

Skoltech

Skolkovo Institute of Science and Technology



SKOLTECH

2011-2013

Letter from the President

Ladies and gentlemen!

I'd like to introduce you to Skoltech — a new model in the Russian higher education system, bridging science and innovation to have an impact on the world we live in. We are bringing together a fusion of exceptional Russian and international talent, key partnerships, and a world-class infrastructure to found in Skolkovo an Institute capable of becoming an engine of economic growth.

We are set apart by our systematic approach for creating impact in society. We directly engage industry and society to understand their needs, then educate graduate students and conduct research to strategically improve standards of living and companies' global competitiveness.

In just two years, we have conducted a stakeholders analysis, developed a comprehensive research strategy, and founded six Centers for Research, Education and Innovation to address the needs indicated by our stakeholders — business, government and society.

We have attracted top researchers and educators from around the world, including Dr. Anton Berns, Dr. Victor Kotlianski and Nobel Laureate Sidney Altman. We have also created opportunities for Russian talent to return to Russia as a number of our 21 professors are from the greater Russian Diaspora.

We've launched educational programs in IT and Energy, matriculated 65 M.Sc. students from 12 countries, and plan to inaugurate programs in Biomedicine, Nuclear Science and Space in 2014. Our students have already demonstrated their potential, founding their own companies and placing in the Top 10 for international competitions such as the CleanTech Challenge and MIT's 100k Competition. We eagerly look forward to what they will achieve in their two years at Skolkovo.

Our list of partners and friends also continues to grow. Beginning with our key partner the Massachusetts Institute of Technology (MIT), we have continued to form ties with leading universities around the world. The Moscow Institute of Physics and Technology, St. Petersburg State University, and University of Groningen (the Netherlands) are just a few of the universities who have become pillars in our foundation. We have also demonstrated our value to industry partners, and companies such as United Aircraft Company, System Operator of the United Power System and CISCO who have decided to collaborate with us on research and educational programs.

The past two years have been a period of rapid growth, and despite the short amount of time, we have laid the cornerstone for our future community of 200 professors, 300 postdocs, and 1,200 students. Please read on to understand why I am so confident in saying that at Skoltech, we are doing more than graduating leaders, we are preparing agents of change.

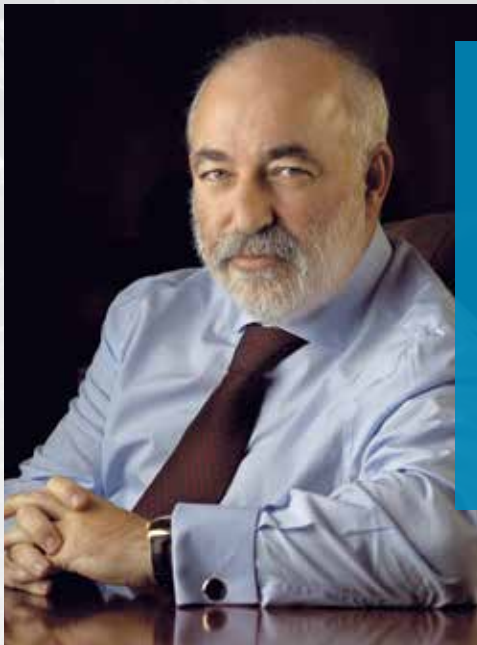


Edward Crawley,
President

Edward F. Crawley

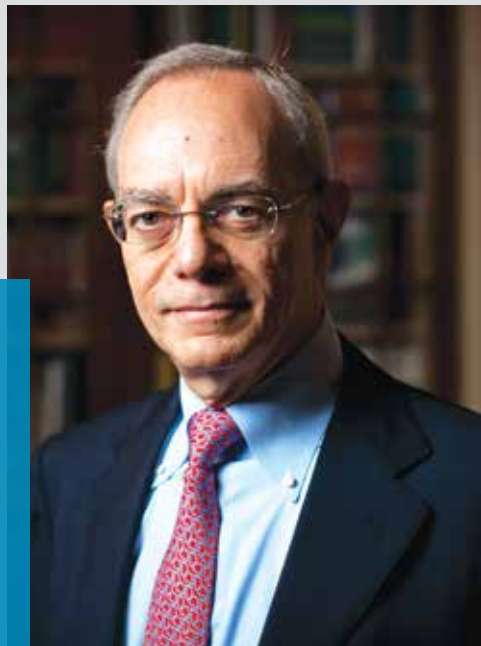
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"In our country, a gulf exists between institutes conducting fundamental research and commercialization of those projects' results. The Skolkovo Innovation Center is a city that includes the fundamental elements necessary to overcome this gulf. First and foremost that is the university — Skoltech"

Victor Vekselberg,
President the Skolkovo
Foundation



L. Rafael Reif,
President MIT

"Russia is blessed with a well educated and talented academic population, and a culture that values scientific and mathematical excellence. I expect Skoltech to become a sister institution to MIT, and I expect us to collaborate and to work together to solve some of the world's most important challenges"

Mission, Vision, Values

The Skolkovo Institute of Science and Technology (Skoltech) is a private graduate research university, initiated by Russian President Dmitry Medvedev in 2010 as a part of the greater Skolkovo Innovation Center.

Skoltech serves as a new model of educational institution for Russia, educating global leaders in innovation, advancing scientific knowledge and fostering new technologies to address critical issues facing Russia and the world.

Next year, the Institute will start working with full force. Skoltech will launch the final two of its five educational programs. These programs correspond with the Russian government's strategic goals: Biomedicine, Energy, IT, Nuclear and Space Science and Technology. Around these programs, Skoltech bases its Master's, Ph.D. and research programs.

Skoltech was also designed from the beginning to integrate the best Russian scientific traditions with twenty-first century entrepreneurship and innovation. From this design, the Institute has formed into an engine of economic growth, bridging fundamental science and innovation to collaborate with industry.

Master's students at Skoltech do more than take lessons in classrooms, they fully participate in research. Project-based courses are not a new concept in Russia. Phystech is a single example of where these practices have been implemented before, however, at Skoltech students are equal to professors and conduct research to solve specific problems. Students also interact with business and final consumers.

The traditional university structure based upon departments has become less effective. At Skoltech, research and education are designed around cross-cutting problems, which cause students to go beyond the usual disciplines and interact with colleagues from other fields.

Skoltech is also tasked with developing and implementing the components necessary to support the innovation ecosystem at Skolkovo. These are both the formal and informal educational aspects of entrepreneurship and innovation as well as organizational structure and developing links to industry and venture capital.

Another fundamental element of Skoltech is the Center for Entrepreneurship and Innovation (CEI).

The CEI develops research programs related to the practice of entrepreneurship and innovation and creates educational programming for Skoltech students, postdocs, staff, professors, and the broader community. The Centers for Research, Education and Innovation also develop connections with industry and unite Russian and foreign research groups to maximize their abilities.

In the foreseeable future, Skoltech expects to turn into a world-class research institute. This in itself will enable Skoltech to have major social impact, attracting to and keeping talent in Russia.

MISSION

- To have educational, scholarly and economic impact in the Russian Federation and around the world;
- By educating leading graduate students and conducting research programs to address key challenges in science, technology, engineering and innovation;
- Using a fusion of exceptional talent, and building the university to be an integral part of the Skolkovo Innovation System.

2011-2013

Skoltech's mission is to educate students, advance knowledge, and foster innovation in order to address critical scientific, technological, and innovation challenges and gaps facing Russia and the world.

Skoltech is a new university model for Russia built on a number of guiding principles, and contributing to several goals:

- Create a university environment of innovation: Skoltech brings together research and education across a broad spectrum of science, engineering, and innovation areas in order to foster multidisciplinary discoveries and inventions that arise through the mixing of students, faculty and researchers across traditional disciplinary boundaries
- Integrate education and research: in addition to course work, graduate students participate in research throughout their education; each Skoltech faculty member both teaches and engages in research, in order to foster excellence and creativity in both
- Develop and embed university components of an innovation and entrepreneurship ecosystem within Skolkovo. These university

components include formal and informal education in innovation and entrepreneurship, as well as university policies and structures for interfacing with industrial commercialization and venture opportunities as they develop at Skolkovo and elsewhere.

- Lay the foundation for a world-class research university that will help attract, create, and retain both Russian and international talent to Skolkovo and Russia

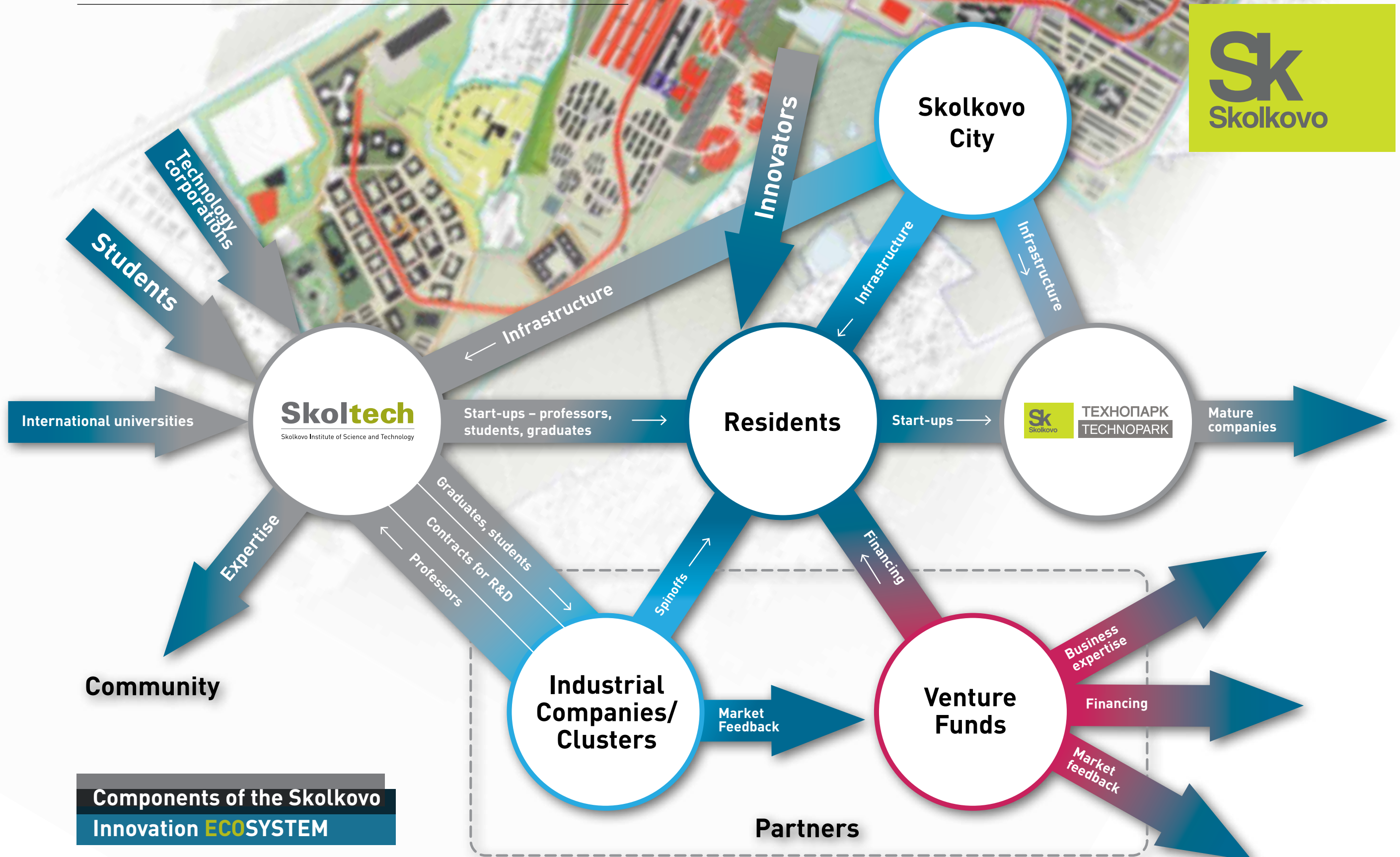
By 2020

- 1,200 students
- 300 postdoctoral associates
- 200 professors
- 15 Centers for Research, Education and Innovation
- 203,000 square-meter campus



Skoltech's first 20 students celebrating the end of the academic year. June 18, 2013.

Innovational environment



History and Milestones

On April 25, 2011, Skolkovo Foundation President Victor Vekselberg announced plans to found Skoltech during a meeting of the Presidential Commission for Modernization and Technological Development of Russia's Economy.

In just half a year, the creation of the university was officially announced.

Skoltech was founded by a collaboration of nine Russian institutions and organizations:

1. Moscow Institute of Physics and Technology
2. Tomsk Polytechnic University
3. Moscow School of Management Skolkovo
4. New Economic School
5. Rusnano
6. Russian Venture Company (RVC)
7. Bank for Development and Foreign Economic Affairs (Vnesheconombank)
8. Foundation for the Assistance to Small Innovative Enterprises in Science and Technology
9. RAS Scientific Center in Chernogolovka

The Skolkovo Institute of Science and Technology was founded on October 25, 2011, however its story begins in the autumn of 2009. At that time, Russian President Dmitry Medvedev ordered the government to analyze how to create a contemporary technical center based off of Silicon Valley and similar foreign high-tech centers.

October 26, 2011 — Skoltech signed a trilateral agreement with the Massachusetts Institute of Technology (MIT) and the Skolkovo Foundation to build capacity in education, research, and entrepreneurship programs at Skoltech. From this moment, the first university in Russia orientating all activities with a consideration of innovation began to take form.

The first tangible features of Skoltech began to appear at the **end of 2011**. The founders formed the organizational and governing structures, created the student selection process, and made the first steps in developing the Centers for Research, Education and Innovation (CREI). The Institute also started the process for hiring professors.

December 19, 2011 — Skoltech launched its capital campaign to raise \$2 billion for its endowment.

The following year began an intense period of growth. Skoltech hired its first faculty and selected the pilot group of M.Sc. students.

In January 2012, the Center for Entrepreneurship and Innovation (CEI) announced its Innovation Support Program.

Also **in 2012**, Skoltech reviewed and selected the first CREI. Beginning this process, Skoltech held the first Conference on Skoltech Research Centers Call for Proposals in February at MIT.

Over 100 professors and researchers attended the conference and learned how to participate in the competition for creating CREIs.

March 13, 2012 — The first Round Call for Proposals ended and after three months of reviewing proposals Skoltech announced winning research projects.

July 9, 2012 — The Skoltech Board of Trustees met and approved the first three CREIs: Center for Stem Cell Research, the Biomedical Engineering Center, and the Center for Electrochemical Energy Storage. Throughout the second half of 2012, Skoltech led negotiations to found the first three CREIs.

2011-2013



Beginnings – Skoltech's first students at orientation. August 2012.



Potential students solving a challenge together at Selection Weekend. April 2013.

August 9, 2012 — President Edward Crawley rang the bell launching Skoltech's first course, the Innovation Workshop. Skoltech's first M.Sc. students and students from MIT participated in the month-long program. Following this course, the students traveled to four different international universities for one year abroad.

September 1, 2012 — The first pilot group of 20 M.Sc. students began their year abroad in what would be three-year programs in either Energy Science and Technology or Information Science and Technology

October 27-28, 2012 — M.Sc. students Vahe Taamazyan and Nikita Rodichenko won 1st place at the TAPPED Hackathon in Boston, Massachusetts.

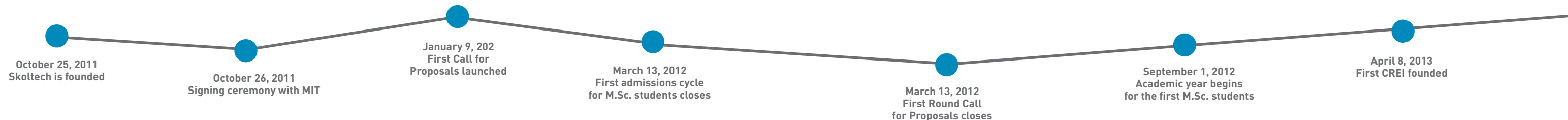
November 2, 2012 — During the Open Innovations Forum in Moscow, Skoltech signed a cooperation agreement in the fields of education, science

and technological development with major corporations within Russia: Uralvagonzavod, Oboronprom and Intel.

In February 2013, M.Sc. student Anastasia Uryasheva gained Skolkovo Resident status for her start-up company Sadko Mobile.

In March 2013, Dmitry Smirnov, M.Sc. student, became a finalist at the CleanTech Challenge 2013 for his design of an engine producing Co2-free electricity.

April 8, 2013 — During Russian President Putin's visit to the Netherlands, Skoltech President Edward Crawley signed a three-sided agreement to create the first CREI — the Center for Stem Cell Research. The Vavilov Institute of General Genetics, Russia and University Medical Centre Groningen, the Netherlands, joined Skoltech as leading partners in the CREI's creation.



History and Milestones

In May 2013, Alexandra Kudryashova, Vladimir Eremin, Katrin Kottenko Lengold and Dima Vasilev became semifinalists in the MIT 100k Launch Competition. Their application for simplifying satellite photography made it to the top 10.

May 11-12, 2013 — Skoltech organized the conference Skoltech: Portal of Opportunities for Academic Collaboration With Russia in Cambridge, Massachusetts. The event brought together about 45 Russian speaking professors living on four different continents.

May 27-28, 2013 — Skoltech participated in the **Startup Village at the Skolkovo Innovation Center, organizing a number of seminars and supporting start-up companies.**

In June 2013, Skoltech formalized its partnership with Moscow Institute of Physics and Technology (Phystech) and launched a double degree program.

June 20, 2013 — During the St. Petersburg International Economic Forum, Skoltech President Edward Crawley and St. Petersburg State University (SPbU) Rector Nikolay Kropachev signed a five-year collaboration agreement.

September 2, 2013 — For the first time, Skoltech began classes on the Skolkovo Innovation Center with the first day of classes. On the same day, M.Sc. students in the Biomedical Science and Technology program began their pilot year abroad.

September 5, 2013—The Skoltech Colloquium kicked off its first seminar at the Kapitza Institute for Physical Problems.

Skoltech excitedly awaits further milestones in the upcoming year.

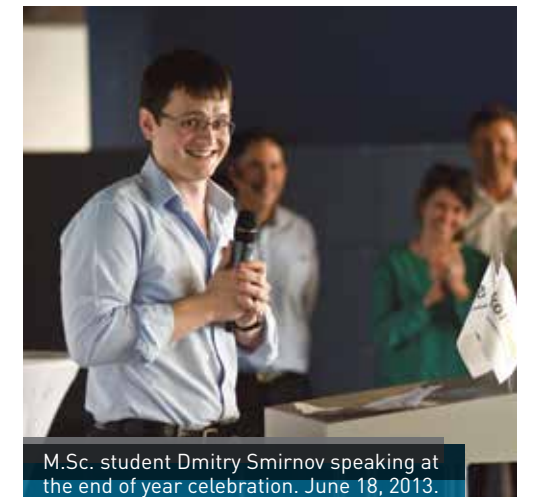
Starting **in September 2014**, Skoltech will begin educational programs in all five of its strategic areas: Biomedicine, Energy, IT, Nuclear, and Space. The Institute also expects to have selected about 300 M.Sc. and Ph.D. students by the beginning of the academic year.

Skoltech has also developed a Strategic Plan for 2013-15, which prescribes the Institute's growth. Currently, by 2020, Skoltech plans to have hired 200 professors, attained a class size of 1,200 M.Sc. and Ph.D. students and selected 300 postdocs to conduct research.

2011-2013



Former Minister of Education and Science Andrei Fursenko speaking at the Startup Village. May 27, 2013.



M.Sc. student Dmitry Smirnov speaking at the end of year celebration. June 18, 2013.



Professor Severinov leading a lecture at the Selection Weekend. March 2013.



Speeches during Skoltech's Birthday celebration. December 10, 2012.

May 27-28, 2013
Startup Village

June 20, 2013
Signing Ceremony
with SPbSU

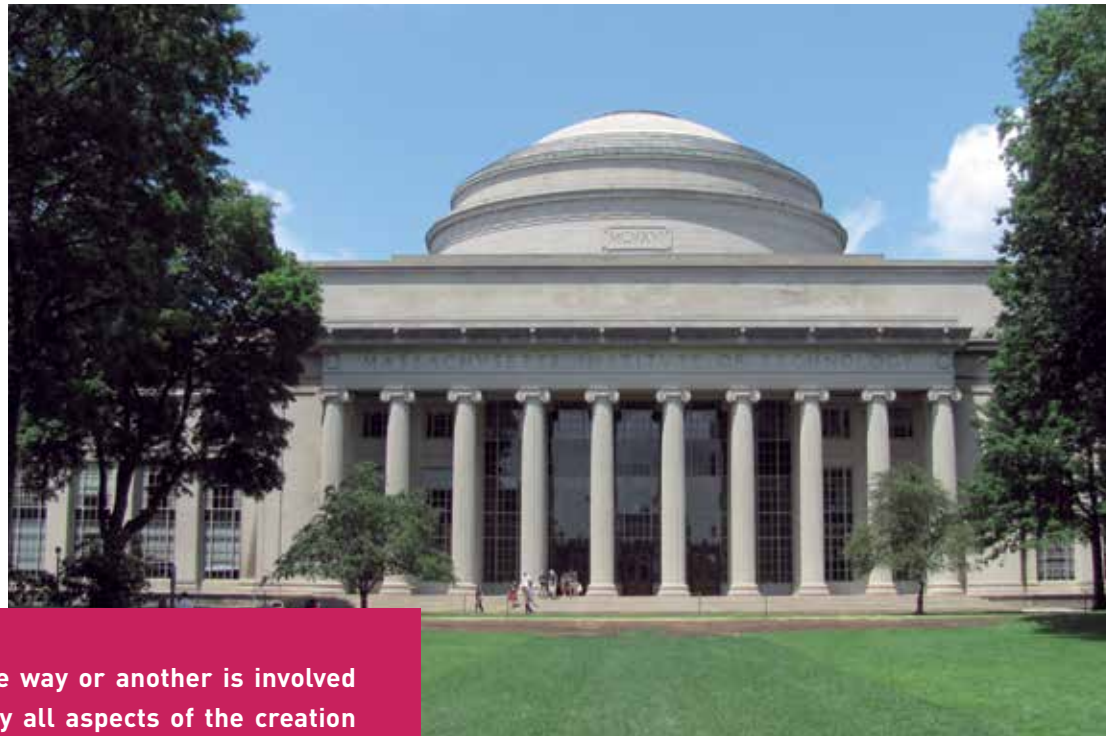
July 8-12, 2013
International Space
Exploration Strategy Group

September 6, 2013
Skoltech Colloquium
established



Participants in the workshop for the International Space Exploration Strategy Group gathering in Moscow, Russia. July 12, 2013

Collaboration with MIT



MIT in one way or another is involved in virtually all aspects of the creation in Russia of a fundamentally new, innovative university.

The Massachusetts Institute of Technology (MIT) made its way into the list of best technical universities in the world a long time ago. The Institute touts 77 Nobel Laureates who are a part of the MIT community, and if you combine all the companies founded by MIT graduates into a single nation, their economy would place them 12th in the world.

One of the reasons MIT has attained such recognition is that it actively collaborates on the international level. Throughout its history, MIT has taken part in creating similar education and research institutions in India, the United Arab Emirates, Portugal, and Singapore. In every case, the governments of these respective countries were so happy with the results, they decided to prolong their agreements with MIT. By participating in similar projects, MIT has accumulated a considerable amount of experience which has proven useful in forming Skoltech. For nearly two years, MIT engaged in extensive

conversations to develop the groundwork for Skoltech. As a result, on October 26, 2011 Skoltech signed a trilateral agreement with the MIT and the Skolkovo Foundation to build capacity in education, research, and entrepreneurship programs at Skoltech. Then Edward Crawley, Professor of aeronautics, astronautics, and engineering systems at MIT (in 1996-2003 he was dean of this department) was appointed as President of Skoltech.

Through the 70-page trilateral agreement, MIT began assisting Skoltech in attracting and selecting professors and students, developing educational and entrepreneurial programs and even campus planning. MIT provided a wealth of experience in advising on how to design cutting-edge laboratories for scientists. Skoltech is also varying from the typical Russian university, which is managed by bureaucrats, so MIT's century long experience of having professors and students engaged in institutional management has

MIT Skoltech Initiative

proven priceless. MIT has even created a special department, called the MIT Skoltech Initiative, to concentrate on cooperation with Skoltech and help implement the Institute's ambitious objectives.

About 30 people have come together to facilitate interaction between the two scientific communities — MIT and Skoltech. They are engaged in its work on a permanent basis, while more than 70 MIT employees have taken part in planning at some level Skoltech's activity.

A good example of collaboration between Skoltech and MIT has been the Innovative Workshop. This four-week course is held annually for Skoltech students on the MIT campus.

The first Innovation Workshop took place in 2012, when the first 20 Skoltech students took courses in mathematics, electronics, entrepreneurship, and innovation at MIT. The courses were strikingly different from those taught in Russia with students working in teams and developing innovative engineering and technical projects all while solving real-life problems.

The course taught students more than how to just develop a product, but also how to analyze markets. The majority of Russian universities have yet to develop programs to focus on bringing out this key skill.

After the successful implementation of the course in 2012, Skoltech decided to continue the practice each year. In 2013, the workshop's organizers, MIT faculty Luis Perez-Breva and Charles Cooney, delivered additional materials on innovation in power engineering, information technologies and biomedicine.

In all, over 50 members from the MIT ecosystem contributed to implementing the program. This cast included teachers, lecturers, invited speakers, businessmen and mentors. At the very beginning of the course Perez-Breva addressed the students with a speech, challenging them.

"The workshop is your opportunity to take ownership of the student culture at Skoltech — to firmly ground it in entrepreneurship and innovation," he said. At the end of the course it became apparent that the students were dedicated to take up his challenge.



The team gathers at MIT for a Report and Planning meeting. May 2012.



The Innovation Workshop at MIT. August 2013.

Academics

Skoltech is a new model in Russian higher education, building and unifying scientific and practical knowledge. The Institute follows the renowned CDIO approach (Conceive – Design – Implement – Operate), integrating research and education with innovation.

The Institute's academic programs, designed in collaboration with MIT, combine interdisciplinary coursework, project-based learning, practical experience, and a focus on communication, teamwork, and innovation. Guided by an international faculty, students build the knowledge, skills, and confidence necessary to undertake and lead research and innovation processes and bring new advances to Russian and global markets.

International experience is a central part of a Skoltech education. Students gain exposure to a network of partner universities around the world, and alignment with the European Higher Education Area (the Bologna process) eases mobility.

Skoltech's approach to both the educational process and selecting students is very personalized. The selection is a two-stage process. At first, applicants prepare and send their applications to Skoltech. The Institute selects a number of finalists and invites them to Moscow for a weekend. The finalists test their English skills, conduct personal interviews with Skoltech's professors and leadership, and solve challenges in teams. After this weekend, Skoltech invites only a select few to become members of the new class. Currently, Skoltech only offers M.Sc. programs in three areas.

Energy Science and Technology

Skoltech's energy program provides students with broad expertise in the interlinked realms of science, technology, and social sciences as they relate to global energy and environmental challenges. The master's curriculum includes a set of core classes, two faculty-supervised industrial immersions, and an array of specialized electives. In the second half of the program, students may specialize in one of three tracks: Upstream/subsurface energy, downstream/chemical processing, or power systems.



"We prepare our graduates to be more than what is expected. They must create solutions to problems we have yet to stumble across. By actually implementing their knowledge, they will develop the skills and confidence necessary to create innovations. That is the core of the Skoltech experience"

Mats Hanson,
Dean of Education

2011-2013



Selection Weekend.
April 2013.

Two M.Sc. programs are preparing to launch: Nuclear Science and Technology and Space Science and Technology. Skoltech will select students for this program to start in the 2014-15 academic year.

Information Science and Technology

The Skoltech master's program in IT trains students to address pressing business analytics needs and meet data driven opportunities. Students will acquire a deep understanding of information technology and data systems; learn to analyze, distribute and access, and interpret enormous amounts of data; and be able to apply algorithms, optimization, and numerical techniques to solve new engineering design problems. Graduates will be able to evaluate the economic impact of different design decisions in data storage and distribution, as well as current and future business opportunities in data extraction. Drawing on sophisticated mathematical and technical foundations, the curriculum offers related tracks in Information Technology (Big Data) and Computational Mathematics.

Biomedicine Science and Technology

Launched in 2013, the program will incorporate experience from such leading partners as MIT and the University Medical Centre Groningen. The multidisciplinary curriculum offers a strong focus on translational research and industry challenges, spanning such areas as basic research, drug discovery technologies, regulatory issues, and medical device design. The curriculum fosters a deep working knowledge of bio-science and engineering fundamentals, to educate scientists and engineers to lead the creation of new biotechnology, and to train researchers to be familiar with innovation and entrepreneurial opportunities for their work.

Master's Degree at Skoltech

Skoltech believes that it is not enough to just find talented students, but absolutely necessary to find the right ones who seize opportunities and thrive in team settings. Students are the foundation of Skoltech, and that is why the Institute takes admission very seriously.

In 2012, Skoltech admitted its first M.Sc. students to three-year pilot programs in Information Science and Technology and Energy Science and Technology. Despite beginning the recruitment process less than half a year to admittance, the Institute received over 100 applications for 20 spots.

After reviewing each application, Skoltech invited about 40 prospective students to its first-ever Selection Weekend.

As a result, 20 people — graduates from Moscow State University, Moscow Institute of Physics and Technology, National University of Science and Technology "MISIS", and other major Russian universities — were invited to study at Skoltech. The pioneering students spent their first academic year in one of four partner universities abroad: the Massachusetts Institute of Technology (MIT), Imperial College London, Swiss Federal Institute of Technology Zurich, and Hong Kong University of Science and Technology. Thus, they learned best educational practices from around the world.

The students excelled in their first year: professors from MIT and other universities repeatedly noted their hard-work ethic and high level of training. After this year, the 20 pilot students returned to Russia to continue studying and were joined by 45 new M.Sc. students.

The second round of applications was no less intense: it started on September 1, 2012, and ended on January 21, 2013. One new program (Biomedicine Science and Technology) was added to the two pilot ones, IT and Energy. After intense recruitment, over 500 applications were filed for about 50 spots. Geography of the applicants extended considerably as well: applications came not only from Russia, but also from the USA, Great Britain, the Netherlands, Iceland, Serbia, South Korea, China, Hong-Kong, Australia, Turkey, Ukraine, and Kazakhstan.

As a result, 45 students from 12 countries and 20 universities (including MSU, Bauman, and MIPT) were admitted.

Students in the IT and Energy programs began studying at the Skolkovo Innovation Center in September 2012. Biomedicine students traveled for one year to partner universities — MIT and University of Groningen (the Netherlands).

The first full-scale admittance of students — approximately 300 people in five areas (Biomedicine, Energy, IT, Space and Nuclear Sciences) — is still ahead. They will start studying in September 2014.

Education in Skoltech will provide graduates with following competencies:

- Profound scientific disciplinary knowledge and reasoning skills
- Outstanding personal attributes—critical thinking, beliefs and values
- Excellent communication and interpersonal skills
- Ability to lead the innovation process

Each of the five academic programs is closely associated with the Skoltech Centers for Research, Education and Innovation, as well as the Skolkovo Innovation City Research Centers. This system is designed to promote cross-disciplinary discoveries and inventions.



Prospective students showing off their teamwork and engineering skills at the Selection Weekend. March 2013.

2011-2013

Furthermore, it is expected that the Institute's graduates will not only conduct research, but also implement their results in practice, turning knowledge in new technologies and eventually marketable products.

Students from the first admissions cycles are also tasked with the very important role of forming the culture at the new university.

For this purpose, among other things, the students are developing their own student

government and entrepreneurship clubs at Skoltech. Extracurricular life is no less important for gaining a full education and student clubs and sports teams are highly supported.

Skoltech is young and does not yet have any old established customs, characteristic of major universities with several centuries of history. Even principles of education and organizing the functions at the Skoltech are just being formed. Therefore, the first Master's students and their professors actively participate in the process.



"Skoltech will be a place where innovation, entrepreneurship, engineering, technology and fun mix into one great thing in the company of hard working, motivated and result-driven people"

Anastasia Uryasheva,
Information Science and Technology
Founder of a Skolkovo Participant company

"Here at Skoltech, we are doing something new. Over the course of the next three years, I'm looking forward to conducting research, but also to learning those skills necessary to build a company and meeting the people who will help me start that company. This is exactly where I want to go, because I know this is the place that will help me realize my dream."



Dmitry Smirnov,
Energy Science and Technology

Ph.D. and Postdocs

Skoltech has no bachelor's programs, however, it goes beyond Master's student programs and has developed programs for Ph.D. students. In the summer of 2013, Skoltech launched its Ph.D. program and by September already had accepted nine outstanding students.

The Ph.D. program prepares exceptional students to lead Russia in new spheres of industry, entrepreneurship, and science and engineering. Doctoral candidates will work with senior Skoltech faculty and researchers in the university's Centers for Research, Education and Innovation, with additional opportunities available through laboratories at Skoltech's partner institutions.

Ph.D. students are encouraged to participate in master's courses, labs, and projects and are required to co-supervise at least one master's thesis. The program culminates in a thesis defense, demanding both original research and an innovation component.

Skoltech has already vehemently started hiring postdoctoral associates. In March 2013, the Skoltech Center for Entrepreneurship and Innovations launched a special program for postdocs. Young scientists were invited to submit applications in three research areas: Building an Entrepreneurial Society, Collaborative Innovation, and Future of Manufacturing. Each of these areas includes a wide range of topics directly related with understanding the innovation process within Russia and abroad.

Selected postdocs should conduct research advancing global understanding in these processes, resulting in publications in reputable international scientific journals. The knowledge developed by these researchers will also be applied to creating practical guidelines for universities, business and government to improve the ecosystem for innovation.

In July 2013, Skoltech also began hiring postdocs to conduct research in advanced structures, processes and engineered materials (electroactive polymers, magnetorheological elastomers and gels). Moreover, there are open vacancies for postdocs in the area of space system and satellite engineering. By September, Skoltech has already brought 14 postdocs on board.

The Ministry of Education and Science is currently deliberating the benefit of formalizing the position of postdocs within Russia. Deputy Minister Igor Fedyukin is a large supporter of this idea. According to him, this step will promote internal migration of talented young Russian researchers throughout the country's leading scientific centers. And this will surely lead to an increase in the level of domestic research.

Skoltech's program foresees the benefit of formalizing the postdoc position within Russia and only plans to grow. By 2020, Skoltech expects to have hired 300 postdoctoral associates within its labs and campus.

	01.09.2012	01.09.2013
M.Sc. Students	20	65
Ph.D Students	0	9
Postdocs	0	14
All	20	88

2011-2013

"The Ph.D. program at Skoltech is a good opportunity for me to devote myself to an activity I'm really passionate about — discovering new horizons in computer vision and machine learning. It is well-known that success in pursuing a doctoral degree significantly depends on (besides talent and desire to work hard) the quality of supervision and the ability to concentrate on research without losing time on earning a living. Skoltech gives me all of that and I do not have to worry about the rest. No-brainer"



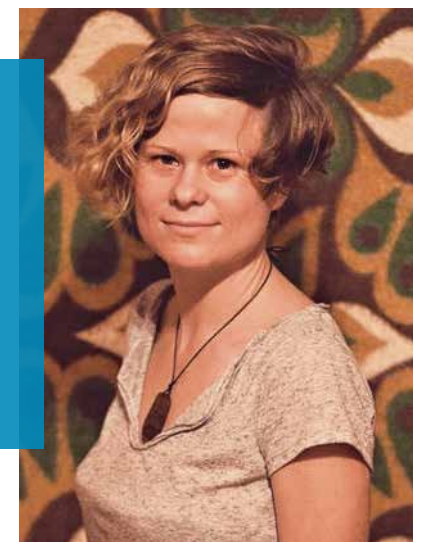
Yaroslav Ganin,
Ph.D. student



"Results of my research could be used to optimize allocations of subsidies for innovation projects, to identify the typical bottlenecks in regional innovation networks. Also, the results can be used in research related to the development of research universities, clusters of small high-tech companies. Also approved methods of analysis can be applied to the study of innovation networks at the sector level (energy, IT, biotechnology, etc.) and used in the educational process"

Konstantin Grasmik,
Postdoctoral Fellow in E&I

"I hope to contribute to improving space weather forecasting as a way to mitigate hazards of space accidents and their consequences. Space weather can specifically cause damage to spacecraft through solar flares, astronauts and pilots at high altitudes with high levels of radiation, and pipelines, power systems and radio communications during geomagnetic storms"



Tanya Podladchikova,
Postdoctoral Fellow in Space Physics

Faculty

The Russian government has long seen it as a priority to attract Russian scientists to return from abroad. The Skolkovo Innovation Center has been largely created with that goal to reverse the brain drain, and Skoltech as the centerpiece of the Innovation Center has also reached out to the Russian-speaking diaspora.

However, the Institute does not wholly focus on reversing the brain drain, but closing the link and enabling movement back and forth. In this regard, Skoltech actively works to provide leading professors and scientists from around the world with the opportunity conduct research in Skolkovo. Skoltech will form a unity of the faculty where all professors will conduct research and teach while working with students.

The Centers for Research, Education and Innovation (CREIs), or, «triangular collaboration,» are used for these purposes. For example, Skoltech — University of Groningen — Vavilov Institute of General Genetics or MIT — Moscow State University — Skoltech.

Formation of the Skoltech teaching personnel began in December 2011 with the Founding Faculty Fellows (FFF) program. These outstanding scientists share Skoltech's vision and are helping to develop its capacity from the ground up. Skoltech received about 300 applications for these and selected only about a dozen, including professors, such as Vadim Gladyshev, Zinetula Insepov, Konstantin Severinov, and Denis Zorin, with tenure at leading universities around the world.

The FFFs play an important role in the life of Skoltech. They participate in selecting candidates for professorial positions and in developing educational programs and admissions procedures. They also evaluate and analyze proposals for CREIs, assist in developing new institutional policy, and advise on campus facilities and research laboratories. Moreover, some FFFs became full professors, including Raj Rajagopalan, Konstantin Severinov, and Natalia Berloff.

After forming a group of FFF, Skoltech began selecting full time professors. Scientists from all over the world were invited to apply for positions as full professors or associate professors in five strategic areas: Biomedicine, Energy, IT, Nuclear and Space science and technology.

During the first stage in 2012–2013, more than 1,000 applications were received with no less than half of coming from staff at leading foreign universities, including: Cambridge University, Heidelberg University, Yale University, Princeton University, and Lawrence Berkeley National Laboratory. MIT, Skoltech's strategic partner, played a key role in increasing applications by providing a stalwart stability and trust in the project.

In addition to the normal application process, Skoltech actively searches for specific candidates for professor positions and CREI directors. These activities are conducted with the assistance of three leading international recruitment agencies: Perrett Laver, Witt/Kieffer, and Daubenspeck & Associates.



Prospective students and Skoltech professors gathering after the Selection Weekend. March 2013.

2011-2013

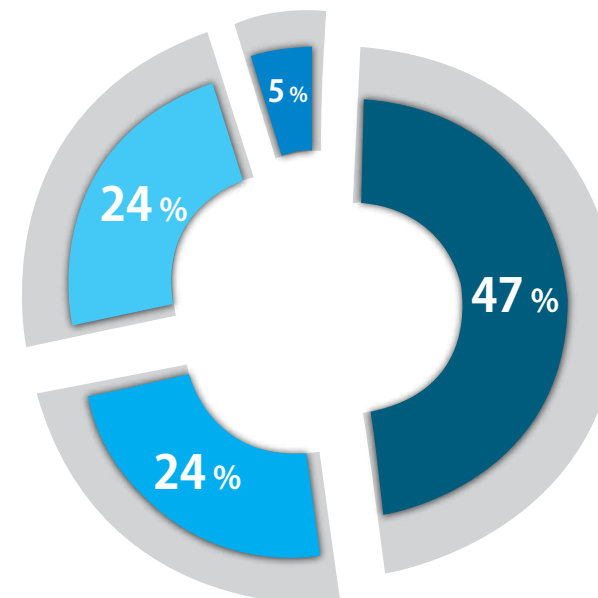
The candidates for professor positions at Skoltech pass the multilevel selection system, which includes reviewing their profiles by the relevant personnel committees at MIT and Skoltech, personal interviews with the committees' members and Skoltech's management, and holding a workshop devoted to their scientific interests. The final decision on a candidate's employment is made by Skoltech's President based on a recommendation from the Dean of the Faculty.

By 2020, Skoltech plans to have hired 200 leading researchers and professors to teach at Skoltech (among them about 30% foreigners). These plans Skoltech to on average hire 25 professors annually,

starting from 2013. Both skilled professors ready to become mentors for their younger colleagues and young ambitious teachers will be among them. This approach will permit Skoltech educate in Skolkovo the most talented students.

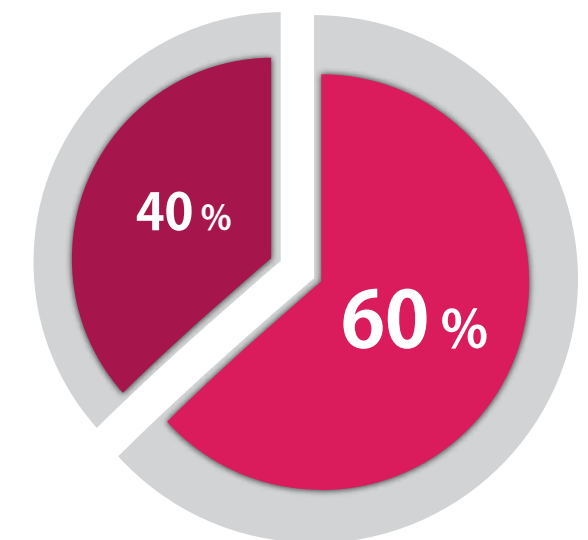
Structure of higher-education teaching personnel in 2020

As of the end of Q3 2013, Skoltech's faculty includes 21 individuals. Among them 14 full professors, 2 associate professors, and 5 assistant professors, all of whom are engaged in research and have experience at leading international universities and research centers.



Geography of Skoltech's Faculty

- USA (MIT, NASA, Rutgers University, Louisiana State University, University of Oregon, University of California Los Angeles)
- European universities and research centers: KTH Royal Institute of Technology (Sweden), University of Groningen (the Netherlands), Russian Academy of Sciences, Italian Institute of Technology
- Great Britain (Oxford, Cambridge, University of Durham)
- Other (National University of Singapore)



Faculty by Position

- Early-Career Faculty (Assistant Professors)
- Senior Faculty (Professors and Associate Professors)

Academic Partnerships

No university can be relevant without close relations with the scientific community in its own country or around the world. When isolated and without an active exchange of knowledge, universities are unable to flourish. Skoltech understands this and strives to develop partnerships with leading universities throughout the world.

Skoltech, itself, is a result of scientific collaboration among nine Russian organization, four of which are universities: Moscow Institute of Physics and Technology, Tomsk Polytechnic University, Moscow School of Management Skolkovo, and New School of Economics. Moreover, Skoltech's strategic partner is the Massachusetts Institute of Technology and another key partner is the Skolkovo Foundation.

Skoltech continuously searches for opportunities to collaborate with its partners. For instance, in June 2013 it concluded an agreement with Moscow Institute of Physics and Technology (MIPT) to start a double degree program. Skoltech students will now be able to obtain MIPT diplomas in addition to the Skoltech diplomas. The program anticipates that each student will have two research advisers – one from MIPT and one from Skoltech. Three main MIPT departments have already joined the program – Department of General Applied Physics, the Department of Control and Applied Mathematics, and the Department of Physics and Power Engineering Problems. In addition, the two institutes will work together on joint research projects.

Among Skoltech's relatively new partners is Saint-Petersburg State University (SPSU). On June 20, 2013, the two universities signed a cooperation agreement during the Saint-Petersburg International Economic Forum. They plan to develop and implement joint educational programs, professional development programs for faculty, and research projects. More so, the agreement foresees creating temporary laboratory spaces, research teams, and analytical and consulting centers in various scientific fields.

The CDIO Initiative (Conceive – Design – Implement – Operate) also plays a very important role in Skoltech's collaborations with other universities. In fact, the Initiative is a whole philosophy anticipating project-oriented education built upon certain standards. President Edward Crawley even founded the initiative, and through its implementation, Skoltech will help overcome existing gaps between theory and practice in preparing future engineers.

Skoltech has already begun promoting the CDIO Initiative with its partner the Agency for Strategic Initiatives (ASI). The two organizations signed an agreement on May 27, 2013 at the Startup Village conference. ASI then started collecting applications from universities to begin implementing the CDIO standards into their curriculum. Currently about 70 universities from 25 countries have started to implement the CDIO standards into their engineering programs. In Russia such institutions as MIPT, Tomsk Polytechnic University, Tomsk University of Control



“Combining Skoltech’s focus on innovation with Phystech’s renowned high-level of engineering education will guarantee that we are successful in graduating the world’s future leaders in high-tech innovation. Undoubtedly, the first alumni from this double degree program will be in high demand by industry”

Mikhail Myagkov,
Vice President for Academic Affairs

2011-2013



Systems and Radio electronics, Moscow Institute of Steel and Alloys, Urals Federal University, and Astrakhan State University have become partners with Skoltech in implementing the standards into their curriculum.

Partnerships with a whole range of universities are also facilitated through Skoltech's CREIs. Professors from partnering universities can visit Skoltech, conduct research and lead lectures, but there are also many opportunities for off-site collaboration. In particular, on June 20, 2013 at the Saint Petersburg Economic Forum, Skoltech and one of the world's leaders in high-speed telecommunications services, SURFnet, signed an agreement of intent. The document draws up the plans to establish a high-speed connection between Skoltech and Netherlight

(Amsterdam) network, and through Netherlight – with SURFnet. This will permit projects with big data volumes to be conducted between Dutch and Russian scientists.

Skoltech also carries out academic cooperation with other universities through distance learning programs. In 2014, Skoltech plans to launch the first course of this type -- 6.00x: Introduction to Computer Science and Programming. This course is presented on the popular online education platform EdX. In addition to its own students, Skoltech will invite young specialists from other Russian universities (it is expected there may be a demand of several hundred students). Depending on the results of the course, Skoltech hopes to expand the range of distance-learning courses that it will offer.



Research

Central to its research mission, Skoltech is founding 15 multidisciplinary Centers for Research, Innovation and Education (CREIs), which will address critical problems facing industry and society, particularly in a Russian context. These centers are key components in building capacity at the university, including world-class research teams, instruments, and facilities.

Along with the leadership from Skoltech, each center will include an international slate of research partners from a Russian university or institute and a non-Russian university.

Each CREI is selected in line with the Skoltech research strategy after an international peer review panel evaluates all proposals, semifinalists present their ideas in person, and the Skoltech Board of Trustees approves the winning proposals.

In the first round of applications, 120 projects from 360 universities and research institutes in 20 countries competed for the opportunity to create a CREI.

Among the applications, six Nobel Laureates and one Fields medalist participated. After long deliberation by an international committee, the

first three projects were approved: The Center for Stem Cell Research, the Biomedical Engineering Center, and the Center for Electrochemical Energy Storage.

The Center for Stem Cell Research was the first to be launched. Skoltech announced its creation on April 8, 2013, during Russian President Vladimir Putin's visit to Amsterdam. Skoltech President Edward Crawley, Folkert Kuipers, Dean of Medicine at the University of Groningen (the Netherlands), and Nikolai Yankovsky, Director of the Vavilov Institute of General Genetics, participated in the signing of agreement. Apart from these institutions, Hubrecht Institute (the Netherlands) and Whitehead Institute (the USA) are also participating in the project.

The Skoltech Center for Stem Cell Research is positioning itself to become one of the global leaders in the field of stem cell research. Researchers are currently planning to study how to create transplantable stem cells from induced pluripotent cells. They also hope to develop patient specific cellular systems for drug screening and determine preclinical safety and efficacy of cellular-based therapies for handover to existing and new startup biomedicine companies.



"By creating the Centers for Research, Education and Innovation, we are doing something vital for Russia and Skoltech – closely aligning interests of the academic community and industry while building capacity in Skolkovo. The CREIs will be at the core of Skoltech, delivering applicable knowledge to society and economic benefits to Russian industry"

Mats Nordlund,
Vice President for Research

2011-2013



Skoltech President Edward Crawley and Professor Folkert Kuipers, Dean of Medicine at the University Medical Centre Groningen signing an agreement to launch the Center for Stem Cell Research. April 8, 2013.



Anton Berns ,
Professor, Director of the Center
for Stem Cell Research

Director of the Center that unites leading researchers from multiple disciplines, from chemistry and biology to medicine, from technology to computer science, needed for progress in such complex problems, while at the same time educating a new generation of researchers. One of the world's leading scientists in using genetically modified mice to study cancer. For over 30 years, Berns has used viruses as a key tool for cancer research, a strategy which in turn has led to the identification of over 600 genes associated with this disease.

The Skoltech Biomedical Engineering Center was created second.

The CREI will focus on both fundamental and translational research of the major infectious diseases (ID) with the annual number of infections in the hundreds of millions, namely tuberculosis (TB), influenza, and viral hepatitis. The research

team consists of scientists from globally renowned universities and includes members of the National Academy of Sciences of the USA, National Academy of Engineering of the USA, Institute of Medicine, American Association for the Advancement of Science, Russian Academy of Sciences, Russian Academy of Medical Sciences, and MSU.

Research



Victor Kotelianski,
Professor, Director of the
Biomedical Engineering Center



Zafer Gürdal,
Professor, Director of the Center
Advanced Structures, Processes and
Engineered Materials

Researchers within the group are also founders of more than 20 companies that have achieved market success. Victor Kotelianski, a renowned scientist in biomedicine, was appointed Director of this CREI. He has authored about 200 scientific publications and many patents.

Presentation of Advanced Structures, Processes and Engineered Materials CREI was held within the framework of the 50th International Paris Air Show in June 2013. Skoltech partners in this case are Central Aerohydrodynamic Institute (TsAGI), research organizations: Delft University of Technology (the Netherlands), University of Dayton Research Institute (USA), MIT (USA), Technical University of Berlin (Germany), and Catholic University of Leuven (Belgium). The

center's researchers conduct both fundamental and applied research. Thus, a number of major industrial partners were engaged to collaborate: United Aircraft Corporation (UAC), S.P. Korolyov Rocket and Space Corporation Energia, Rosatom, Russian Helicopters, ApATeCh— Applied Advanced Technologies Company.

Zafer Gürdal was appointed as the center's Director. He is a leading international expert in the field of structural multidisciplinary design and optimization of composite materials and structures.

Modeling, Analysis and Design of Complex Power-Generation Systems CREI is being created at the moment. Experts from MIT, Los Alamos National Laboratory, Pacific Northwest National Laboratory, California Institute of Technology, Michigan State University, Boston University (USA), Federal Research Institute ETN (Switzerland), and Kamillos Institute of Research and Technology (Spain). The Russian business community is represented

2011-2013

in the CREI by such companies as En+ Group, Federal Grid Company of Unified Energy System, System Operator of the United Power System, Interregional Distribution Grid Company, Energy Forecasting Agency.

The Center employs an innovative “multi-disciplinary” approach to modeling, analysis and design of new generation complex power-generation systems. Furthermore, developments of cutting-edge systems for emergency electronics have practical value: they can help in preventing various emergencies at power-generation facilities and minimizing ensuing financial losses.

It should be noted that Centers for Research, Education and Innovation, true to their name, conduct both research and educational activities. Implementation of such programs enables the students to stay at the forefront of scientific developments right from the first years of study. This system allows “bringing up” successfully a new generation of researchers, who face an acute task of “embedding” domestic academic thought into global research.

AREAS OF FUNDAMENTAL RESEARCH

- Physical Mechanics of Materials
- Methods of multilevel modeling of deformation and fracturing of materials
- Methods for producing low-dimensional structures
- Physical-chemical methods and technologies for producing materials with layered structure (incl. composite materials)
- Methods of modeling the physical and mechanical processes of complex constructions
- A multi-disciplinary analysis of composite structures



Innovation

Developing a new technology or product makes no sense without further commercialization. This is the area where problems often arise in Russia — the bridge between innovators and commercial structures is not always firm.

Many promising developments remain with a lack of demand due to the absence of efficient tools to facilitate interaction with business and attracting investors. The Center for Entrepreneurship and Innovation (CEI) within Skoltech has been developed to change this situation.

The CEI establishes connections between students, researchers, and business. It is quite a challenge, considering the virtual absence of such experience in Russia. However, the CEI is actively working on this issue. The Center renders assistance to innovators in finding funds and investors, creating efficient algorithms and procedures for practical implementation of research projects, registering intellectual property, and settling conflicts of interest.

The CEI integrates three fundamental components of Entrepreneurship and Innovation (E&I): Education, Research, and Commercialization. The Educational component is based on the following principle: information is the key to discovering possibilities. The Research component implies that fundamental research should be applied for specific market opportunities to have commercial effect in case of success. The Commercialization component promotes forming procedures necessary to derive practical benefit from research results.

The Center implements a number of projects designed to help bring innovation and business closer together. In particular, the CEI launched a competition for the Innovation Support Program (ISP) in February 2012 with MIT. Skoltech received 83 applications from scholars and engineers across 27 Russian universities and research institutes. As a result, four winning projects were selected: they are dedicated to developing new materials, creating optoelectronic sources for modulating millimeter-wave radio signals, and identifying new

2011-2013

efficient biomarkers. The CEI provides not only financial support to participants, but also (and far more important) connections to expertise. For this purpose, so-called «catalysts» are engaged — people with vast experience in entrepreneurship and commercialization of high-tech projects.

Through all means possible, members of the CEI try to instruct innovators about the necessity of establishing contacts with domestic businesses. Specifically, Ilya Dubinsky, Director of the CEI, spoke at the Skolkovo Startup Village in May 2013. The event attracted a lot of attention and happened to be highly representative: over 5,000 people participated — startups from 48 countries, over 600 investors, representatives of venture capital funds, and public officials.

Knowledge exchange is also one of the priorities of conferences organized through the Innovation Support Program. The first such meeting brought together ISP participants, catalysts, and CEI management in October 2012.

A workshop dedicated to the issues of forming a community of entrepreneurship universities all over the world was also organized in Cambridge, Massachusetts in March this year. Experts from Singapore, Portugal, United Arab Emirates, Italy, Switzerland, and the USA shared their experience

of transferring technologies from universities to the market during the Workshop.

The CEI is interested not only in foreign experience. In March 2013, the Center announced that it had begun admitting applications from young scientists who had completed their postgraduate studies and received a Ph.D. degree. Applications included proposals for research in the field of entrepreneurship and innovations.

Project applications were admitted in three research areas: Building an Entrepreneurial Society, Collaborative Innovation, and Future of Manufacturing.

The selected candidates were hired to conduct research under the supervision of renowned experts and in maximum cooperation with Russian companies. Postdoctoral associates will receive competitive compensation for two years, apart from separately allocated budgets for financing their research activities. Selected postdocs should conduct research advancing global understanding, resulting in publications in reputable international scientific journals. Furthermore, the resulting conclusions will be applicable for developing practical recommendations for research and educational institutions, business, and public organizations.

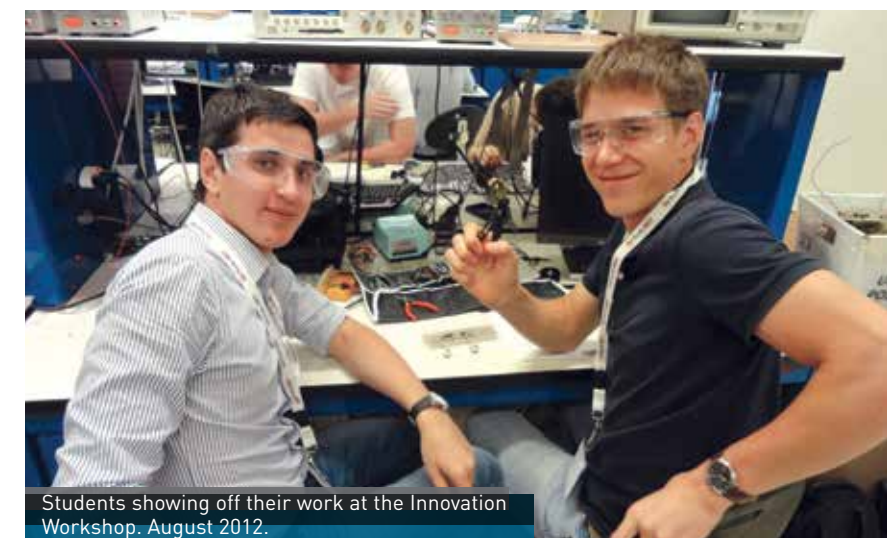


“There are only a handful of universities that incorporate innovation throughout their activities. However, to be relevant in today and tomorrow’s society, engineers and scientists must be fluent in entrepreneurship and commercialization practices. We understand this need, and are creating the ecosystem necessary to graduate entrepreneurial engineers and promote their ability to translate technology into products for society”

Ilya Dubinsky,
Director of CEI



Innovation Workshop at MIT. August 2012.



Students showing off their work at the Innovation Workshop. August 2012.

Innovation



“The experience empowered the students and calibrated their expectations of what is needed to start: it was not millions of dollars”

Luis Perez-Breva,
Architect of the Innovation
Workshop

Also, the CEI actively participates in the development of Skoltech curricula and workshops. For example, the Center developed an Innovation Workshop with MIT's professorial and teaching staff in 2012.

Students from the first admissions cycle participated in the four-week course, which included the foundational experience in entrepreneurship and innovations, as well as imbuing them with an entrepreneurial spirit.

It is hard to overestimate the significance of the CEI: it provides each Skoltech graduate with a high-quality education and guidance in implementing their ideas in real life. Through the CEI's work, integrating research and education with innovation is possible in Russia as well.



Innovation Workshop at MIT. August 2012.

2011-2013



Innovation Workshop at MIT. August 2012.

CENTER FOR ENTREPRENEURSHIP AND INNOVATION ACHIEVEMENTS 2012-2013

September 2013

Young Researcher Development Program. This program started under the leadership of outstanding international mentors at Skoltech. To date, four postdoctoral associates participated in the international scientific projects through the program.

September 2013

The first stage of Small assessment of the Russian innovative ecosystem is complete. An analysis of how much Russian legislation promotes innovation, entrepreneurship, venture investments and other elements of an innovation ecosystem has been performed.

November 2012, may 2013

The Innovation Support Program started and is growing. The CEI selected four projects from 82 applications. The program is charged with accelerating the commercialization of scientific developments. Two workshops for the ISP participants were held in October, 2012 and in May, 2013.

February 2012

The CEI organized a workshop for creating a network of entrepreneurial universities. MIT and the Skolkovo Foundation also assisted in hosting the event. More than 50 representatives of well-known international companies, Russian and foreign universities took part in the workshop. After two days of work, participants prepared plans for eight innovation support projects.

22-27 september 2013

22 experts in the area of business and innovation participated in the Ideas Lab workshop from September 22-27, 2013 in Moscow. The Ideas Lab is an intensive, interactive workshop designed to develop radically new techniques and proposals in the area of research about the Russian innovation ecosystem.

Industry

Integrating the academic sphere into the economy has been a continual challenge in Russia.

Governmental authorities have time and again announced the importance of creating and developing an economy based on new technologies in the country. However, close connections between the academic and business communities have yet to grow strong. Thus, it is one of Skoltech's main priorities to bridge this gulf.

Skoltech orients all of its actions with a consideration for innovation and developing direct links with industry exemplifies its commitment to that goal. Only through a complete understanding of the needs of the business sphere will Skoltech be able to truly create research results and graduates who will have an impact on society.

Skoltech is also positioning itself as a contact point to the world's leading science and research groups,

as well as an elite institute for staff training in the most advanced fields of the R&D sector.

Skoltech is forming those contacts through working groups for key areas of R&D. In the first two years of Skoltech's existence, five groups were created: oil and gas, materials and structures, energy technologies, biomedical technologies, and information and communication technologies. Dozens of companies take part in their activities, including such major corporations as Gazpromneft, Rosneft, TNK-BP, Lukoil, Rosatom, Russian Railways, RusHydro, Rostelecom, Basic Element, United Aircraft Corporation, RSC «Energia» etc.

Each of the companies engaged in working groups help align Skoltech's educational and research activities with the demands of industry. For example, three major corporations signed a cooperation agreement in research on November 1, 2012. At the Open Innovations Forum in Moscow, Skoltech formalized



Alexey Ponomarev,
Vice President of Industrial
Cooperation and Governmental
Programs

“Technical universities in today's world must hold steadfast bonds with industry. To solve critical problems in our world, students must be trained with real challenges, and who better to identify those problems than the companies striving to produce solutions for society. The Industrial Cooperation and Governmental Programs office engages business to help Skoltech stay abreast to their ever-changing needs and produce results which will be beneficial for the university and its students, companies and society as a whole”

2011-2013



its relationship with Intel, Uralvagonzavod, and Oboronprom. Intel now collaborates with Skoltech in the IT field. Uralvagonzavod and Oboronprom develop new advanced materials and structures with high performance characteristics and conduct R&D and experimental design activities in machine-building in collaboration with Skoltech.

Two weeks after Open Innovations, Rosatom announced its readiness to cooperate in research with the Institute. The corporation donated 210 million rubles into Skoltech's endowment for this purpose. Incentives of the business representatives are understandable: they gain access to leading research experts from around the world, as well as guarantee the inflow of a young and highly qualified workforce.

Active cooperation has been established with energy companies as well. Skoltech signed bilateral agreements on cooperation with four leading companies in this field on December 12, 2012: Holding MRSK, System Operator of the United Power System, En+Group Industrial Group, and Energy Forecasting Agency. Representatives of these companies and Skoltech scientists will conduct researches in modeling complex electrical systems and collaboratively design education programs.

The majority of Skoltech educational projects will have applied relevance and practical effect for the industry. Skoltech's educational and a number of research programs are formed with a consideration for industry priorities. They will have applied relevance and are tailored for practical effect.

Industry



Signing ceremony with leading Russian energy companies. November 12, 2012.
 From left to right: Artyom Volynets, General Director for En+Group; Fyodor Opadchy, Deputy Chairman for the System Operator of the United Power System; Edward Crawley, Skoltech President; Andrey Murov, First Deputy Chairman for IDGC Holding; Igor Kozhukhovskiy, General Director for the Energy Forecasting Agency.

M.Sc. students from the first admission's cycle for the Energy program worked internships in Russian energy companies. Three Master's students went to Federal Grid Company of Unified Energy System, one — to Schlumberger Engineering Company Moscow Office (Oil and Gas technologies). It is planned to intern for production companies in spring 2014.

Some of the Master's students shall continue working in FGC UES and Schlumberger; negotiations are underway with such companies as System Operator of the United Power System and Gazpromneft as to other groups.

Furthermore, Skoltech plans to organize special educational programs for advanced training of employees from partner companies.

Lots of contacts usually are established during major international events. For example, Skoltech and the

United Aircraft Corporation (UAC) announced the beginning of joint research activities as part of the Advanced Structures, Processes and Engineered Materials CREI at the 50th International Paris Air Show in June 2013.

Interaction with industry representatives occurs also at conferences regularly organized by Skoltech.

One of these workshops — on advanced materials and structures — was organized in January 2013.

Representatives from both Skoltech and the Ministry of Industry and Trade of the Russian Federation, and heads of almost all keyplayers of this market in Russia (e.g., HC Composite, UK Ruskompozit, Rosatom, RT-Chemcomposite and Centre for Strategic Research «North-West», Union of Composites Manufacturers) took part in the workshop.

2011-2013

Centers for Research, Education and Innovation (CREIs) are also integral in the formation of ties between industry and Skoltech. For example, the Center Advanced Structures, Processes, and Engineered Materials created in August 2013 at once attracted companies' attention. Partner companies of this CREI include UAC, Oboronprom, Uralvagonzavod, United Engine Corporation, Rosatom, RSC Energia, Russian Helicopters, and Aviadvigatel. The number of the Institute's business partners should increase significantly considering that Skoltech plans to create 15 such Centers by 2020.



Conference on composite materials hosted at Skoltech. January 28, 2013.

Development

In the west, universities have developed endowments and engaged in market activities for quite some time. Within Russia, however, this trend has only recently occurred. At the same time, universities in Russia are starting to realize the necessity of a well-balanced mechanism for fundraising and fund management to produce consistent and effective education, research, and innovation.

Currently, Skoltech primarily receives funding from the federal government. Yet the Institute's model is planning for a significant portion of funds to come from business — both state-owned and private. Skoltech plans to reach out to donors, shape and manage endowment funds, as well as initiate and implement joint R&D and educational projects through state contracts.

Skoltech raises funds through donations from companies and individuals, and through interest raised off endowment funds. Skoltech's endowment was founded in fall 2011. As of today, Skoltech's

two funds have generated an accumulated 4 billion rubles. The largest contributions have come from Rosatom, Russian Railways, Rosneftegaz, and Aeroflot. Individuals may donate to the endowment as well. For instance, throughout the world, the world's leading private universities through alumni gifts and contributions. The tradition of giving back to your alma mater does not exist in Russia yet. However, the very idea of endowments is new for Russia as well.

Skoltech's endowment assets are managed by leading Russian investment companies specialized in fiduciary management.

The current policy anticipates a balanced ratio between investment risks and profitability. Income from funds management may be directed both for funding Skoltech's statutory activity (e.g. developing and implementing educational and research programs, organizing round-table discussions and conferences, scholarships and grants for students) and for reinvestment.



Alexei Sitnikov,
Vice President of Institutional and Resource Development

"Skoltech is more than a lab or a building. The Institute is a stew of academic discussion, critical analysis, and creative invention. These traits distinguish a world-class university from the rest, and it is our job to develop the correct conditions for such a university within Russia. With the help of supporters in business and public society, we will graduate savvy entrepreneurial engineers, who lead both in Russia and abroad"

2011-2013



The first pilot group of students before their year abroad. August 2012.

MIT-scale university endowments cover about 30% of OPEX. In Russia, these numbers are currently far from possible, however, Skoltech seeks to achieve even these values in the foreseeable future. Skoltech's movement in the right direction is supported by the fact that a survey carried out by Donors Forum in the summer of 2013 showed that Skoltech's endowment is among the most transparent endowments in Russia.

Skoltech is also raising funds through a fundraising campaign. The Institute is actively working to organize joint charity projects with major Russian and international industrial companies (Cisco, EADS, Johnson & Johnson, Nokia Siemens Networks, Scheider Electric, Thompson Reuters, Nokia Research Center, Siemens, Alstom etc.) and charity foundations (Renova, Sistema JSFC, Vladimir Potanin Foundation, Dynasty, Iskustvo, Nauka i Sport, USA-Russia, New Eurasia, Charles Stewart Mott Foundation, CAF Russia, McArthurs' Foundation etc.).

To increase fundraising effectiveness, Skoltech organizes personal meetings among students, professors and potential donors — individuals, businesses and charity foundations. After meeting the Skoltech students and their projects, many partners become convinced in the importance and potential of the project, and they chose to support Skoltech.

People at Skoltech actively engage in basic and applied research carried out through state contracts. These projects not only drive science forward and increase Skoltech's presence, but also allow it to set itself apart.

Without state financing, Skoltech would not have been able to make it through the startup phase at such a quick pace. At the same time, as the Institute gets on its feet, it's extremely important to increase the level of private donations and, thus, set a positive example for other domestic universities and institutes of what is capable.

Leadership

The Skolkovo Institute of Science and Technology tightly weaves the best Russian scientific traditions with connections to the international scientific community.

The Institute's international team is a clear example of how global collaboration can solve the critical challenges facing our world.



Edward Crawley
President, Skoltech



Mikhail Myagkov
Vice President for Academic Affairs



Mats Nordlund
Vice President for Research



Alexey Ponomarev
Vice President for Industrial Cooperation and Public Programs



Lionel Ponsard
Executive Vice President



Raj Rajagopalan
Dean of Faculty and Vice President for Faculty Affairs



Edward Seidel
Senior Vice President of Research and Innovation



Alexei Sitnikov
Vice President for Institutional and Resource Development



Mats Hanson
Dean of Education

Board of Trustees

The Skoltech Board of Trustees oversees the activities and provides governance for the Institute. Aide to the President of the Russian Federation Vladislav Surkov chairs the Board, which consists of the following 15 members.



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Aide to the President RF



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Chairman, Board of Directors for Evraz Group



Noubar Afeyan
Founder, Managing Partner and CEO of Flagship Ventures



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We'd like to thank our partners and individuals who have contributed to Skoltech endowment fund in 2011 - 2013 years.

Viktor Vekselberg

OJSC "Rosneftegas" (OJSC "Rosneft")

JSC "Aeroflot"

JSC "Russian Railways "

OJSC "IDGC"

JSC "Rostelecom"

OJSC "RusHydro"

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JSC "SCF "Sovkomflot"

JSC MIC Mashinostroyenia

JSC "RSC Energia"

JSC «United Aircraft Corporation» (UAC) ",
including

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Koltsovo Airport

JSC "Concern "Oceanpribor"

OJSC "FGC UES"

JSC "Roskhimzashchita Corporation"

The Prioksky Non-Ferrous Metals Plant

JSC" SPC "SPP"

JSC "Concern" Concern Morinformsystem-Agat",
including

OJSC "Slavyanka" (consisting of " Oboronservis ")

JSC "Concern "Granit-Electron""

JSC "Burevestnik Plant" (consisting of "SSTC")

OJSC "Concern «Sea Underwater Weapon –
Gidropribor"

JSC " Corporation "Moscow Institute of Thermal
Technology

JSC "Russian Space Systems"

JSC "Vega Radio Engineering Corporation "

JSC " Kristall Production Corporation "

JSC " NPO "Energomash "

The State Atomic Energy Corporation "ROSATOM"

OBORONPROM Corporation (as part of the State
Corporation " Rostec ")

Federal State Unitary Enterprise "Russian Post"

Federal State Unitary Enterprise "Russian
Satellite Communications"

FSUE Russian Television and Radio Broadcasting
Network (RTRS)

FSUE "Rosmorport"

FSUE SRPSC TsSKB-Progress

[illegible]

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