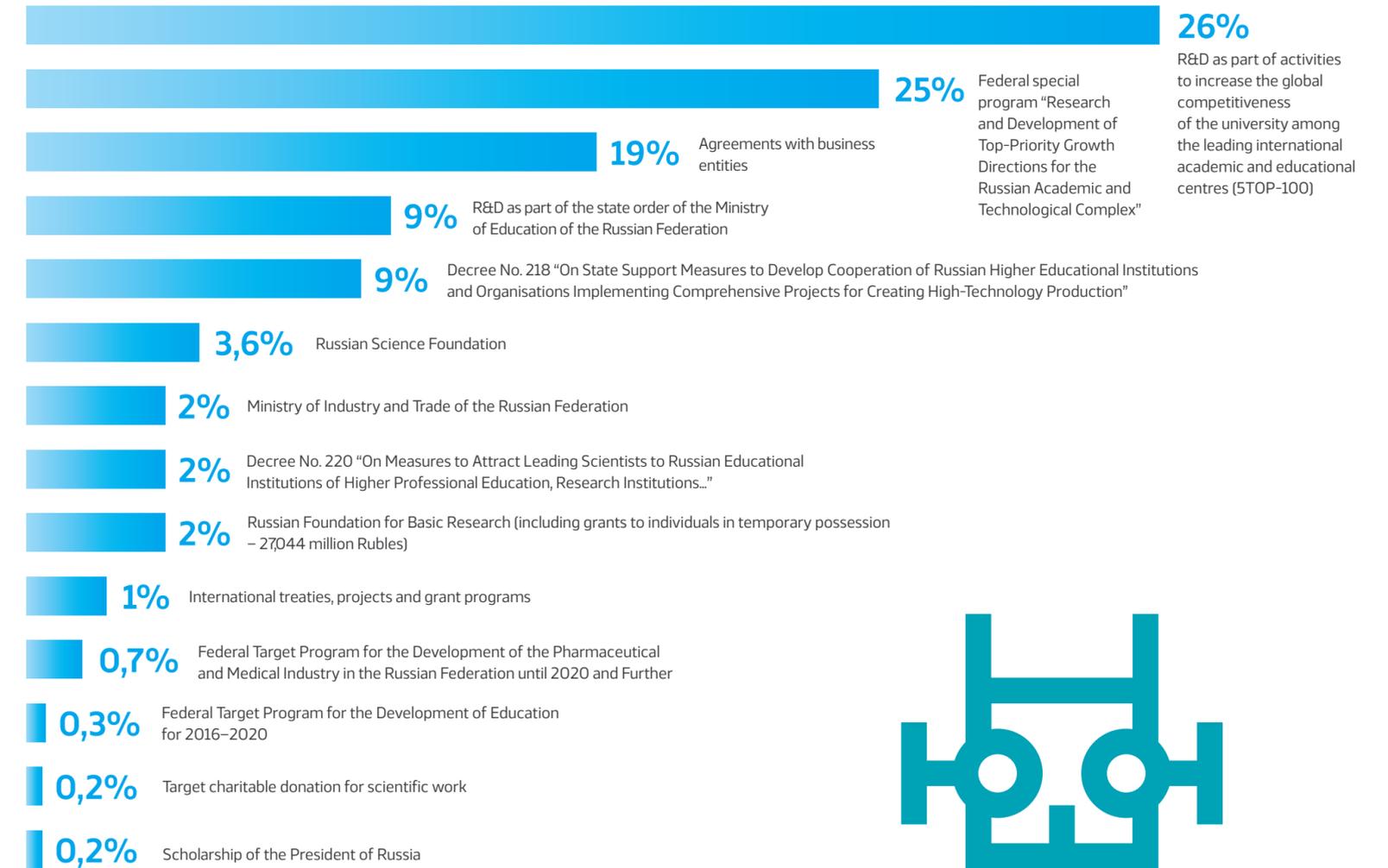
FINANCING OF RESEARCH ACTIVITIES, MILLION RUBLES



"I would like to specifically emphasise the dynamics of changes. I am sure that my university could learn from NUST MISIS in terms of making decisions and implementing ambitious plans."

Jan van Ruitenbeek
NUST MISIS International Scientific Advisory Council

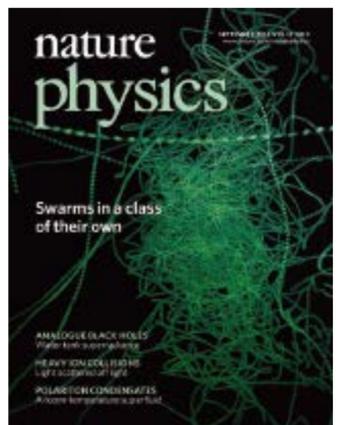
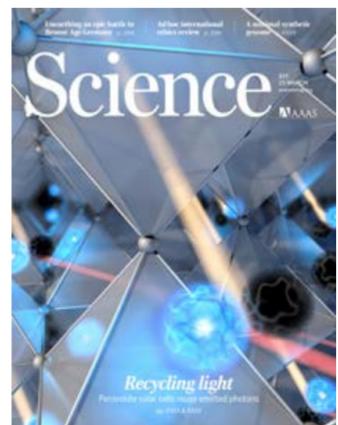
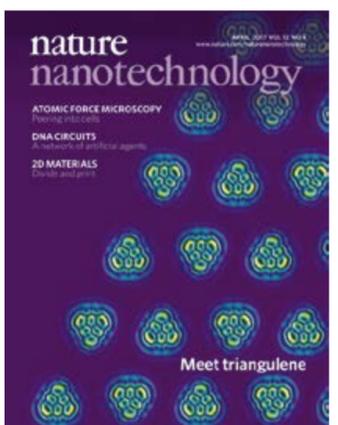
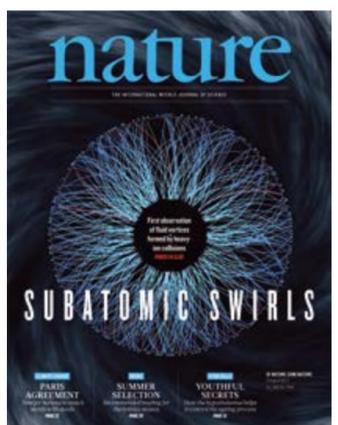
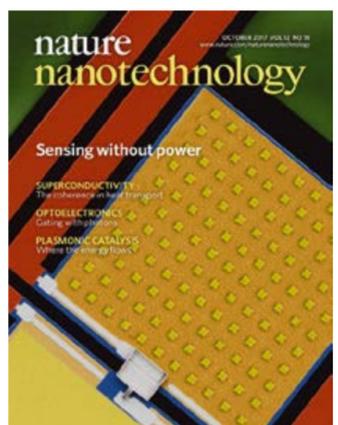
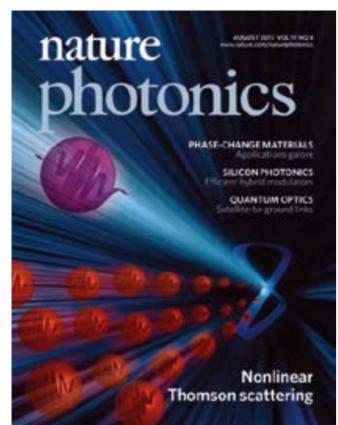
STRUCTURE OF R&D FINANCING IN 2017, %



R&D was financed for the total amount of 2,601 million Rubles.

PUBLICATIONS IN TOP 1% JOURNALS BY SNIP

SCIENTIFIC PARTNERSHIP WITH UNIVERSITIES AND ACADEMIC ORGANISATIONS



In 2017, articles authored by NUST MISIS scientists were published in the most prestigious and high-rating magazines included on the top-1% journals by SNIP. Papers of university researchers were published in such journals, as Nature Photonics (articles authored by A.I. L'vovsky), Progress in Energy and Combustion Science (article authored by A.S. Mukasyan), Nature Nanotechnology (article authored by S.V. Morozov), Nature (article authored by I.A. Fedorov), Science, Nature Physics.

Scientists working for the university published their papers in the most prestigious academic journals.

Number of articles published in collaboration with the leading **Russian** and **foreign** academic organisations



Articles published in partnership with Russian scientific organisations:

- Russian Academy of Sciences – 302
- M.V. Lomonosov Moscow State University – 199
- Moscow Institute of Physics and Technology – 98
- P.N. Lebedev Institute of Physics of the Russian Academy of Sciences – 49
- A.A. Baykov Institute of Metallurgy and Materials Science of the Russian Academy of Sciences – 45
- Institute of Solid State Physics of the Russian Academy of Sciences – 42
- National Research Nuclear University of MEPhI – 42
- South Ural State University – 41
- A.M. Prokhorov Institute of General Physics of the Russian Academy of Sciences – 41
- University of Information Technologies, Mechanical Engineering and Optics – 31

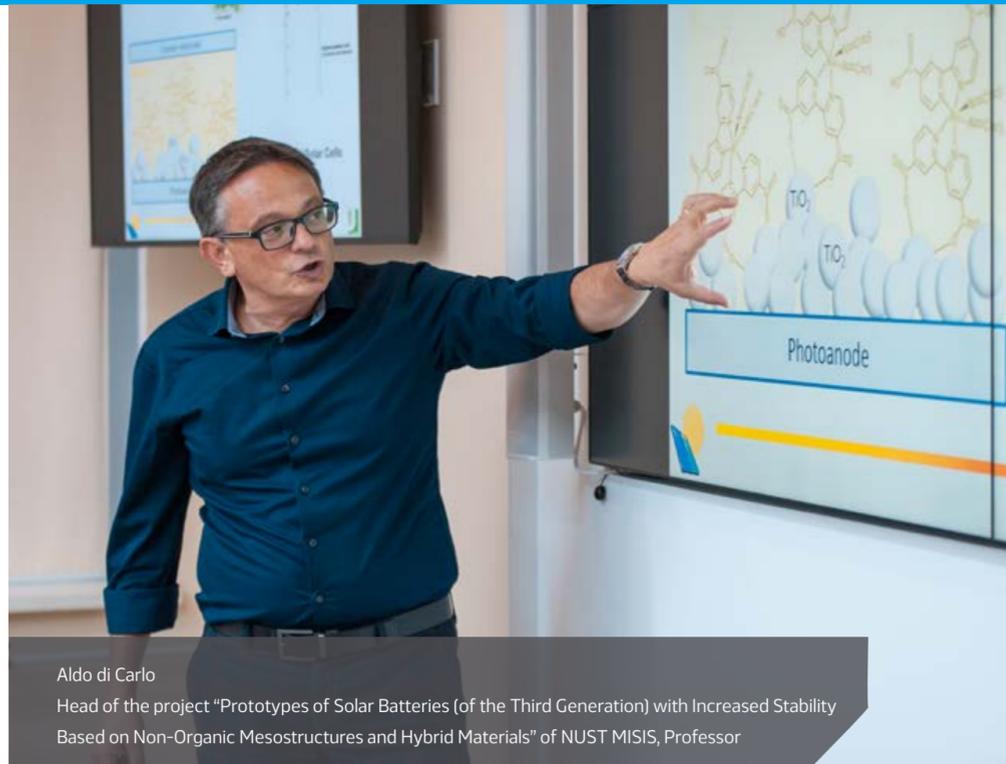
Article published in partnership with international scientific organisations:

- TCNRS – 22
- Texas A and M University – 35
- National Academy of Sciences in Ukraine – 26
- CNRS – 24
- Karlsruhe Institute of Technology – 19
- Ioffe Institute - 18
- National Academy of Sciences Belarus – 18
- Ceske vysokeuceni technicke v Praze - 17
- Tohoku University – 16
- K.S.Rangasamy College of Art and Science - 16
- Monash University – 14

GOVERNMENT AWARDS AND CONTESTS

Megagrant of the Russian Government

NUST MISIS project “Large-Format Semi-Transparent Solar Panels with the Use of Stable Perovskite Architectures” under the guidance of professor of the department of optoelectronics and nanoelectronics of University of Rome Tor Vergata (Italy) Aldo di Carlo won the sixth contest of the megagrant program of the Russian Government.



Aldo di Carlo
Head of the project “Prototypes of Solar Batteries (of the Third Generation) with Increased Stability Based on Non-Organic Mesostructures and Hybrid Materials” of NUST MISIS, Professor

NUST MISIS operates five world-class laboratories created out of the funds of megagrants of the Russian Government.

Prize of the Government of Moscow for young scientists

In February 2017, the academic group of the department of semi-conductor electronics and physics of semi-conductors of NUST MISIS – candidate of technical sciences Sergey Legotin and postgraduate student Andrey Krasnov – won the prize for the project of developing betavoltaic transducers for autonomous power sources in the aviation and space engineering.

Innovative Radioelectronics Competition

NUST MISIS masters ran first in the Innovative Radioelectronics competition in the technological breakthrough category arranged by the Central Research Institute “Electronics” with the support of the Ministry of Industry and Trade of the Russian Federation.



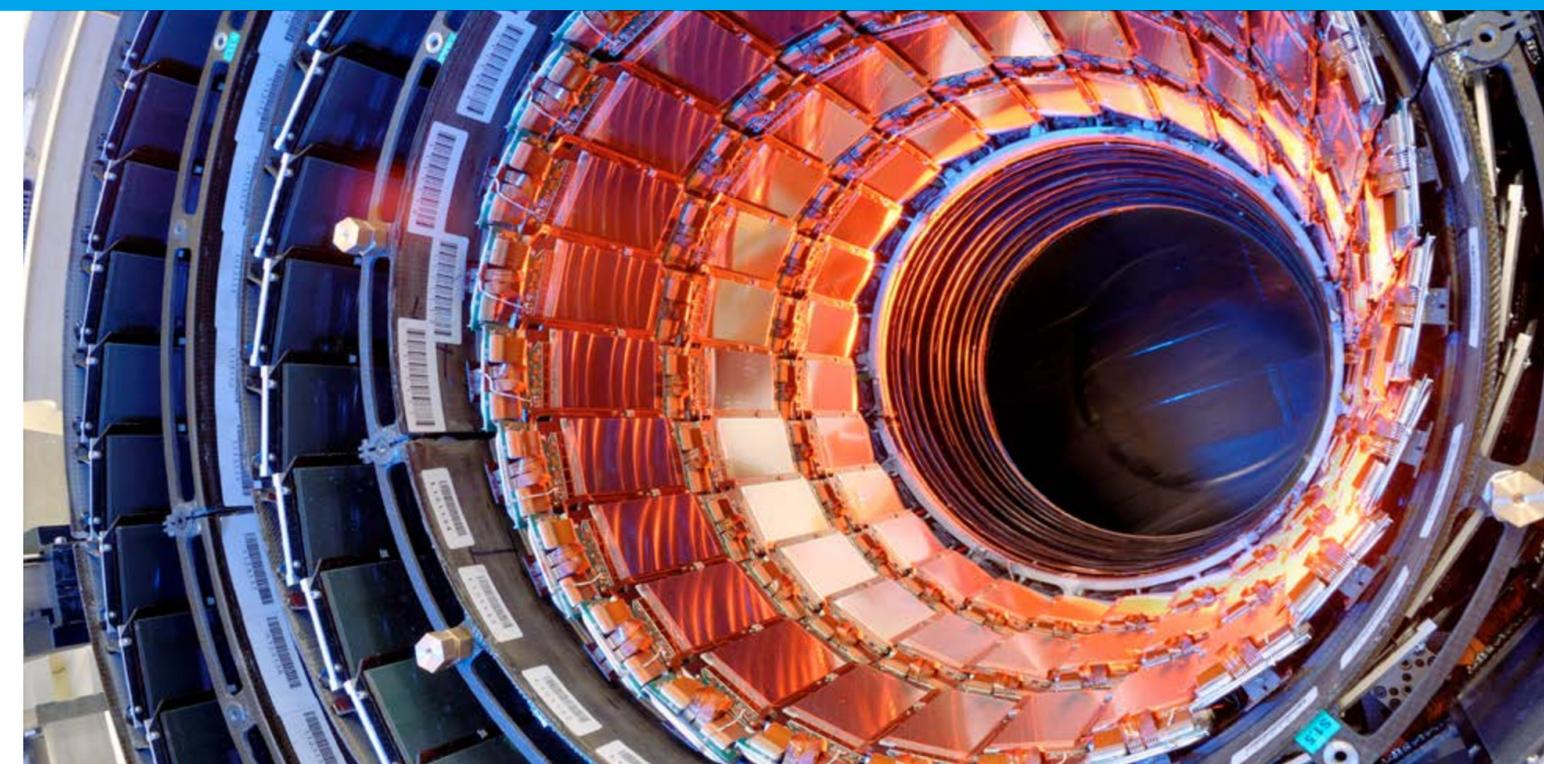
Candidate of technical sciences Sergey Legotin and post-graduate student Andrey Krasnov, Department of semi-conductor electronics and physics of semi-conductors of NUST MISIS

COLLABORATION WITH MEGASCIENCE PROJECTS

In June 2017, NUST MISIS created the Centre for Infrastructure Cooperation and Partnership with MegaScience headed by leader of a large experiment SHiP on a large hadron collider in CERN (Geneva, Switzerland), professor of the department of high-energy physics of the Empire College London Andrey Golutvin.

NUST MISIS is the only Russian university that signed the cooperation agreement with CERN.

The primary functions of the centre is to coordinate international cooperation of the university in the sphere of large-scale projects of the MegaScience format.



- Silicon sensors to trace charged particles in VERtex LOcator (VELO)
- Electromagnetic Calorimetry will use W-based alloys very RH scintillators and light guides

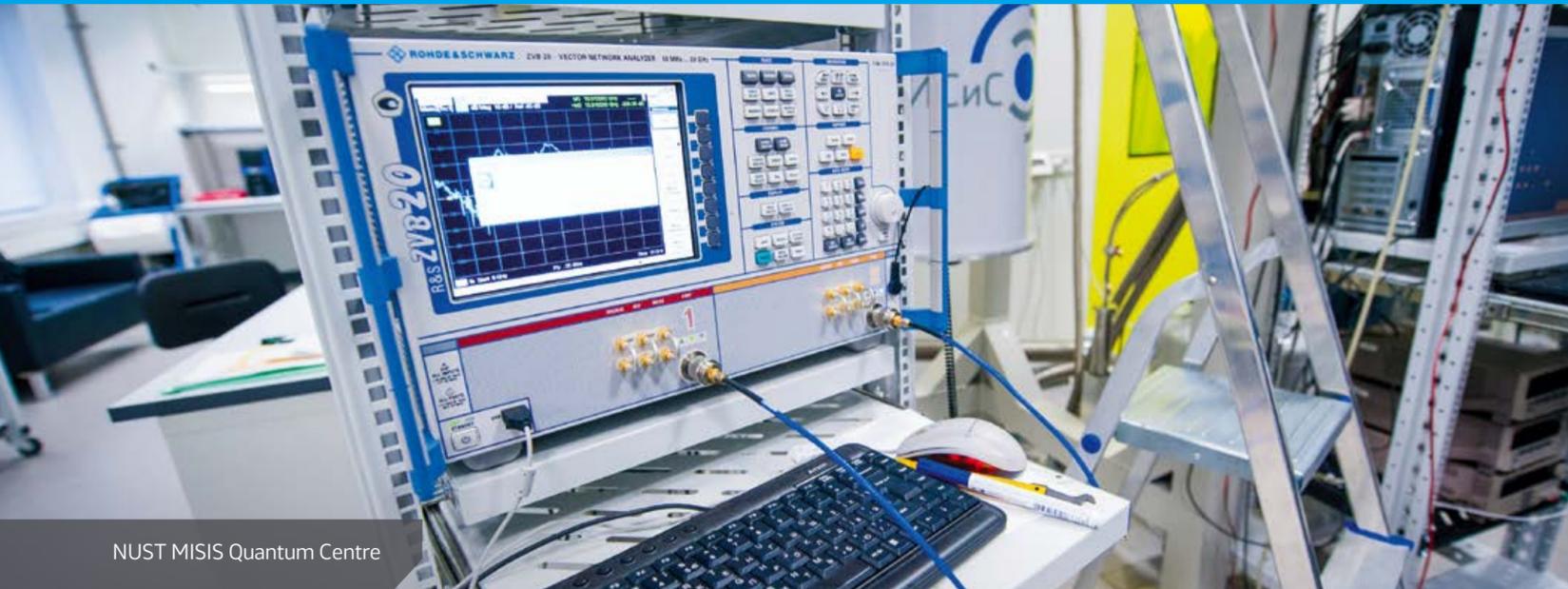
Andrey Golutvin
Head of the NUST MISIS Centre for Infrastructure Cooperation and Partnership for MegaScience, Professor



"Our purpose is to organise a joint group to include experts in materials science from NUST MISIS and physicists engaged in fundamental science. The first ones will deal with engineering issues, while the second ones will produce prototypes, test them using particle beams and analyse the output. NUST MISIS possesses all the required resources to successfully solve problems related to LHCb and SHiP projects."

Andrey Golutvin
Academic director of the NUST MISIS Centre for Infrastructure Cooperation and Partnership for MegaScience, professor of the department of high-energy physics of the Empire College

COOPERATION WITH RESEARCH CENTRES



NUST MISIS Quantum Centre

Russian Scientific Centre Kurchatov Institute

For a number of years already, NUST MISIS has been participating in MegaScience projects jointly with the Kurchatov Institute. The execution (in December 2017) of the cooperation agreement enabling the maximum effective use of the scientific, innovative and educational potential for delivering world-class results, implementing innovating developments and attracting talented youth to the area of science and high technologies has become another step in strengthening partner relations.

NUST MISIS Quantum Centre

The primary activities of the centre in 2017 were research works in areas that are both prospective and traditionally strong for the centre, such as materials science, physics of condensed environments, nanophysics and computational physics. In November 2017, the commune house of NUST MISIS hosted Quantum Communications laboratory led by Aleksey Fedorov, a research officer of the Russian Quantum Centre, PhD in theoretical physics and founder of the first global quantum blockchain.

INVENTIONS AND INNOVATIONS

Scientific developments of NUST MISIS have been awarded at Russian and international exhibitions.

Archimedes-2017 (Moscow)

5 golden awards ●●●●●

iENA-2017 (Germany)

3 golden awards ●●●

IIDC-2017 (China)

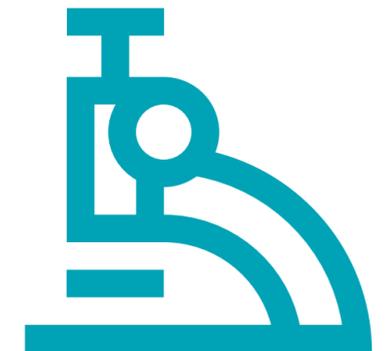
2 golden awards ●●
1 silver award ●

Innova Barcelona-2017 (Spain)

2 golden awards ●●
1 silver award ●

SIIF-2017 (Republic of Korea)

2 golden awards ●●
2 silver awards ●●
1 bronze award ●



All inventions of NUST MISIS exhibited on Archimedes-2017 were awarded with gold medals.

STUDENT SCIENCE

In 2017, NUST MISIS arranged and participated in a number of large and significant events in the area of science promotion.

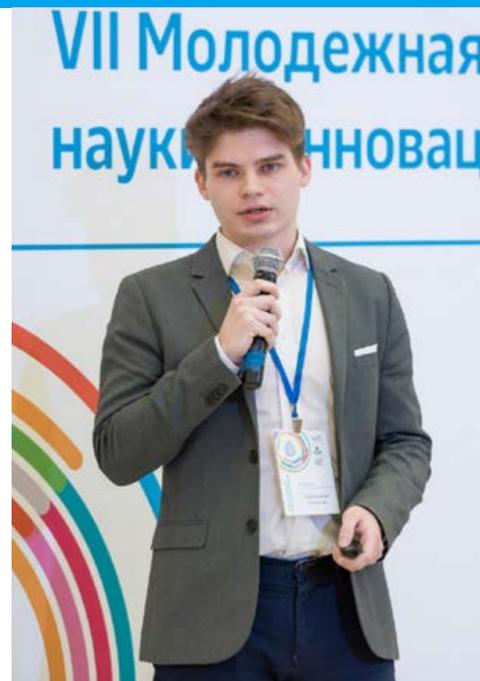
Science Slam MISIS

A new format of competition among young scientists enabling to tell about serious scientific developments in a flamboyant form and clear language.



72nd Days of Student Science

NUST MISIS Days of Student Science is the oldest university scientific conference, on which young scientists defend their scientific projects in the primary fields of study. In 2017, the Days of Student Science took a new form: 95 finalists shot videos, in which they spoke about their scientific developments. A respected jury composed of business community experts, representatives of Skolkovo, Yandex, RUSNANO, OMK and Rusal selected three winners who were awarded with VII Youth Prize, Award in Science and Innovations.



Over 40,000 people participated in popular science events of NUST MISIS.



“All-Russian Laboratory”

An international educational campaign to verify scientific literacy.

Scientific and Educational Lecture Course “Technologies” and Geolecture Course

Open scientific popular lectures with follow-up discussions.

Festival of Popular Scientific Movies FANK

The most interesting feature films about science from all over the world created for the most recent five years.

More than 30,000 people saw an online broadcast of Science Slam MISIS in December 2017 with the assistance of the Ministry of Education of Russia.

JOINT PROJECTS WITH THE BUSINESS

R&D Centre of UC RUSAL – an example of public private partnership

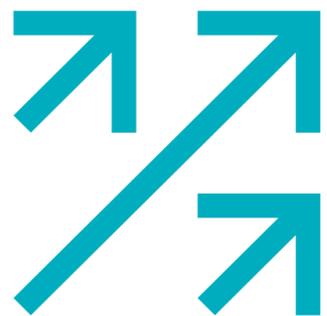
The Institute of Light Materials and Technologies is the first Russian platform for joint R&D efforts of NUST MISIS, UC RUSAL and members of the Aluminum Association for the development of modern technologies.

VEB Centre of Competencies for New Materials and Disruptive Technologies

Vnesheconombank and NUST MISIS created the Centre of Competencies for New Materials and Disruptive Technologies mainly focused on blockchain, convergent and quantum technologies. The primary functions of the centre is to generate expertise about innovative technologies, develop platform for their use, educate and popularise innovations. It is the first centre for such competencies globally to be basically used by Russian state-owned companies and governmental authorities.

Laboratory Prospective Precision Materials

NUST MISIS and METKON, one of the best world's manufacturers of close control equipment for processing various types of materials, opened the academic Prospective Precision Materials laboratory for sample preparation and tests on materials. Employees of the lab are supposed to develop technologies of creating finely-dispersed precision unprecedented magnetically soft powders to manufacture miniature technical devices.

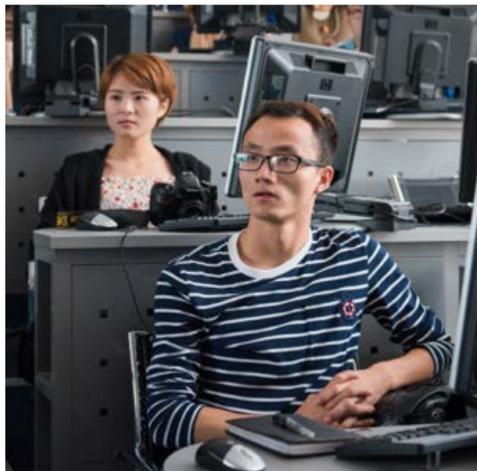




INTERNATIONAL ACTIVITIES

04

INTERNATIONAL ACTIVITIES



Number of foreign students

3,400

Number of countries of international students' origin

69

Number of students seconded to foreign educational organisations

75

% NUST MISIS academicians who participated in academic mobility programs

43%

Scientific events abroad, including speeches at scientific conferences and symposia

340



Day of Nationalities at NUST MISIS

BEST PRACTICES: INTERNATIONAL SCIENTIFIC COUNCIL



Jan van Ruitenbeek
NUST MISIS International Scientific Advisory Council



In 2017, NUST MISIS International Scientific Council (ISC) represented by 12 leading scientists from 8 countries: Great Britain, Germany, the USA, Israel, Canada, Russia, Sweden and the Netherlands, held two meetings in presentia.

Meetings in the form of Skype conferences were regularly conducted to examine applications to participate in open international NUST MISIS competitions and to produce consolidated assessments and expert opinions of the Council.

The main discussion items on the agenda in 2017 were the top-priority areas for advancing science and education at MUST MISIS, as well as the prospects and results of developing strategic academic units. Meetings held by the International Scientific Council encompassed lectures, roundtables, workshops and meetings with students and post-graduate students.

In March and October 2017, professors of the University of Cambridge Harry Bhadeshia and Lindsay Greer took part in defending the roadmap at the meeting of the Council of Increasing the Competitiveness of the Leading Russian Universities among the World's Scientific and Educational Centres.



"NUST MISIS implements many initiatives allowing to increase the competitiveness of the university on a global scale. The management addresses the quality of the admission campaign, cooperation with potential employers, strives to increase the number of publications in high-rating scientific journals and the number of master's degree programs, some of which are taught in English. All the above results in impressive outcomes."

Professor Lindsay Greer
NUST MISIS International Scientific Advisory Council

BEST PRACTICES: VISIONHACK HACKFEST

In September 2017, NUST MISIS and Cognitive Technologies organised the first world's international student hackaton for artificial intelligence and computer vision VisionHack that was held with the assistance of Vnesheconombank and the Skolkovo Foundation.

The event was attended by students from the leading Russian and overseas universities, including: NUST MISIS, Moscow State University by M.Lomonosov, MIPT, University of Information Technologies, Mechanical Engineering and Optics, St. Petersburg State University, University of Cambridge, Massachusetts Institute of Technology, Polytechnic University of Catalonia, University of Arizona, Harbin Polytechnic University, University of Science and Technology of Beijing, etc.

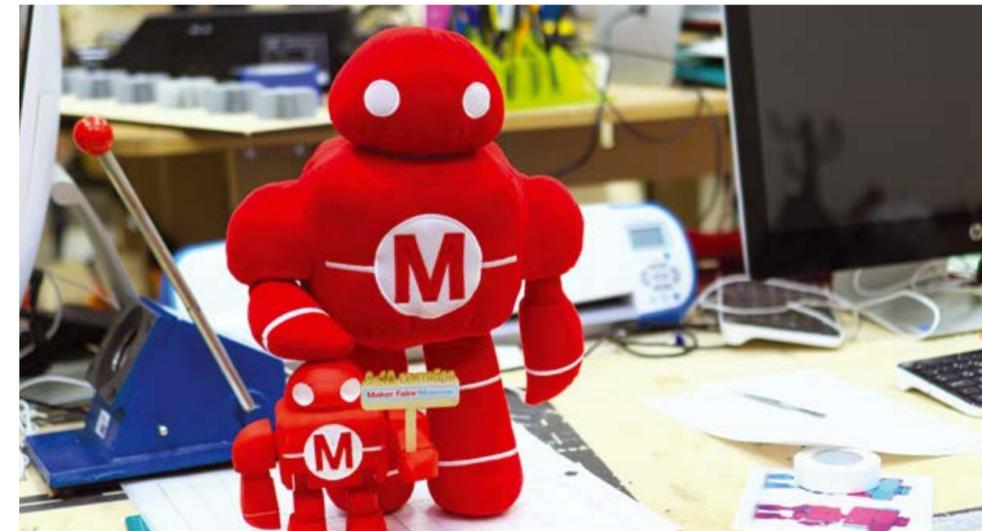


27

teams from 5
countries and 20
leading Russian and
overseas universities

36 MILLION
DOLLARS
as the prize fund
of the hackaton

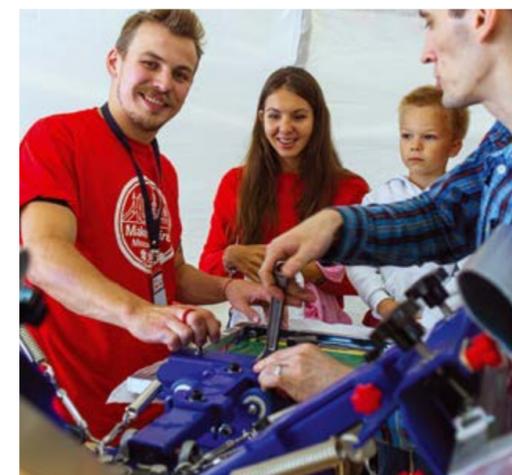
BEST PRACTICES: MAKER FAIRE MOSCOW



For the second time, NUST MISIS organised Maker Faire Moscow – the most famous world's festival of inventions and ambitious technical solutions. In 2017, 250 participants from Russia, the United States, Japan, Spain, Germany, China, Argentina and other countries presented their best feats of engineering created by ordinary people.

The ideologist and organised of the Russian festival Maker Faire – FabLab of NUST MISIS – is the first in Russia and sole MIT-certified laboratory of digital production.

In 2017, the festival was attended by Dale Dougherty, a leader of the world's maker movement, founder and publisher of maker's Bible – Make:Magazine journal.



250

participants from
Russia and abroad

10,000
visitors of Maker Faire
Moscow-2017

CONDITIONS FOR STUDIES, CREATIVITY AND LEISURE

International Friendship Club

NUST MISIS has created the International Friendship Club of International Friendship composed of students from 69 countries combined into 25 communities. The club helps foreign students to adapt, find new friends, improve their Russian language skills and get prepared for exams.



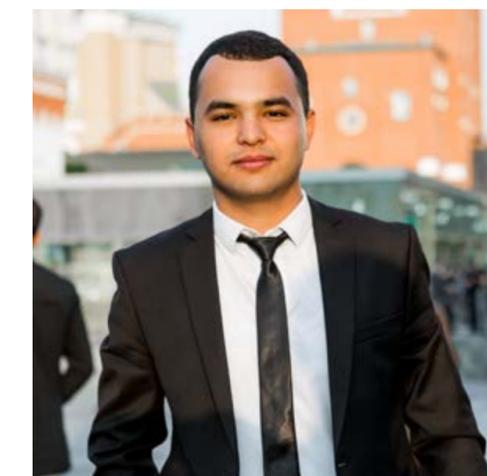
Foreign students of NUST MISIS are the best ones in Moscow

NUST MISIS students Naranzhargal Munkhzhargal and Makhmujohn Karimzhonov won the Moscow Student of the Year competition in the Foreign Student category. This competition is the Moscow regional stage of the Russian National Student of the Year Prize established by the Ministry of Education and Science of the Russian Federation and the Russian Union of Youth.



Kalim D'Elia,
post-graduate student for Venezuela, has become the first foreign student who won Science Slam MISIS

Makhmujohn Karimzhonov,
student of the Institute of Information Technologies and Automated Management Systems from Uzbekistan, winner of The Foreign Student of the Year competition



EVENTS

International Holiday Nowruz

The university pays considerable attention to maintaining a favourable cultural environment taking account of the uniqueness and traditions of various peoples. One of the examples of the policy intended to maintain mutual cultural enrichment is the celebration of Nowruz included into the UNESCO list of intangible cultural heritage of the humankind. This holiday personifying the awakening of the nature and the beginning of spring is celebrated in many regions of Russia, CIS countries and Central Asia, as well as in the Caucasus. On this day, NUST MISIS students from various countries tell about their national customs and culture, prepare musical numbers and perform national dances.

Day of the African Union

On 19 May, NUST MISIS celebrated the Day of the African Union participated by 136 students from African states, young scientists from Tunisia and Egypt, as well as representatives of Africa from other Moscow universities.

Day of Nationalities

On 20 April, NUST MISIS held its already traditional Day of Nationalities that attracted over 1,500 participants from 14 Moscow universities. Students from 30 countries dwelt on their traditions, presented national songs, dances and meals. Representatives from embassies of Vietnam, Mongolia, Afghanistan, Latin America countries, the Republic of the Union of Myanmar were among special guests of the fest.

Day of India

To commemorate the 70th anniversary of establishing diplomatic ties between Russia and India, NUST MISIS held the day of the Indian culture on 14 December. Master classes in music, dances, meditation, mehendi painting and other activities were in place.



Day of Nationalities in NUST MISIS

INTERNATIONAL ACTIVITIES

In 2017, representatives of NUST MISIS participated in the leading international educational exhibitions in order to strengthen cooperation with the best global universities and to raise the awareness about NUST MISIS abroad: NAFSA-2017

(Los Angeles, USA), APAIE-2017 (Kaohsiung, Taiwan), EAIE-2017 (Seville, Spain), ChinaEducationExpo – 2017 (Beijing, China).

>150
foreign delegations visited
NUST MISIS



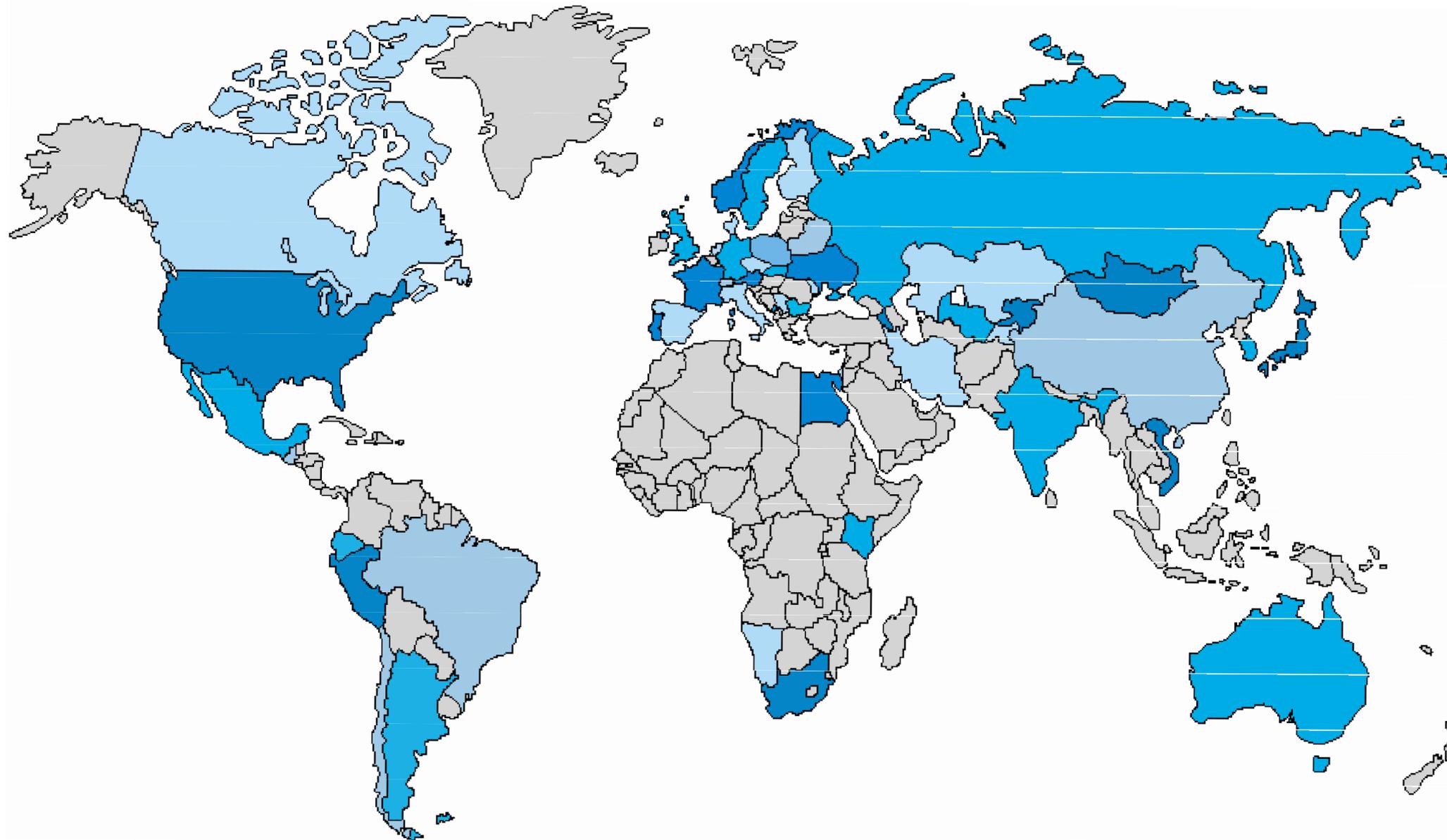
French delegation for international professional accreditation in the Centre of High-Complexity Prototyping of NUST MISIS



INTERNATIONAL PARTNERS OF NUST MISIS

200 partnering universities
from all over the world

Australia	Moldova
Austria	Mongolia
Argentina	Namibia
Armenia	the Netherlands
Belarus	Norway
Bulgaria	Peru
Brazil	Poland
Great Britain	Portugal
Vietnam	South Korea
Guatemala	Serbia
Germany	Slovakia
Denmark	USA
Egypt	Tajikistan
Israel	Uzbekistan
India	Ukraine
Iran	Finland
Spain Italy	France
Kazakhstan	Montenegro
Canada	Czech Republic
Kenya	Chile
Kyrgyzstan	Switzerland
China	Sweden
Liechtenstein	Ecuador
Mexico	South Africa
	Japan



05

INFRASTRUCTURE



UNIVERSITY'S INFRASTRUCTURE

ON AN OPERATIONAL
MANAGEMENT

248 FACILITIES
392,1 THOUSAND M²

DORMITORIES

96,3 THOUSAND M²

ON A FREE-OF-CHARGE
BASIS

5 FACILITIES
20,9 THOUSAND M²

EDUCATIONAL & LABORATORY
BUILDINGS

257,6 THOUSAND M²

ON A LEASEHOLD
BASIS

2 FACILITIES
6,1 THOUSAND M²

EDUCATIONAL & RESEARCH
PRODUCTION FACILITIES

38,2 THOUSAND M²



The area of 5,000 square m of the educational and laboratory building entitled "Point of Birth of Innovations" houses ultra-modern laboratories

CONSTRUCTION AND RECONSTRUCTION

Point of Birth of Innovations

The Point of Birth of Innovations academic and laboratory centre includes advanced worldclass laboratories created after holding the following open international competitions: Nanochemistry and Ecology, Prospective Energy-Effective Materials, Laser Ultra-Sound Non-Destructive Control, Hybrid Additive Technologies. The first line of premises of the department of enrichment and processing of minerals and man-made raw materials was

repaired. The repair of the laboratory for the project "Large-Format Semi-Transparent Solar Panels with the Use of Stable Perovskite Architectures" has commenced thanks to the megagrant obtained from the Government of the Russian Federation in 2017. The reconstruction of the premise of over 5,000 square m resulted in creating a common recreation space. Further reconstruction of free spaces of the laboratory is expected to result in hosting the

Quantum Centre of NUST MISIS. The centre will become a unique place for developing innovative ideas and disruptive technologies.



V.V. Yershov Geological Museum after reconstruction



CONSTRUCTION AND RECONSTRUCTION

Student Office

The reconstruction of premises for the Student Office of NUST MISIS were completed as part of creating a comfortable environment for studies and creativity. Here students may obtain any assistance on issues related to the educational process, infrastructure use and social support. The unified administration centre for students operates as a one-stop service.

The electronic reception is in charge of operating consolidated online services, scholarship and social support of students, dormitory-related issues, educational matters, etc. The Student Office was created in several stages and took account of the best practices of Russian and foreign universities. Further development of the Student Office will

facilitate many current procedures and will help students to more efficiently use their time for studies, sports, creativity, as well as the implementation of their ideas and projects.



V.V. Yershov Geological Museum

The reconstruction of the geological museum named after professor Vadim Viktorovich Yershov (head of the department of geology of the Moscow Mining Institute) was completed. The renewed exposition of the museum that opened its doors to the first visitors in 1989 is composed of more than 6,000 different minerals and metal ores from the primary mining

regions of Russia and neighbouring countries. The updated museum complex makes use of the newest multimedia equipment and interactive options and forms the ground for creating and implementing educational programs intended to attract the youth to mining.





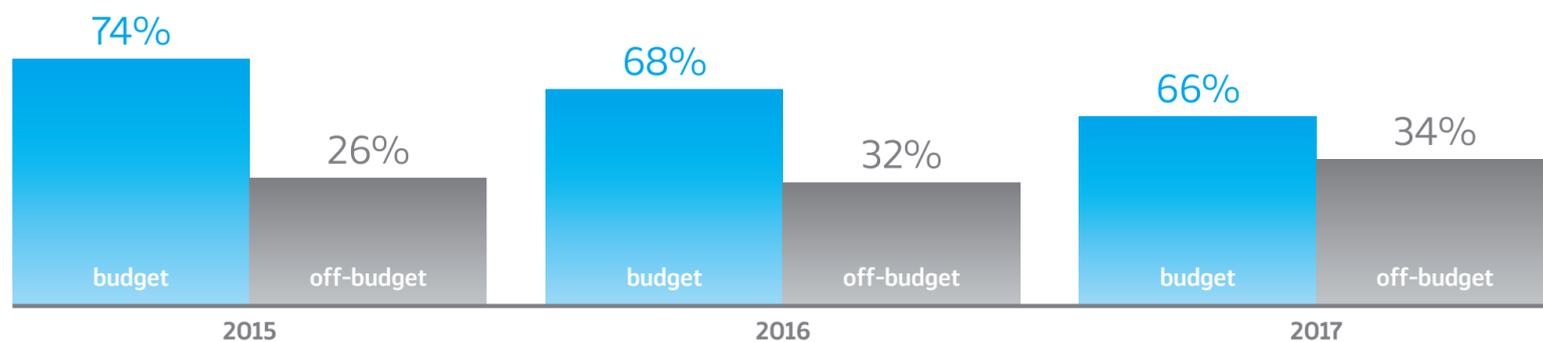
FINANCE

06

FINANCING OF NUST MISIS

STRUCTURE OF INCOME (WITH BRANCHES)

CHANGING THE STRUCTURE OF FINANCING, %

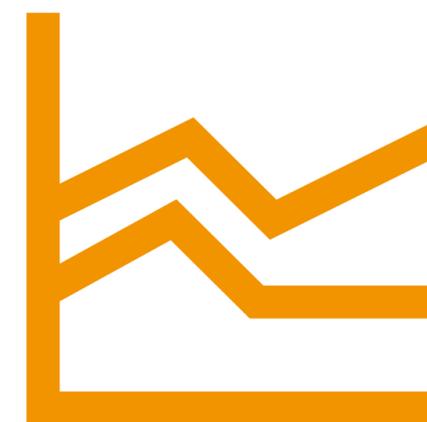


Income	2017
Education	39%
Science	29%
Federal target investment project	5%
Development programs	14%
Others	13%

Quality assessment of financial management

Sustainable financial and economic position makes it possible to consistently develop research and educational activities of NUST MISIS in partnership with the business community and with the support from the state.

NUST MISIS applies the best global practices, and pursues the concept of openness in all aspects of its activity. In 2017, the IPSAS financial statements for 2016 were finalised and audited according to the International Standards on Auditing by PricewaterhouseCoopers. The 2016 NUST MISIS financial statements and audit findings were approved for publication, and submitted to the Supervisory Board.



ENDOWMENT FUND

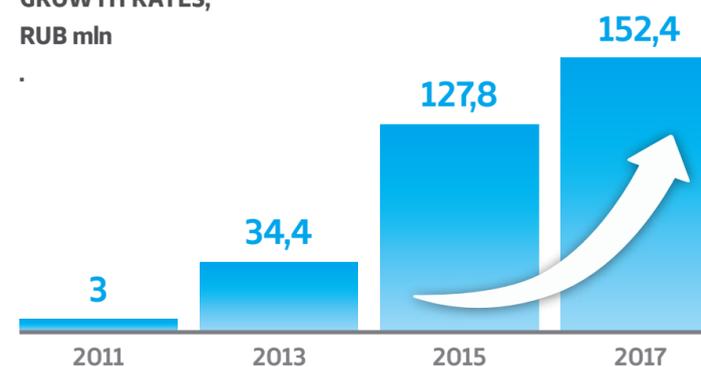
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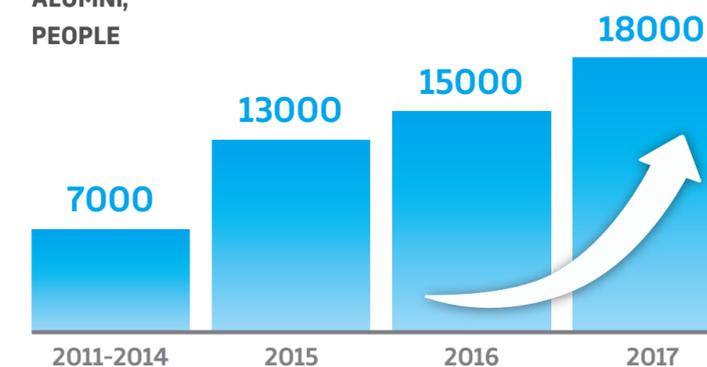


GROWTH RATES OF THE ENDOWMENT FUND

GROWTH RATES, RUB mln



ALUMNI, PEOPLE



It pursues the following activities: international conference of new educational technologies EdCrunch, the Student of the Year and Teacher of the Year competitions, free-of-charge breakfasts for students, annual scholarship grant support for the best students and young scientists and many others.

The funds is fuelled by donations from alumni students and private persons, as well as target investment from business partners.

The NUST MISIS Endowment Fund stands for over 500 charity givers, 18,000-alumni community and 45 implemented projects intended to develop educational and research operations of the university and contribute to creating its infrastructure and creative environment.



DEVELOPMENT OF THE ENDOWMENT FUND

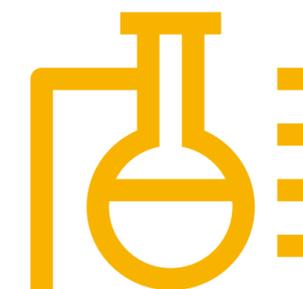
In 2017, the fund hit the top nine best Russian funds that became winners of the Strategy of Creating and Developing Target Capital Funds implemented by the Moscow School of Management SKOLKOVO jointly with Mr. V. Potanin's fund.

In 2017, the Art, Science and Sports charity fund of Russian businessman and patron Alisher Burkhanovich Usmanov made the most significant contribution in the history of NUST MISIS Endowment Fund in the amount of RUB 100 mln that gave rise to the fundraising campaign to celebrate the 100th anniversary of the Moscow Mining Academy, of which our university is a successor.



SUPPORTING SCIENCE AND EDUCATION

NUST MISIS offers annual scholarships (named after A.D. Deyneko and V.A. Arutyunov) and monetary rewards (named after V.S. Strizhko, S.S. Gorelik and JSC Giredmet) funded by private charity givers and companies.



Target contributions from business partners of the university help to fund educational and research projects, and develop the university's infrastructure. As a result of the competition of scientific grants held jointly with State Corporation Rosatom, 8 academic groups

obtained support for conducting researches in the areas of interest for the business partner.



ENDOWMENT FUND PROJECTS



Competitions

NUST MISiS annually reflects on its traditional Student of the Year competition and rewards the most talented, active and goal-oriented students. The victory in each category is accompanied with a monetary reward: the Student of the Year is awarded with the prize of RUB 150 thous., while winners in the Culture, Sports, Public Activities and Science categories obtain RUB 50 thous.

Winners in the Best Young Teacher, Honour and Dignity, Researching Teacher categories obtain monetary rewards of RUB 50 thous. The Employee of the Year obtains the prize of RUB 100 thous.

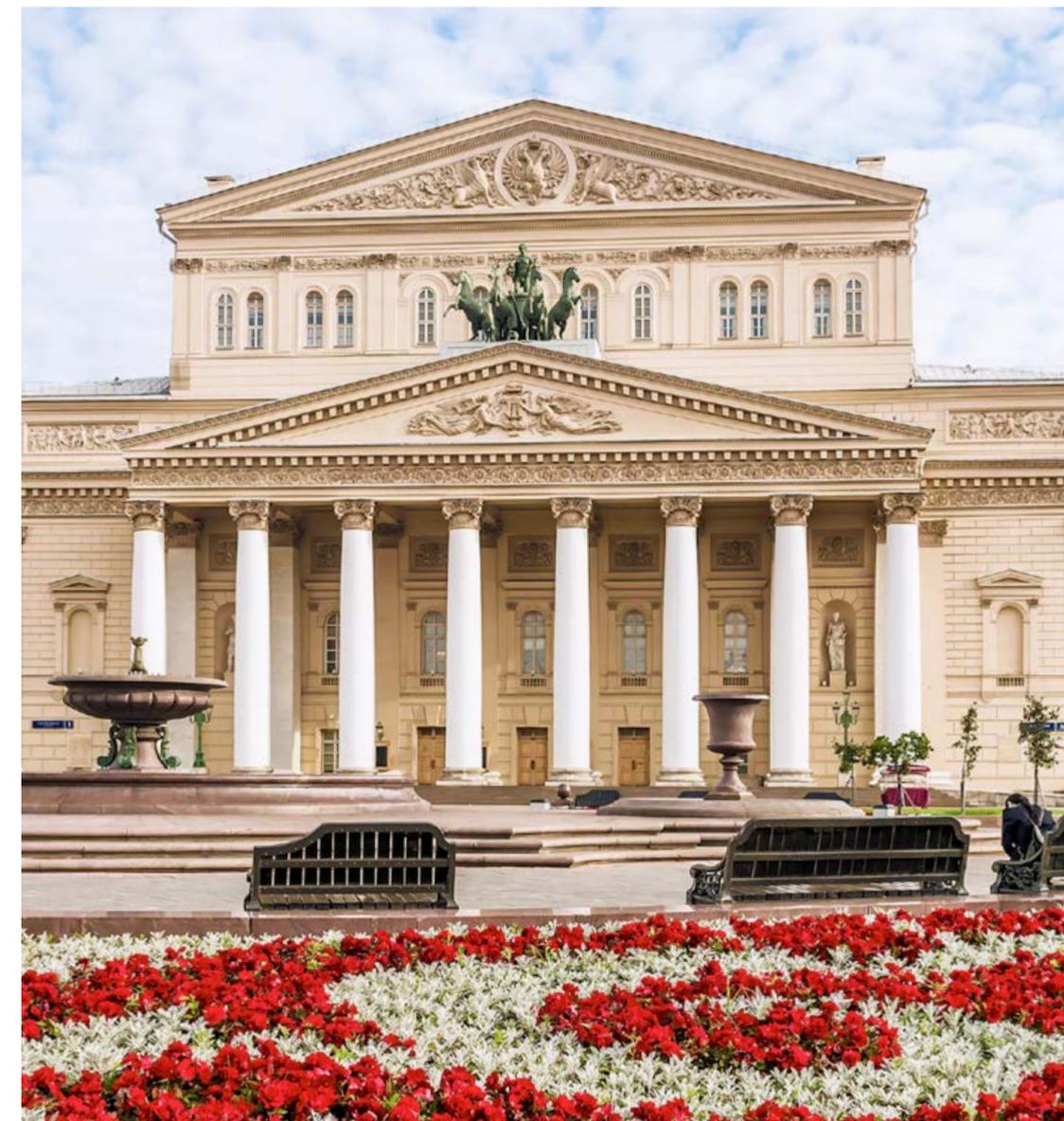
The winner in the Student of the Year category obtains RUB 150 thous.

Endowment Breakfast

Endowment Breakfast stands for free breakfasts to NUST MISiS students and employees. The above categories may get a free meal every morning from 8.30 a.m. to 10 a.m. Monday to Friday in any of the university's canteens. The project is intended to promote the healthy lifestyle.

Cultural MISiS

The Endowment Fund helps to establish a creative eco-environment at the university and open vast opportunities for the comprehensive development of students. To this end, the project called "Cultural MISiS" was launched which provides students with tickets to the best theatres of the capital on a discounted or free basis, and organises free tours and visits to exhibitions.



#EDCRUNCH CONFERENCE

One of the most significant events of 2017 is the largest European conference of new technologies and trends in the area of education #EdCrunch arranged by NUST MISIS and Rybakov Fund. The key topic in 2017 is entitled "Education 3.0. Technologies for Individualisation and Personalisation". The 2017 conference officially presented the top-priority state project called "Modern Digital Educational Environment in the Russian Federation" that combines, in a one-stop service, the best online courses offered by the leading universities and national educational platforms. #EdCrunch is held with the active assistance of the Ministry of Education of Russia.

The conference was attended by over 5,000 physical participants and 15,000 of online viewers.



CAREER CENTRE

08



CAREER CENTRE

NUST MISIS attaches special significance to the employment of its graduates. To this end, the Career Centre was established that cooperates with over 1,600 Russian and foreign companies. In 2017, the Centre helped to employ around 6,320 students, organised over 500 career Events, including the all-Russia forum for students and alumni of technical departments Breakpoint, the forum for preparing for employment entitled "Professional Navigation", the championship on solving metallurgical

business cases CUP MISIS CASE. The last championship was carried out in 2017 at the international level, and hosted over 1,800 students and graduate students from 110 Russian universities and 45 schools from 40 towns/cities of Russia and other countries. Moreover, the Centre organises Career Days with potential employers and business partners, internships, and on-site tours.

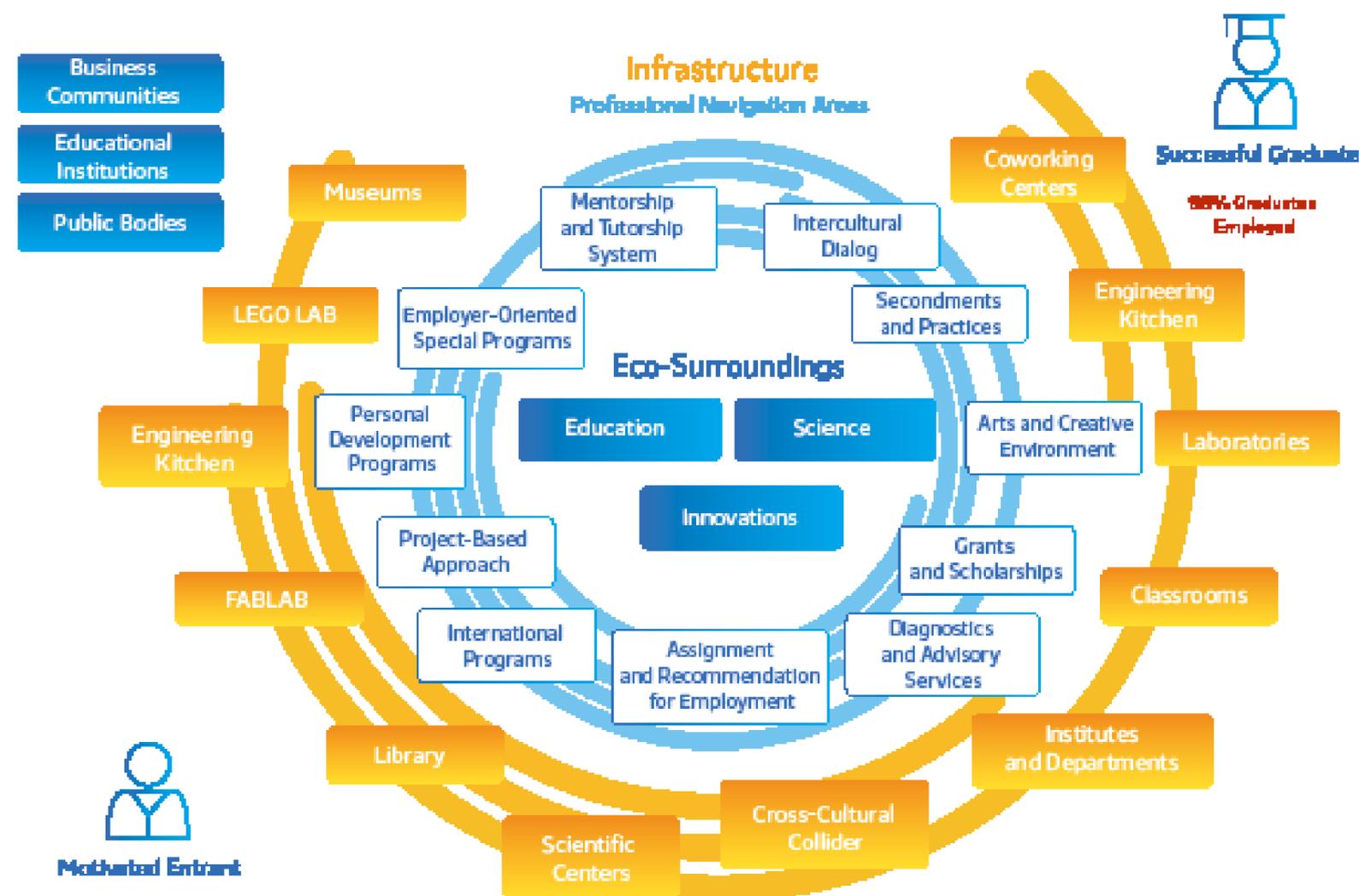
The Centre's efficient cooperation with the business community helped NUST MISIS to rank high in the QS Graduate Employability Rankings criterion. The university was among the best Russian universities, having scored 96.7 out of 100. Per this criterion, NUST MISIS is on the list of the best universities globally.



Championship on solving business cases CUP MISIS CASE

1 among Russian universities in QS Graduate Employability Rankings: 97.6 points out of the maximum of 100

CAREER ECO-SPHERE FOR STUDENTS

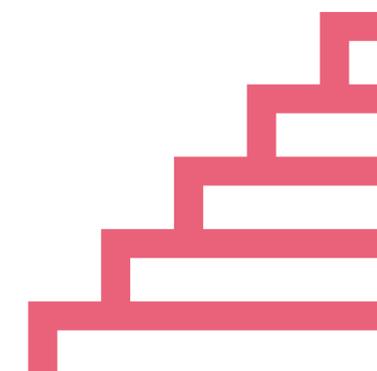


DEVELOPMENT DYNAMICS OF CAREER SERVICES

	2015	2016	2017
Number of students supported	1,500	4,463	6,320
Number of partner companies in the database	1,267	1,487	1,610
Number of conducted events	180	435	525
Number of participants of the Business Case Championship	450	1,100	1,800

KEY PROJECTS WITH PARTNERS

	Number of participants in 2017
All-Russia student forums Breakpoint, YouLead, Pro:career	2,800
Business Case Championship CUP MISIS CASE	1,800
Professional navigation program New Level, Penetration	1,084
Thematic lectures CultLAB, Technology of Success	585
Professional diagnostics and consulting Profcareer 3.0, Proorientation	1,080
Projects "My Dream Company"	168
CV database	2,240



INTERNSHIPS AND ON-THE-JOB TRAININGS

SCHOLARSHIPS AND GRANTS FROM BUSINESS PARTNERS



Our key business partners carry out the largest scholarship and grant programs. The major areas of the programs: support to young scientists and successful students, study abroad, and extra-curricular achievements.



More than 1,475 partner companies

Internships and on-the-job trainings with over 1,200 companies

Over 9,000 unique internships and on-the-job trainings

Over 50 scholarships and grant programs



CAMPUS ACTIVITIES

09

STUDENT SELF-GOVERNANCE

As part of the Program to Develop Activities of Student Associations, in 2017 NUST MISIS carried out a number of activities in five business areas attended by several thousands of students: science and innovations; professional competences; inter-cultural dialogue; information resources; social standards and rights of students.

Jointly with the Russian Student Centre, the university has organised the All-Russian Program to Develop Student Associations "Russian Studentship" supported by the Ministry of Education of Russia. During the year 2017, a number of training sessions were held to discuss the strategies of personal development, ways of creative self-expression, as well as any other matters important for students. Those seminars were attended by more than 1,000 people from all over Russia. Six students of NUST MISIS became winners of the Moscow stage of the Russian National Award "Student of the Year" in the following categories: Student Leader, Creative Person and Foreign Student.



PATRIOTIC UPBRINGING AND VOLUNTEERING

Patriotic Upbringing

Patriotism is one of the basic elements of educating the youth at NUST MISIS. The university considers it necessary to enable each student to develop his/her personality, of which pride for the nation is an important element.

During the entire year, NUST MISIS is involved in activities devoted to memorable dates in the Russian history: the Defender of the Motherland Day, Victory Day, anniversary of the counter-attack of the Soviet troops in the Moscow battle, etc. For implementing the project devoted to the history of the Moscow militia battles of 1941, NUST MISIS obtained official thanks from the Russian Union of Youth.

The university arranged the roundtable called "Contemporary Forms of Work for Patriotic Upbringing of Youth in Universities" that was attended by partners of the university: the Moscow Municipal Council of Veterans, Russian Union of Youth, Central Museum of the Great Patriotic War, public movement "Volunteers of Victory", as well as representatives of other Russian universities.

Volunteering

NUST MISIS has developed and is actively pursuing the volunteer movement enabling students to obtain social experience necessary for mastering leadership skills, independence and teamwork.

Jointly with NUST MISIS' partner – charity fund "OMK-Uchastie", university's volunteers participated in the following charity activities: voluntary Saturday work in the child rehabilitation centre in Balashikha, events in support of patients of the N.N. Blokhin Research Centre of Child Oncology and Hematology and donor's event of the Centre of Blood of the Federal Medical and Biological Agency.



SPORTS AND ARTS

Sports achievements

Shamil Askerov ran first in the European boxing championship among juniors in Romania. Students of NUST MISIS swept the podium of the Russian boxing championship. Radzhab Radzhabov headed the list, Alikhan Bakaev and Alexander Agafonov shared the second place, while Ovik Ogannisyan and Shamil Mansurov ran third.

Rozalia Nasretdinova, a student of NUST MISIS, won a silver medal in 4×50m mixed freestyle at the European swimming championship in Copenhagen (Denmark). At the swimming championship in Russia, Rosalia was awarded with 7 medals, of which 5 are gold ones.

Club of the Funny and Inventive People (KVN) Movement

According to the results of the 28th International Festival of KVN teams KiViN 2017 in Sochi, Russia, the Combined Team of the State University of Management and NUST MISIS became one of the 20 best teams selected to the Supreme Television KVN League on Channel One Russia. Upon the end of the season, the team got through to the quarterfinals.

Creative achievements

Ivan Yermakov, student of the master's degree program of the Institute of Information Technologies and Automated Management Systems, was awarded with the grand prix in the Student Marathon of Pop Songs .

Student leisure

NUST MISIS provides students with all the possibilities for proper balancing of intensive studies and proper leisure. Over 500 students participants in recreational activities in the resorts and recreational complexes in the Krasnodar krai, the Crimea and Karelia, as well as the programs of the "Adventure" club of Dmitry and Matvey Shparo: StudMix in Karelia and StudMay in the Crimea.

CULTURAL EDUCATION

In 2017, NUST MISIS became the participant and arranger of a number of significant events intended to promote the studying of the Russian language.

International educational event Total Quiz

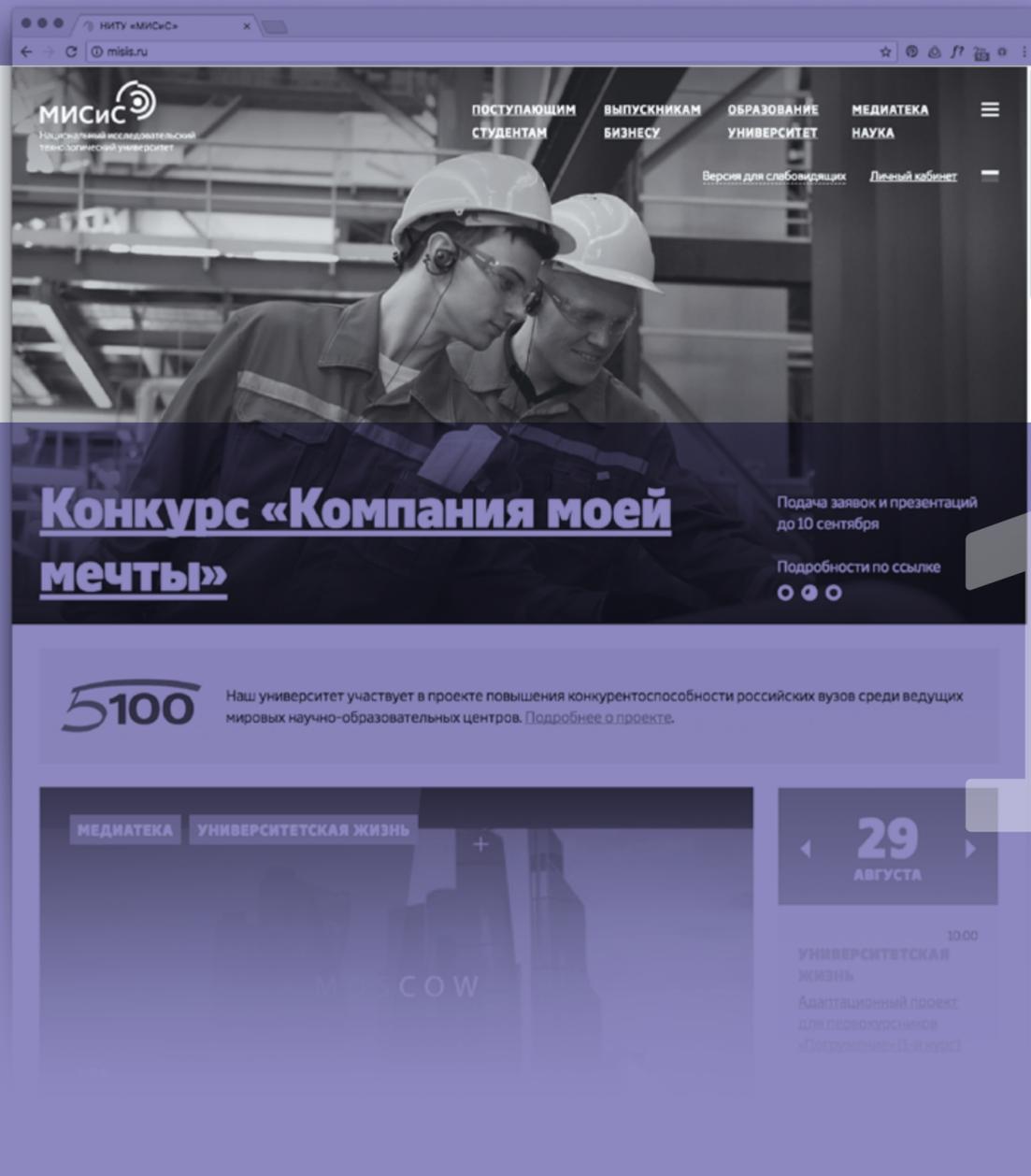
In April 2017, NUST MISIS became the central Moscow platform for the event designed to promote the studying of the Russian language and to raise the awareness of the public regarding the issue of reducing the population's literacy. Famous TV personality Maxim Galkin acted as the speaker.

Open lecture course Smart Mondays

A joint project of NUST MISIS and Gramota. Ru with the participation of the V.V. Vinogradov Russian Language Institute of the Russian Academy of Sciences and the Total Quiz project. Lectures given by the most prominent Russian linguists were attended by thousands of people.



Total Quiz in NUST MISIS



UNIVERSITY PROMOTION

10

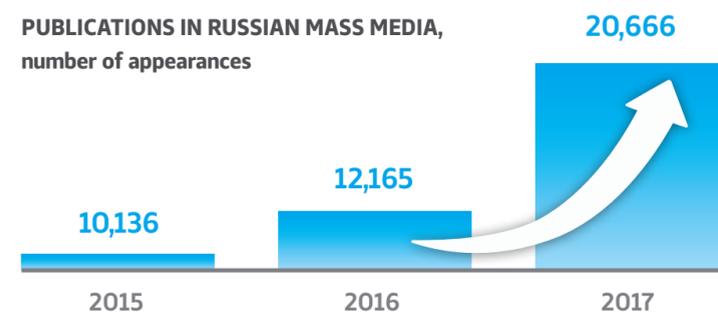
UNIVERSITY PROMOTION

Increased presence in foreign mass media

NUST MISIS has developed and is implementing the strategy of international promotion to popularise the Russian science, including the coverage of academic and research activities of the university and its scientific achievements. In 2017, a number of press activities for foreign mass media were performed: a press breakfast for reporters of foreign publications accredited in Russia, two video bridges: Moscow-Beijing entitled "Newest Technologies of Diagnostics and Treatment of Oncology Diseases" and Moscow-Cairo entitled "Innovative Technologies and Methods in Medicine".

The number of communication channels to promote newsmakers on an international scale has increased, including the start of cooperation with PR Newswire and international integrator of scientific news EurekAlert!, which allowed to significantly increase the quantity of ways to foreign mass media as compared to 2015-2016.

PUBLICATIONS IN RUSSIAN MASS MEDIA, number of appearances



Photobank of the university – one of the best in Russia

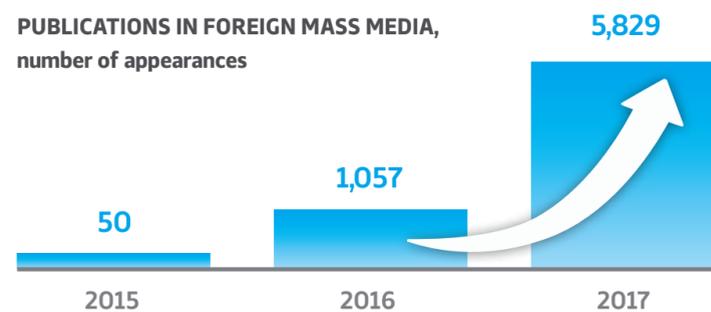
According to the leading Russian mass media (International Information Agency Russia Today) and rating agency QS, NUST MISIS possesses one of the best national university photobanks in terms of the quality and amount of content. As of now, the photobank of NUST MISIS which is available to all Internet users contains about 50 thousand photos reflecting all aspects of the university life: scientific, innovative, educational, extra-curricular, social, etc.

Commercialisation of developments

As part of the strategy of promoting NUST MISIS in the global academic community, the university is focused on working with scientific news, for which reason over 60% of its press releases are devoted to scientific topics. As a result, several groups of university scientists whose activity was constantly covered by the leading mass media, including federal television channels, obtained offers from state-owned corporations and business structures for joint developments.

In order to facilitate the support of NUST MISIS' position on the media scene as a leader in its areas of specialisation, the course entitled "Practical Scientific and Educational Communication" was developed jointly with representatives of the leading mass media and successfully taken by dozens of young scientists of the university.

PUBLICATIONS IN FOREIGN MASS MEDIA, number of appearances



Media centre

NUST MISIS has become one of the first universities to create an extensive media centre on its website that contains video speeches of the leading world's lecturers, meetings with top managers of the largest business companies, master classes of famous experts, interviews and reports from various events. As of now, the media centre is composed of 155 video materials viewed by over 500 thousand people. Jointly with the Ministry of Education of the Russian Federation, NUST MISIS is implementing the project "Lecture Course", under which the best lecturers and event are broadcast on the main page in VKontakte and collect dozens of thousands views.

Prototyping centre

In June 2017, the official opening of the Engineering Centre of High-Complexity Prototyping of NUST MISIS took place. The official ceremony was attended by Deputy Chairman of the Government of the Russian Federation Arkady Dvorkovich, Minister of Education and Science of the Russian Federation Olga Vasilieva, Deputy Minister of Industry and Trade of the Russian Federation Vasily Os'makov, as well as directors of the leading Russian companies and business partners of NUST MISIS. The centre will become a unique national high-tech digital laboratory ensuring the entire cycle of innovative product development. The size of the item created may range from one micron to 20 m.



Official opening of the Engineering Centre of High-Complexity Prototyping of NUST MISIS



EVENTS CALENDAR

11

JANUARY

11 January

NUST MISIS joined the large-scale educational project – All-Russian examination “Come out to solve!”, thus becoming one of the places to host exams in mathematics, computer science and physics in Moscow. This event also takes place in branches of the university.

25 January

On the Day of Russian Studentship, NUST MISIS prepared the program “Engineer of the Future” that included films of the Festival of Popular Scientific Films, master classes of FabLab, CarfidovLab and the Centre of Composition Materials, KVN and “What? Where? When?” games, Science Slam and Dance-battle, as well as numbers of creative student teams.

13 January

The team of the laboratory “Superconductive Metamaterials” under the direction of candidate of technical sciences Aleksey Basharin created the metamaterial, whose unique features make it an irreplaceable element for ultramodern lasers.

24-27 January

Miner’s Week-2017, the largest international scientific symposium of the mining industry, celebrated its 25th anniversary and gathered the leading scientists, heads of state-owned structures and top managers of enterprises that are partners of NUST MISIS: SUEK, ALROSA, KARAKAN INVEST, etc.

23 January

The start of the new KVN season demonstrated a huge potential of the Combined Team of the State University of Management and NUST MISIS: after their appearance at KIVN-2017 in Sochi, our students acquired the right to enter the Supreme KVN League.



Aleksey Basharin
Assistant professor of the laboratory “Superconductive science”

FEBRUARY

2 February

Alexander Chizhikov and Konstantin Yushkov were awarded by the Government of Russia in the area of science and technology for young scientists for the creation of the acoustooptic management complex for a powerful new generation laser thermonuclear synthesis unit.

15 February

Top managers of one of the most respected educational world's rating agencies – Times Higher Education – visited the university, shared their expert opinions regarding the selection of the development strategy for universities, reviewed strengths and weaknesses of rating participants and examined successful cases.

28 February

The NUST MISIS delegation discussed cooperation in the sphere of education and science with members of the Government of the Republic of Tajikistan: it was resolved to create a new field of study for mining engineers in its branch in Dushanbe.

3 February

The 2017 graduating class has proved itself to be quite successful: each sixth graduate has a diploma with honours, while each fifth graduate intends to continue his/her post-graduate studies. Many graduates have obtained employment offers from the largest mining companies.

20 February

NUST MISIS jointly with RUSAL and members of the Aluminum Association for R&D to develop modern technologies opened the Institute of Light Materials and Technologies to become a platform for creating new materials for high-tech industries.

28 February - 3 March

The leading scientists from the world's scientific and educational centres participated in the 7th meeting of the International Scientific Council of NUST MISIS to discuss the progress of implementing the university's roadmap, give recommendations on developing scientific projects and share their experience of commercialising R&D results.

8-9 February

Popular development models for contemporary universities, the creation of international educational and scientific programs, interaction between educational institutions and the business community – all these are the key topics discussed during the press tour of journalists from 8 countries held in NUST MISIS.

21 February

The scientific team of the laboratory "Prospective Energy-Effective Materials" acting under the guidance of globally renowned professor Akihisa Inoue (Hirsch index 116) determined the range of amorphous alloys for the creation of innovative transformer cores allowing to decrease electricity losses thrice.



Lindsay Greer
Member of the International Scientific Council at NUST MISIS, head of the School of the Physical Sciences of the University of Cambridge, Professor

MARCH

2 March

The project of young scientists of NUST MISIS Sergey Legotin and Andrey Krasnov for the development of betavoltaic transducers for autonomous power sources was awarded by the Government of Moscow in the aviation and space engineering category.

16 March

NUST MISIS agreed to commence a joint project with the famous scientific and educational lecture course "Gutenberg's Smoking Room": all lectures devoted to scientific and technical topics take the form of 30-minute speeches.

26 March

Over 1,500 entrants from all across Russia participated in the Welcome Day in NUST MISIS that for the first time combined entrants for bachelor's degree, master's degree programs and post-graduate studies.

8 March

The new global rating QS World University Rankings by Subject confirmed the leading positions of NUST MISIS in developing materials science and mining fields of study: the university was included into the QS rating for 4 criteria, thus taking the 31st line of the rating in the engineering – mining category.

17 March

NUST MISIS presented the strategy of its further development at the meeting of the International Council of Increasing the Competitiveness of the Leading Russian Universities among the World's Scientific and Educational Centres.

29-30 March

NUST MISIS discussed environmental aspects of the reclamation and development of the Arctic region at the International Arctic Forum attended by state leaders, representatives of governments and ministries, business community and the "Arctic five" (Russia, USA, Canada, Norway and Denmark).

15 March

Successful collaboration between the university and the business community was additionally confirmed by the execution of the master agreement on long-term cooperation between NUST MISIS and EuroChem in the sphere of specific personnel training, as well as fundamental and applied mining R&D operations.

22 March

For the fifth time NUST MISIS participated in the preliminary round of the Engineering Championship Case-In, the only Russian federal case championship for the fuel and energy, mineral resources complexes.



Execution of the master agreement on long-term cooperation between NUST MISIS and EuroChem

APRIL

1 April

The KVN movement of NUST MISIS celebrated its 20th anniversary with a fantastic show: all KVN generations, including champions of the Supreme KVN League, Comedy Woman residents and authors of popular programs appeared before the footlights in the People's Hall of NUST MISIS.

12-15 April

NUST MISIS took an active part in the 4th International Education Salon held under the auspices of the UNESCO in Moscow. The event was attended by experts from all levels of education, representatives of the business community and public bodies, future entrants and their parents..

19-21 April

NUST MISIS reflected on the 72nd Science Days, during which young scientists defended their scientific projects in the key areas of university specialisation; the ceremony was completed by Science Slam MISIS.

7 April

The scientific team under the guidance of assistant professor of the department of physical chemistry of NUST MISIS, candidate of chemical sciences Georgy Frolov developed the methodology that may underlie a revolutionary method of antibacterial therapy in dentistry, oral surgery, treatment of ORL diseases and other spheres of medicine.

13-15 April

NUST MISIS conducted the Breakpoint forum that became an important place for meetings, communications and interaction for more than 1,200 young specialists with representatives of the business community from 50 Russian regions.

20 April

In 2017, the Day of Nationalities in NUST MISIS combined over 1,500 students from 14 Moscow universities. Students from 30 countries dwelt on their traditions, presented national songs, dances and meals.

8 April

NUST MISIS became one of the primary Moscow platforms for the Total Quiz international educational campaign by housing more than 1,000 of those willing to check their knowledge of the Russian language from dictation of talented entertainer and professional linguist Maxim Galkin..

18 April

The scientific team of NUST MISIS under the direction of doctor of engineering, professor Alexander Medvedev developed the technology of extracting copper, nickel and molybdenum from rich ore, which allows to fundamentally cheapen the production of non-ferrous metals and improve the environmental situation in regions operating processing plants.

28 April

In its effort to develop international cooperation, NUST MISIS signed a trilateral agreement with French engineering universities: National School of Arts and Commerce (ENSAM) and the University of Paris-Saclay known as the "French silicon valley".



Famous entertainer Maxim Galkin dictated the Total Quiz at NUST MISIS

MAY

4-6 May

Three inventions presented by NUST MISIS at the International Exhibition of Innovations, Scientific Research and New Technologies "Innova-Barcelona 2017" were recognised by international experts – two gold and one silver medals.

20 May

NUST MISIS conducted its traditional Spring of Metallurgists: more than 1,000 participants came to the Neskuchny Garden to take part in "funny starts", the race for 1,000 meters, table tennis competition, orienteering, football, volleyball, chess and badminton.

25 May

NUST MISIS became one of a few organisations, all of whose exhibited inventions were awarded with gold medals at the 20th Moscow International Salon of Inventions and Innovative Technologies "Archimedes-2017" held with the assistance of Russia's Presidential Executive Office and the Moscow Government.

18 May

NUST MISIS held the first inter-university music competition "Rock Music Strike" participated by over 20 performers from Moscow universities competing for the "Best Rock Musician" and "Best Rock Group" nominations.

22 May

Efficient cooperation of NUST MISIS with its business partners allowed to make a breakthrough in creating energy accumulation systems: TEEMP launched a new technological line to produce high-efficiency supercondensers, electrolytic conductors for which were developed by a group of scientists from the department of physical chemistry of NUST MISIS.

28 May-2 June

NUST MISIS was extensively involved in the activity of the largest international educational exhibition NAFSA-2017 Annual Conference & Expo that combined over 9,000 participants from 100 countries in Los Angeles (USA).

18 May

Joint efforts of scientists from NUST MISIS and MSU under the federal target program "Research and Development" allowed to create a unique system of delivering biomaterials to laboratories for analysis.

24 May

NUST MISIS conducted the Pro:career forum in the form of an interactive educational platform, including master classes from famous business trainers, professional testing and business games.



Spring of Metallurgists in NUST MISIS

JUNE

1 June

NUST MISIS scientists participated in the video-bridge Moscow-Beijing entitled "Newest Technologies of Diagnostics and Treatment of Oncology Diseases" and told about the most recent developments in applied medical technologies conducted by NUST MISIS and about their use in combating oncology diseases.

15 June

Professor of Aeronautics and Astronautics and of Engineering Systems of MIT Edward Crawley gave a lecture in NUST MISIS about transformations of engineering education by emphasising the project-based CDIO approach used in NUST MISIS on all levels of education.

28 June

As part of the Technology of Success project, which is a cycle of lectures with famous people widely recognised in their specialisation, students had a meeting with Minister of Energy of the Russian Federation Alexander Novak who visited NUST MISIS on the threshold of the 70th anniversary of the Miner's Day.

8 June

NUST MISIS demonstrated the best dynamics among Russian universities in the QS World University Rankings by moving up by 100 points and improving its positions in respect of all six criteria of the rating.

21 June

NUST MISIS confirmed its positions as one of the leading technical universities by being included into the rating of the best European universities for the first time prepared by Times Higher Education.

28 June

For the first time NUST MISIS found itself on the Shanghai rating by subject Academic Ranking of World Universities by being included into TOP-100 universities in the engineering – metallurgy category.

15 June

The participants of the European Organization for Nuclear Research CERN represented by 69 universities from 16 countries unanimously voted for providing NUST MISIS with the status of an associated member of large international MegaScience project – LHCb collaboration.

26 June

A scientific group headed by director of the laboratory "Biomedical Nanomaterials" of NUST MISIS, professor Alexander Mazhuga commenced pre-clinical tests of the first Russian technology of treating oncology pathogens based on the ferrous oxide preparation combining the options of hyperthermia and chemotherapy.

29 June

With the participation of Vice Premier of the Russian Federation Arkady Dvorkovich, Minister of Education and Science of the Russian Federation Olga Vasilieva, Deputy Minister of Industry and Trade of the Russian Federation Vasily Os'makov and representatives of business, NUST MISIS officially opened its Centre of High-Complexity Prototyping, which is the largest and most functional centre of high-complexity prototyping in Russia.



During the official opening of the Centre of High-Complexity Prototyping: honoured guests and management of NUST MISIS push the button.

JULY

1 July

The NUST MISIS Endowment Fund was among the nine target capital funds that won the program entitled "Strategy of Creating and Developing Target Capital Funds" and obtained support amounting to RUB 2 mln from Mr. Potanin's charity fund.

18-23 July

NUST MISIS presented its research and development results for the aerospace industry at the stand "Celestial Materials" and arranged the roundtable devoted to innovative energy accumulators during the 13th international MAKS-2017 salon.

28 July

The university conducted training in the form of international summer schools: over 100 students from the leading world's universities obtained knowledge in technical disciplines related to materials science and information technologies, met with well-known experts and top managers of major companies and took advance Russian language course.

6 July

Post-graduate students of NUST MISIS Artur Ishteev and Andrey Turutin won the competition for the scholarship of the Russian president for a yearly secondment to the University of Aveiro (Portugal) and the University in Dallas (USA).

21 July

A group of young scientists from the department of functional nanosystems and high-temperature materials obtained a Russian patent for a new development – a protection filter against ultraviolet emission that may be used both in cosmetology and in manufacturing transparent polymers.

6 July

The invention of the scientific group of NUST MISIS under the guidance of professor Yuri Estrin entitled "Method of Processing Low-Alloyed Copper Allows" was entered on the list of 100 best inventions of Russia-2016 and awarded with an honorary diploma of Rospatent.

25 July

NUST MISIS jointly with the leading metals companies of Russia for the first time conducted a design course in materials science for pupils of classes 8-10 in the all-Russian educational centre Sirius supporting gifted schoolchildren.



Design shift of NUST MISIS for materials science in educational centre Sirius.

AUGUST

8 August

The admission campaign of NUST MISIS became the most successful one for the most recent years: the average USE grade of entrants was 82.7 points against 67.3 in 2012. Each third entrant had a certificate of secondary education with honours, while the number of winners and medallists of academic olympics enrolled to the university without entrance exams increased by 50%.

23 August

NUST MISIS scientists as part of the international scientific team under the direction of professor Arkady Krashennikov theoretically examined and practically proved the possibility of controlled changes to features of graphene, in particular, in terms of obtaining nanoholes of any given size.

14 August

Employees of the laboratory "Non-Organic Nanomaterials" of NUST MISIS on the international scientific team guided by one of the leading world's scientists professor Dmitry Goldberg for the first time globally managed to solve the problem of creating bidimensional materials with controlled features.

25 August

NUST MISIS was included on the list of scientific organisations entitled to independently assign academic degrees.

17 August

Paying significant attention to personal growth and the discovery of students' creative potential, NUST MISIS conducted its traditional summer off-premise educational professional navigation program to prepare the student pool "New Level" in sports and recreational camp "Metallurgist" in Abkhazia.

30 August

As part of strategic partnership between NUST MISIS and Vnesheconombank in creating the Centre of Competencies for New Materials and Disruptive Technologies, the Commune House of NUST MISIS opened the discussions of the prospects of developing and using the blockchain technology to deal with public and business issues.



Admission campaign 2017 in NUST MISIS

SEPTEMBER

5 September

NUST MISIS moved up by 200 points in the global educational rating THE-2017 and was included into the 601+ group, thus demonstrating a significant growth of research chops resulting from successful research activities of the university.

9-10 September

For the second consecutive year, NUST MISIS became the arranger of international festival Maker Faire Moscow that joined over 200 amateur designers and young engineers from Russia, USA, European and Asian countries. Dale Dougherty, the ideologist and leader of the global maker movement, became a special guest at the event.

25 September

NUST MISIS launched the MBA Strategic Management at Mining Enterprises program based on the Inter-University Educational Centre created jointly with KARAKAN INVEST Group of Companies.

8 September

Employees of the laboratory "Modelling and Development of New Materials" of NUST MISIS under the direction of leading scientist of global renown professor Igor Abrikosov jointly with colleagues from Sweden, Ireland and Ukraine calculated a number of crucial parameters of interaction of heavy metals with one of the most promising new materials – graphene.

11-13 September

NUST MISIS hosted the first international hackfest devoted to intellectual intelligence and computer vision VisionHack with the support of Cognitive Technologies, Vnesheconombank and Skolkovo Foundation with the participation of 27 teams from the world's leading universities.

25 September

In close collaboration with one of the leading manufacturers of contemporary research equipment METKON, the university created the academic and scientific laboratory "Prospective Precision Materials", whose employees are expected to develop technologies of creating new precision high-permeability powders.

8 September

Jointly with the Bank of Russia, NUST MISIS held the Day of Financial Literacy for pupils and university students: experts of the Institute of Economics and Industrial Management dwelt on the key monetary relations, as well as personal, project, enterprise and municipal budgeting.

22 September

Top managers of LG Electronics headed by its Vice-President Chong Soo Lee, while visiting NUST MISIS signed the memorandum of understanding and cooperation in the scientific and production area and got familiar with the deliverables of university scientists and prospective topics of new researches.

26-27 September

NUST MISIS acted as an ideologist and organiser of the 4th International Conference for New Educational Technologies #EdCrunch that joined 5,000 physical participants and 15,000 online viewers, 300 speakers from 30 countries and that gave rise to the top-priority state project called "Modern Digital Educational Environment".

HACKATHON FOR COMPUTER VISION

September 11-13, 2017. Russia

EXPAND YOUR VISION

HACK THE PROBLEM

WIN THE CHALLENGE



OCTOBER

1 October

NUST MISIS starts cooperating with the Catholic University of Leuven included on the TOP-100 of global rating QS World University Rankings that runs first in the rating of European innovative universities according to Reuters.

9-13 October

NUST MISIS acted as one of the organisers of the first Russian International conference CODATA 2017 "Processing Big Amounts of Data and Global Challenges to the Modern Age" under the International Council for Science.

17 October

The university moved up 6 points in QS Emerging Europe&Central Asia, thus taking place #57 and strengthening its positions in the academic reputation, reputation among employers and share of foreign students categories.

3 October

During the visit of CERN representatives to the university, the agreement on the full participation of NUST MISIS in SHiP and LHCb collaborations was signed, and two memoranda on the cultural and academic interaction with other participants of the SHiP experiment were executed.

11 October

At the 26th Russian boxing championship with the participation of 290 boxers from 52 regions, NUST MISIS students occupied 7 medal places.

19 October

First-year students participated in creative competitions and were matriculated to students of NUST MISIS. Spectacular dances and songs, as well as the shadow show for the Cup of First-Year Students were staged.

7 October

NUST MISIS traditionally acted as one of the arrangers of the all-Russian Festival of Science primarily designed to promote academic knowledge and attract the attention of the youth to engineering disciplines.

17 October

For the first time ever, NUST MISIS was included on the rating by subject Times Higher Education in the engineering - technologies category, thus occupying the position in the TOP-500 of the best world's universities and demonstrating strong results in the international collaboration, research and income from research operations categories.

21 October

With the support of NUST MISIS, one of the most famous Russian educational forums "Scientists against Myths" was held.



Students of the Mining Institute in the Laser Ultra-Sound Non-Destructive Control laborator

NOVEMBER

7 November

The key career case championship of NUS MISIS Cup MISIS Case reached an international level: about 2,000 participants from 110 universities and 45 schools from Russia and abroad solved interesting technical tasks offered by such leading mining companies, as Norilsk Nickel, Metalloinvest, Severstal, Chelyabinsk Pipe Plant.

13 November

The longstanding academic researches of professor Yuri Estrin leading the laboratory "Hybrid Nanostructural Materials" at NUST MISIS were praised by the German materials science society that granted the status of its honorary member to the scientist.

20 November

NUST MISIS entered into the agreement with Stanisław Staszic University of Applied Sciences (Poland) to create an English-speaking master's degree program in the area of management.

8 November

NUST MISIS became the participant of an ambitious international scientific project for the creation of the theory of absolute invisibility and development of invisible metamaterials. The research done jointly with Italian peers from the Polytechnic University of Turin was headed by assistant professor of NUST MISIS laboratory, candidate of technical sciences Aleksey Basharin.

14-16 November

NUST MISIS presented the results of its research activity at the 23rd International Industrial Exhibition Metal-Expo 2017, one of the largest industrial platforms on a global scale attended by 550 companies from 32 countries.

23 November

According to the new QS BRICS rankings, the university found itself on the list of 1% of the best BRICS universities, thus improving its performance on almost all criteria and being included on the TOP-100 per the key reputation among employers criterion.

10 November

At the 9th International Conference of Specialists and Developers of the Theory of Solving Inventive Tasks (TSIT) entitled "Practice of Using and Developing Methodological Instruments of TSIT" held in NUST MISIS, the launch of the open online course devoted to the theory of solving inventive tasks was announced.

17 November

On the International Student Day, Minister of Education and Science of the Russian Federation Olga Vasileva had a meeting with students from NUST MISIS and other leading Russian universities, as well as with representatives of all-Russian youth organisations to answer their most topical questions in the "free microphone" mode.

28-30 November

Speeches of project leader of SHIP on a large hadron collider in CERN by professor Andrey Golutvin and chairman of the council of the Russian fund of fundamental researches academician Vladislav Panchenko gave rise to launching a traditional cycle of popular science Christmas lectures at NUST MISIS.



Final of NUST MISIS international championship Cup MISIS Case

DECEMBER

1 December

Jointly with international child centre Artek, the university held academic olympics "MISIS Lights Stars" that awarded over 100 winners and medallists in the technical, information and technology, physical and chemical areas.

4 December

Children that had to celebrate the New Year in the N.N. Blokhin Research Centre of Child Oncology and Hematology had a nice holiday: volunteering students of NUST MISIS participated in the "A Single Fir Tree from Everyone" campaign arranged by charity fund "OMK-Uchastie".

19 December

The Art, Science and Sports charity fund of Alisher Burkhanovich Usmanov supported the development of NUST MISIS by donating the amount of 100 million rubles to the endowment fund of the university. It is the first contribution under the fundraising campaign to commemorate the 100th anniversary of the university and the largest one for the entire existence of the endowment fund.

1 December

Modular MBA program "Industrial Enterprise Management" developed by NUST MISIS jointly with its strategic partner OMK was successfully completed by future top managers defending their projects.

7 December

Musical competition "Gold Voice-2017" was for the first time held on an inter-university level and combined the best performers from seven Moscow universities who had passed preliminary rounds.

22 December

Together with Lobaev Arms, the first Russian private company producing arms, NUST MISIS developed a new for Russia master's degree program to train highly-skilled specialists in the area of organising high-tech businesses.

1 December

The opening of the Centre for Blockchain Competences in the Commune House of NUST MISIS that will become a platform to develop disruptive technologies for the digital economy is an important step for extending strategic partnership with Vnesheconombank.

13-14 December

At the plenary session devoted to the prospects of cooperation between science and business held as part of the 5th annual national exhibition Vuzpromexpo-2017, Minister of Education and Science of the Russian Federation Olga Vasileva awarded NUST MISIS with a diploma for its achievements in science and technology and emphasised that "it is the university science that demonstrated the most dynamic growth over the most recent years".



