

120 Years of Glorious History. 165,000 Engineers for Success and Wealth of Russia

2018

→ NATIONAL RESEARCH

TOMSK POLYTECHNIC UNIVERSITY

# **OVERVIEW**

FULL NAME – Federal State Autonomous Educational Institution of Higher Professional Education National Research Tomsk Polytechnic University.

FOUNDED in 1896 as Tomsk Technological Institute (TTI) of practical engineers. The Institute was opened in 1900 by the Russian Emperor *Nicholas II.* 

CATEGORY – National Research University. The category was awarded in 2009 when the university became the winner of the competition for governmental support to leading universities of the Russian Federation to ensure their competitive advantage among world research and educational centres – 2013.

RECTOR - Petr S. Chubik, Doctor of Technical Sciences, Professor.

TOTAL AREA OF UNIVERSITY BUILDINGS AND FACILITIES – **323,000** square metres.





#### 1.687 ACADEMIC STAFF MEMBERS

- 264 Doctors of Sciences and 945 Candidates of Sciences
- 13 members of the Russian Academy of Sciences
- 21 honoured workers of science and technology
- 2 State Award winners
- 1 RF President Award winner
- 22 RF Government Award winners, among them 7 RF Government Award winners in the field of science and technology for young researchers

### 🕻 Do you know that 🔻

– Sergei Y. Witte, Russian Minister of Finance, stroke out funds from the state treasure allocated for a battleship and directed them to establishment of Technological Institute in Tomsk.



NUMBER OF STUDENTS - 11 720 including 3,694 international students from 40 countries.

LOCATION (LEGAL AND POSTAL ADDRESS): 634050. Russia. Tomsk. 30 Lenin Avenue.

OFFICIAL WEBSITE: tpu.ru e-mail: tpu@tpu.ru

### → TPU POSITION





Physical sciences

126-150

Engineering and technology

151-175



373

**7**<sup>th</sup> in Russia after MSU, SPBU, NSU, BMSTU, TSU, MIPT, MGIMO, MEPHI, HSE



Engineering -Chemical

by subject 201-250

- Engineering Electrical & Electronic
- Engineering Mechanical, Aeronautical & Manufacturing
- Physics & Astronomy

251-300



501-600

**3**<sup>th</sup> in Russia after MSU and MIPT



The **3**<sup>rd</sup> position in the Times Higher Education Eurasia Universities Ranking after MSU and MIPT



Instruments Sciences & Technology

201-300



**7<sup>th</sup>** in Russia after MSU, MIPT, MEPHI, SPBU, MGIMO, HSE and BMSTU **1<sup>st</sup>** among nonmetropolitan universities



136

**7**<sup>th</sup> in Russia after MSU, SPBU, MIPT, HSE, MEPHI, NSU

# **MISSION**

> TPU MISSION is to enhance competitiveness of the country by providing internationalisation and integration of research, education and practical training applied in the processes of educating engineering elite, generating new knowledge and innovative ideas, developing resource-efficient technologies.

### » Do you know that ▼

Dmitri Mendeleev, a great Russian chemist, was elected the first Honorary Professor of Tomsk Technologic Institute in 1904.









# » Do you know that ▼

In 1997, by the Decree of the Russian President Tomsk Polytechnic University was included into the State Reaister of the most valuable objects of the cultural heritage of Russia.



# **UNIVERSITY CAMPUS**

# → TPU CAMPUS HAS A WELL-DEVELOPED INFRASTRUCTURE

- 29 university buildings
- · 48 land plots with the total area of 186,6 hectares
- educational and laboratory facilities that cover 197,475 square metres
- · 6,257 places in 15 hostels
- · University Library containing over 2.6 million books
- over 7,000 computers and over 200 WiFi zones in university buildings
- · 8,424 square metres of sports facilities
- 550 places in university sanatorium and recreation centres
- over 1,000 seats in university canteens and cafes
- International Culture Centre



- · Food Production Facility
- 2 kindergartens
- Yunost Children's Holiday Camp
- year-round sports facility
- Polytekhnik Recreation Centre

# » Do you know that ▼

TPU won the final in All-Russian competition nominated for the best university campus. In the course of modernisation a 17-storey hostel was built. Besides, 7 hostels were repaired and TPU sports facilities were improved.













# **BREAKTHROUGH DIRECTIONS**

#### → TPU STRATEGIC GOAL

The strategic goal of Tomsk Polytechnic University is to become one of the world-leading research universities in the area of resource-efficient technologies solving globalsocital, economic and environmental problems for the benefit of sustainable development of the mankind.

STRATEGIC ACADEMIC UNITS WITH THEIR OWN DEVELOPMENT PROGRAMMES HAVE BEEN ESTABLISHED IN ALL SCHOOLS OF TPU.

Strategic Academic Units (StrAUs) are the launching pads into breakthrough research directions of the university, aggregation of the best world practices in the field of education and enthusiasm of people and divisions that promote these directions.

# THERE ARE 7 StrAUs AT TOMSK POLYTECHNIC UNIVERSITY:

- Nuclear Technologies for Oncology
- Ecological Energetics
- Control and Telecommunications Systems
- · Industrial Tomography
- People and Technology
- Space Materials Science
- Hard-to-Recover Natural Resources

Straus KEY OBJECTIVES: WORLD-CLASS ELITE SPECIALISTS TRAINING, ACHIEVEMENT OF RESULTS IN SPECIFIC FIELDS, PROMOTION OF THE BEST PRACTICES WITHIN THE UNIVERSITY.









#### RESEARCH BREAKTHROUGH PROJECTS:

 Complex technology for transformation of solid fuels with increased energy efficiency and small emission of greenhouse gases

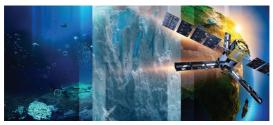


Nuclear technologies of personalised theranostics of disseminated cancer





 Development of breakthrough additive production of heatresistant composite materials for extreme conditions



# **EDUCATION**

# → TPU SCHOOLS:

#### **6 ENGINEERING SCHOOLS:**

- ·School of Nuclear Science & Engineering
- ·School of Non-Destructive Testing & Security
- School of Computer Science & Robotics
- ·School of Energy & Power Engineering
- ·School of Earth Sciences & Engineering
- School of Advanced Manufacturing Technologies

#### 2 RESEARCH SCHOOLS:

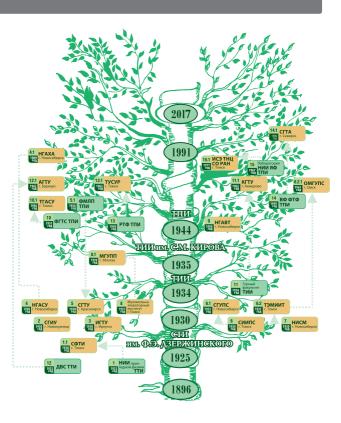
- •Research School of High-Energy Physics
- Research School of Chemistry & Applied Biomedical Sciences
- ·School of Engineering Entrepreneurship

Tomsk Polytechnic University has Reserve-Officer Training Department.

National Research Tomsk Polytechnic University includes 65 departments, 72 research laboratories, among them 21 international ones.



← In 2017 TPU defended its roadmap in Moscow.



# **EDUCATION**

#### → TODAY THE UNIVERSITY OFFERS

- · 30 Bachelor's Degree programmes
- 36 Master's Degree programmes
- 31 Diploma Specialist's programmes
- 30 Candidate's programmes
- · 32 Doctorate programmes

TPU ensures education in **56 training fields** that correspond to priority development fields of science, engineering and technology approved by the Decree No. 7-p of the President of the Russian Federation dated 6 January 2015.

## ဳ Do you know that 🔻



The university implements a unique educational project of training elite engineering specialists. At present 465 students are enrolled in the elite engineering programme. Elite Engineering Education Department has a status of Federal Innovation Platform.



► In 2006 and 2016, TPU received the RF Government Award in the field of quality. The Award was granted for the achievement of significant results in the field of product and service quality, as well as introduction of highperformance methods in quality management.

# **»** Do you know that **→**

Tomsk Polytechnic University ranks 5<sup>th</sup> in Russia for the number of scholarships and grants from the RF President that were awarded to post-graduate students and young scientists.





# >> Do you know that TPU employs →

- 13 honoured workers of the RF Higher School
- 13 honoured workers of the Russian Federation
- 5 honoured workers of the Russian Ministry of Energy
- 3 honoured chemical engineers of the Russian Federation
- 1 honoured power engineer of the Russian Federation



# **EDUCATION**

⇒ In 2010–2011, the university was among the leaders in Russia to start Bachelor's training in a number of educational programmes developed on the basis of Federal State Educational Standards of the third generation. In 2010, the university developed Standards and Guidelines to Ensure Quality of Basic Educational Programmes of Bachelor, Master and Specialists Training in Priority Development Fields (TPU BEP Standard) under the Development Programme of National Research Tomsk Polytechnic University.

#### TPU BEP STANDARD IS FOCUSED ON

- modern requirements to professional engineers from international certifying and registration agencies (Engineers Mobility Forum, APEC Engineer Register, Fédération Européenne d'Associations Nationales d'Ingénieurs);
- international accreditation criteria for engineering programmes (Washington Accord and ENAEE) and accreditation criteria for educational programmes in the field of engineering and technology developed by the Association for Engineering Education of Russia;
- student-centred educational technologies.

TPU BEP Standard of 2012 (third edition) implements the CDIO approach to preparing undergraduate students for professional engineering activity. TPU was the first among Russian universities to join the CDIO Initiative.



# ဳ Do you know that 🔹

TPU spends over 1 million roubles on purchase of equipment every day.

TPU has transitioned from the classical educational model of learning for life to a lifelong learning concept due to development of the system for continuous professional education

#### FOR INDUSTRIAL SPECIALISTS TPU OFFERS

67 professional retraining programmes

300 professional development programmes

20 internship programmes

11 vocational programmes











Siberian Centre for→ Vibration Diagnostics and Balancing was opened at TPU.



# RESEARCH

TPU is a leader in off-budget R&D activity and international contracts among universities and institutions of the Russian Ministry of Education and Science. In 2014, the total number of R&D projects amounted to over 2.0 billion. In 2016, off-budget funds comprised over 1.4 billion roubles

TPU TAKES A LEADING POSITION AMONG OTHER UNIVERSITIES OF THE RUSSIAN MINISTRY OF EDUCATION AND SCIENCE ON THE AMOUNT OF ATTRACTED FUNDS FOR YOUTH SCIENCE.

85 million roubles have been allocated to youth science, where over 70% comes from programmes and grants. Annually, TPU students receive over 2 thousand awards for research projects and final qualification papers following the results of international, national and local competitions.



### » Do you know that ⋅

TPU is in the top three among leading universities of Russia on the number of Medals of the RAS.









- Annually, over 100 TPU employees defend Candidate or Doctoral theses
- In 2016, 7,483 academic papers were published by TPU staff: 3,015 – in Scopus and Web of Science, which is 1.5 times higher compared to the results of 2015. One third of the academic papers were written jointly with leading Russian and international scientists.
- 34 TPU employees are editorial board members of international and national indexed journals.
- Over 50 TPU scientists are members of the International Conference Programme Committees.
- 192 products of intellectual activity were registered, including 90 Russian patents and 1 international patent (India). 19 license agreements were concluded, 4 of them with industrial partners.
- University employees participated in 53 exhibitions, among which 10 are international ones. 46 awards were received, including 9 medals.
- 36 scientific and technological events were held at the university, among which 28 international events.

# **RESEARCH**

- FOLLOWING THE GOVERNMENT DECREE OF THE RUSSIAN FEDERATION NO. 218 ON MEASURES OF STATE SUPPORT FOR THE DEVELOPMENT OF COOPERATION OF RUSSIAN HIGHER EDUCATIONAL INSTITUTIONS AND ORGANISATIONS INVOLVED IN IMPLEMENTATION OF COMPLEX PROJECTS FOCUSED ON HIGH-QUALITY PRODUCTION, 3 PROJECTS ARE BEING SUCCESSFULLY IMPLEMENTED AT TPU:
  - Development of a new technology for obtaining tungsten-containing products of enhanced quality Project sponsor: Zakamensk. Fluorine-ammonium technology for tungsten concentrate processing into ammonium paratungstate was developed. An experimental assembly with feed stock capacity of 10,000 kg/year was designed.
  - Development and manufacturing of geokhod a multifunctional mining machine for subsurface construction

Project sponsor: Kemerovo Experimental Mechanical Repair Plant (KORMZ) and the Institute of Coal of the Siberian Branch of the RAS). Geokhod, a unique multifunctional mining machine for subsurface construction, was designed for the first time in the history of mining engineering.

#### 2016 WINNING PROJECT

 Development and high-tech manufacturing of upscale energy-efficient mechatronic devices and smart control systems for alternative energy and other implications

Project sponsor: Micran. A series of energy-efficient mechatronic modules with distinctive process parameters was designed.



On 11 May 2016, the **Tomsk-TPU-120 satellite** transmitted congratulations on the 120<sup>th</sup> anniversary of the university from the International Space Station recorded by TPU students in 11 languages. The Tomsk-TPU-120 is the first Russian spacecraft designed via 3D printing technologies and unique materials at research and educational centre Modern Production Technologies of TPU in cooperation with the Rocket and Space Corporation Energia and the Institute of Strength Physics of Materials Science of the SB RAS. The nanosatellite was launched to ISS aboard the Progress MS-02 spacecraft from Baikonur Cosmodrome and is expecting an orbital launching.

# **INNOVATIONS**











# → TPU INNOVATIVE INFRASTRUCTURE ensures implementation of basic stages of innovative processes: search, selection and commercialisation of university innovative activity.

# COMPLEX SYSTEM OF COMPLETE INNOVATIVE CYCLE

- R&D Centre
- · Tomsk RASA Centre
- · Intellectual Property Office
- · Business Incubator
- · Design and Development Institute
- · Pilot Production Centre
- Exhibition Centre Science and Education at TPU: Traditions and Innovations
- · Innovative Zone of Small University Spin-offs (SUS)

#### TPU INNOVATIVE ZONE INCLUDES

49 small university spin-offs (SUS), 48 of which were established under the Federal Law No. 217-FL; 16 SUS are funded by the Foundation for Promotion of Small Enterprises in the Field of Science and Technology; 4 companies are residents of Tomsk Special Economic Zone; 3 are residents of Skolkovo Foundation. The total SUS revenue in partnership with TPU amounts to approximately 195 million roubles.

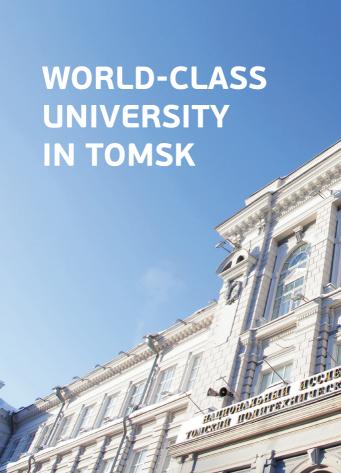
#### TPU INNOVATIVE PROJECTS

- SW/HW for distributed control systems for electric drives and robotic systems
- Automated systems of monitoring and control for city public transport
- ECG recorder on nanoelectrodes
- Technology of atherosclerosis blood-vessels treatment with the help of chemically modified nanoparticles
- Charge-particle accelerators and associated complexes
- Diagnostics and evaluation technology on the basis of ultrasonic tomography
- · Solid fuel gasification assembly for energy and industry

# Do you know that •

TPU scientists produced the first beryllium sample in Russia. As a result Russia became the fourth country in the world having this unique technology.







#### INTERNATIONALISATION OF TPU RESEARCH

EACH YEAR TPU CONCLUDES OVER A HUNDRED CONTRACTS AND GRANTS AMOUNTING TO SLIGHTLY LESS THAN 5 MILLION DOLLARS, WHICH MAKES TPU ONE OF THE LEADERS AMONG RUSSIAN UNIVERSITIES.

TPU has 21 International Research and Educational Laboratories under the supervision of leading Russian and international scientists (Armenia, China, Germany, Iceland, Israel, Italy, USA, etc.), including 4 laboratories established following the RF Government Decree No. 220, two of which were established under projects implemented in 2016 and extended until 2018

 Arctic Sea's Carbon Research International Lab Supervisor: Prof. I.P. Semiletov (USA)



→ Following the results of the International Arctic Forum held at TPU the leading world's Arctic researchers have signed a resolution to establish the International Arctic Siberian Scientific Centre (IASSC).

Elderly People's Well-Being Improvement
 Technologies International Lab
 Supervisor: Prof. Fabio Casati, PhD (Italy); Prof. G.A.
 Barysheva, Doctor of Economics (TPU)

#### TPU in CERN

TPU officially joined the biggest global initiative, i.e. the Large Hadron Collider being the world's largest and most powerful particle accelerator.

- TPU became an official member of the RD51 collaboration of the European Organisation for Nuclear Research (CERN) and the associated member of CMS – one of two large-scale nuclear researches.
- TPU young researchers had their long-term internship at the Large Hadron Collider within the ATLAS experiment and the LHCb project.
- Tomsk RASA Centre consolidates 37 employees and 6 laboratories working in the following fields: fundamental and translational medicine, big data, and charged particle accelerator physics.
- TPU scientists supervised by Tomsk RASA Centre designed a monitoring system applied to ATLAS experiments within distributed computing environment.



# **INNOVATIONS**

The first stage of the Science Park includes six research centres and laboratories:

- · Laboratory of Industrial Robotics
- · Space Technology Centre
- · Centre of Resource Efficient Subsurface Use
- · Centre of 3D-printing in Space
- · Centre of collective use Composition of Substances and
- Tomsk RASA Centre









TPU is the winner of the public competition for the state support of pilot projects focused on establishment and development of engineering centres. The priority task of TPU Engineering Centre of Inorganic Materials is to create new technologies for strategic benefit of the Russian industry.







### » Do you know that ▼

TPU Exhibition Centre welcomes more than 100 visitors every year, among them academician Yu.S. Osipov, S.V. Kirienko, Head of ROSATOM, A.B. Miller, Head of Gazprom - the biggest corporation in the world. During the last five years TPU was visited by all leaders of the Russian Federation, including the former RF President Dmitry Medvedev in 2010 and Vladimir Putin as the Prime Minister of the RF Government in 2012, Sergey Naryshkin, the RF Chief of Staff and at present the Chairman of the RF State Duma (2014), delegations from CERN, JMI (USA), Gazprom (2016), etc.



# INTERNATIONAL recognition

⇒ TPU is the only Russian university that is a member of 11 prestigious international organisations, including Conference of European Schools for Advanced Engineering Education and Research (CESAER) and Consortium of Leading European and Asian Technical Universities (CLUSTER). In 2013, Tomsk Polytechnic University became the 30th regular member of the Association of Technical Universities of Russia and China (ATURC).





# CESAER

conference of european schools for advanced engineering education and research



→ In 2016, 657 foreign citizens were awarded TPU diplomas, including 162 students from non-CIS countries: China, Cote d'Ivoire, France, Greece, India, Mongolia, Nigeria, Vietnam and Zimbabwe.



TPU is implementing 19 Double Degree Master's Programmes with international partners, including European partner universities:

- Technical University of Berlin (Germany)
- · Technical University of Munich (Germany)
- Czech Technical University in Prague (Czech Republic)
- Heriot-Watt University (Great Britain)
- · Université Grenoble Alpes (France)

# » Do you know that •

TPU joined the EDUROAM international project (Education roaming) to provide free Wi-Fi access in universities of 54 countries worldwide.



# STRATEGIC partnership

- 1,020 contracts on cooperation and strategic partnership agreements were signed with the following companies and organisations:
  - 454 universities and research institutions
  - · 158 schools, lyceums and educational centres
  - 357 business structures
  - · 33 governmental agencies
  - 18 associations and societies

#### PARTNER COMPANIES

TPU develops partnerships with major corporations and companies, such as Gazprom, Rosatom (Mining and Chemical Combine in Zheleznogorsk, Siberian Chemical Plant in Seversk), Roscosmos (Information Satellite Systems named after Academician M.F. Reshetnev in Zheleznogorsk, Polus Research Centre in Tomsk, S.A. Lavochkin Scientific-Production Enterprise in Khimki, RSC Energia in Korolev), Sibur Holding (Tomskneftekhim in Tomsk), Microgen, R-Pharm, Federal Grid Company of Unified Energy System, Rosneft (Achinsk Refinery VNK in Krasnoyarsk Region, Tomskneft VNK in Strezhevoy), Kaspersky Lab, Irkutsk Oil Company, Lenenergo, Mail.Ru Group, Siemence AG (Germany), NISSAN Motor (Japan), National Nuclear Centre of the Republic of Kazakhstan, etc.

#### TPU BECAME PART OF

- 14 innovative development programmes (IDP) of State Corporations (and 6 IDP as a base university)
- · 23 out of 35 technological platforms

ALROSA, the biggest →
diamond production
company (Yakutia)
included TPU in its
prospecting works
programme



#### TPU IS A BASE UNIVERSITY OF:

- Gazprom
- Rosatom
- Information Satellite Systems named after Academician MF Reshetney
- Microgen
- Federal Grid Company of Unified Energy System
- RAO Energy System of the East











There is students' job placement system at TPU. More than 95% of young specialists are distributed to industrial companies upon their requests.

Annually, the demand for TPU specialists and masters is 1.5 - 1.7 times higher than the number of its graduates.

# UNIVERSITY MANAGEMENT







In 2010, by the decision of the Assembly of National Research Tomsk Polytechnic University **TPU Endowment Foundation** was established – a non-profit trust fund intended to finance university educational, scientific and cultural projects. The first people who donated to this foundation in 2010 were the RF President Dmitry Medvedev, political and public leaders of the country and the region.



Viktor Misnik, Director →
General of GazpromneftVostok, donated
500,000 roubles to TPU
Endowment Foundation.



# 120TH ANNIVERSARY of TPU

On 11 May 2016, Tomsk Polytechnic University celebrated its 120<sup>th</sup> anniversary, which was marked by many festive events: Parade of Epochs, prayer service in the Saint Domna Chapel in Tomsk, ceremonial meeting of the Academic Council, World Resource Efficiency Forum, festive performance and other events.





The Siberian Academic Week was held in the framework of the World Resource Efficiency Forum uniting outstanding young researchers from across the country. The Forum became the main platform for sharing opinions on resource-efficient technologies.

# Do you know that 🔻

Tomsk Polytechnic University served the basis for establishing more than twenty institutions of higher education and research institutes in Irkutsk, Kemerovo, Krasnoyarsk, Moscow, Novokuznetsk, Omsk, Tomsk and other Russian cities.



TPU was among the → organisers of the first All-Russian Forum of Young Researchers – U-NOVUS-2014 held in Tomsk since April, 2014



# **»** Do you know that **→**

TPU is the only designer of betatrons – the smallest cyclic accelerator of electrons used in industry for non-destructive testing of materials and products, as well as in medicine.



# **CULTURE** and sports

- CREATIVE TEAMS AND ASSOCIATIONS

  CREATIVE TEAMS AND ASSOCIATIONS
  - Bespokoinye Serdtsa (Restless Hearts) ensemble of TPU old-timers
  - · Peresek folklore and ethnographic ensemble
  - · Dominanta student music association
  - Tomsk City Russian Orchestra of TPU International Culture Centre
  - · Raqtime jazz vocal studio
  - · Reflection pop vocal studio
  - Club of opera and vocal music
  - People's Artist of Russia Ludmila F. Travkina School of classical singing
  - · ART Concept photo studio
  - · Drama Club of TPU International Culture Centre
  - · Musical Studio of TPU International Culture Centre
  - · Folk dance ensemble



### **≫** Do you know that

TPU is a partner institution and an official representative of the All-Russia St. George's Ribbon Action.





### 🕻 Do you know that 🔻

Every year TPU organises about 300 scientific events for young researchers, over 30 of which are held at the international level. More than 200 students and young researchers participate in conferences, contests and competitions annually. Post-graduates and young researchers make over 100 grant-financed research trips per year.



#### TPU STUDENT CLUBS

- · Club of the Merry and Inventive (KVN TPU)
- · Aida climbing and caving club
- Amazons tourist club
- · Ariadne climbing club
- · Orion sport and technical hang-glider club
- · Afalina sport and technical divers club
- Lifestyle student organisation
- Otechestvo (Fatherland) patriotic youth centre, etc.













# **CULTURE** and sports

Starting from 2012, every year TPU wins the all-Russian competition of development programmes of student associations for developed social infrastructure and integrated extracurricular students' activity.

#### SPORTS FACILITIES:

- stadium
- · 400-metre-long athletic facility of the Olympic standard
- · skiing lodge
- · football field with an artificial covering
- · rock climbing simulator
- · two-km-long roller-ski track
- · biathlon shooting range
- · several athletic fields, gyms and other sporting facilities
- · swimming pool



 Sergey Usov, athlete at School of Higher Sports Mastery, TPU master student, – winner at the World Bench Press Championship (Denmark, 2016).

### **»** Do you know that **→**

The swimming pool of TPU is a grand university project with a  $25 \times 16$  m pool basin of 6 lanes and spacious gyms. It has a capacity to hold over a maximum of 64 people an hour. The swimming pool is fully equipped heeding the best experience of watersports centres.



#### PUBLIC INITIATIVES

Since 2010, the university has been the centre of attraction of volunteers for the 22<sup>nd</sup> Winter Olympic Games and the 11<sup>th</sup> Paralympic Games 2014 in Sochi, 2018 FIFA World Cup in Russia, etc.

TPU is one of **20 Russian centres that train volunteers** for the World Festival of Youth and Students 2017.



# UNIVERSITY mass-media

Corporate media is a source of information for current university staff and students, an effective platform that helps promoting university in regional, national and international scientific and educational fields.

#### **IOURNALS AND PRESS**

- Bulletin of TPU: The journal is included in the list of Higher Attestation Committee of the RF Ministry of Education and Science. It has been published for more than a century.
   Bulletin of Tomsk Polytechnic University. Geo Assets Engineering successfully passed an expert review and will be indexed in Scopus.
- Siberian Journal of Science: The editorial board of this electronic scientific journal includes 18 academicians of the Russian Academy of Sciences and the Russian Academy of Medical Sciences and 4 international scientists from China, France, Germany and Iceland. The journal has been published since 2011.
- Tomskiy Politehnik: This journal of the TPU Alumni Association contains articles about famous graduates, significant dates and events of the past and the present. It has been published for more than 15 years.

# » Do you know that ▼

TPU graduates make the gold pool of Russia:

- Nikolai Kamov engineer of unique Russian helicopters
- Nikolai Nikitin designer and architect of the Ostankino TV Tower
- Dmitri Bondarev designer of the first Soviet car Russobalt
- Matvei Kapelyushnikov inventor of the revolutionary turbodrill (a hydraulic bottom-hole drill for drilling wells)
- · Nikolai Urvantsev discoverer of Norilsk ore district



# >> Do you know that →

TPU graduates make the gold pool of Russia:

- Kanysh Satpaev discoverer of the world largest copper deposit in Zhezkazgan, a founder and the first President of the Kazakhstan Academy of Sciences
- Oleg Alimov inventor of a space drill that was used to retrieve lunar soil samples from the Earth's moon in Luna 24 mission
- Gennady Mesyats world-known physicist, founder of two academic institutes, Vice President of the Russian Academy of Sciences



- Together with Elsevier Publishing House TPU releases Resource-Efficient Technologies, an electronic scientific journal in English. Chief Editor of the journal is Anatoly Korkin, Professor of the University of Arizona (USA).
- Personnel Weekly (Za kadry) is a large-circulation 12-page newspaper issued every other week. The number of copies amounts to 1,500 issues. It has been published since 1931.

TPU has corporate television (**TPU Today**, short video news, topical interviews, historical documentary films and a **Made in TPU** programme).

The most operative university mass-media is the TPU website (**tpu.ru**) that provides information in two languages (English and Russian).

A unique internet resource **TPU Alumnus** has been put into operation since 2016 to unite TPU alumni around the globe.





# **KEY DEVELOPMENT LINES**

- → TPU is successfully advancing towards its key objective – to become a world leading research university which continuously develops resourceefficient technologies and addresses sustainable development challenges.
- → By 2020, TPU strives to achieve a position among the world's 100 best universities, as a result of implementing the Competitiveness Enhancement Programme of National Research Tomsk Polytechnic University among Global Leading Research and Educational Centres.

#### SYSTEM OF OBJECTIVES

- World-class research in the field of resource-efficient technologies
- · Globally competitive engineering education
- Dissemination of the best academic and engineering practices
- · Strategic partnership with academia and business
- Training and engagement of distinguished students, scientists and teachers
- Positioning Tomsk as a unique world-class research and academic centre
- Transition into the university mainly focusing on graduate and postgraduate education
- · Efficient resource management
- Social accountability and responsibility at regional, national and global levels



# NATIONAL RESEARCH TOMSK POLYTECHNIC UNIVERSITY

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