Welcome address

OLEG FOMICHEV
State Secretary, Deputy Minister
of Economic Development of the
Russian Federation

Technological platforms are an important instrument in bringing together business, science and government on the implementation of priority directions of modernization and technological development of the Russian economy.

There are 36 technology platforms in Russia for the thirteen most promising directions of scientific-technological development. These self-organizing enterprises includes more than 3,500 participants – companies, research and educational organizations,development institutions.

The brochure of technological platforms provides information on its activities and plans for the coming period. We believe that the contribution of technological platforms in development of mechanisms of technology transfer, expansion of scientific and technological coop-radio and public-private partnerships in innovation will consistently increase.

Russian technology platforms list

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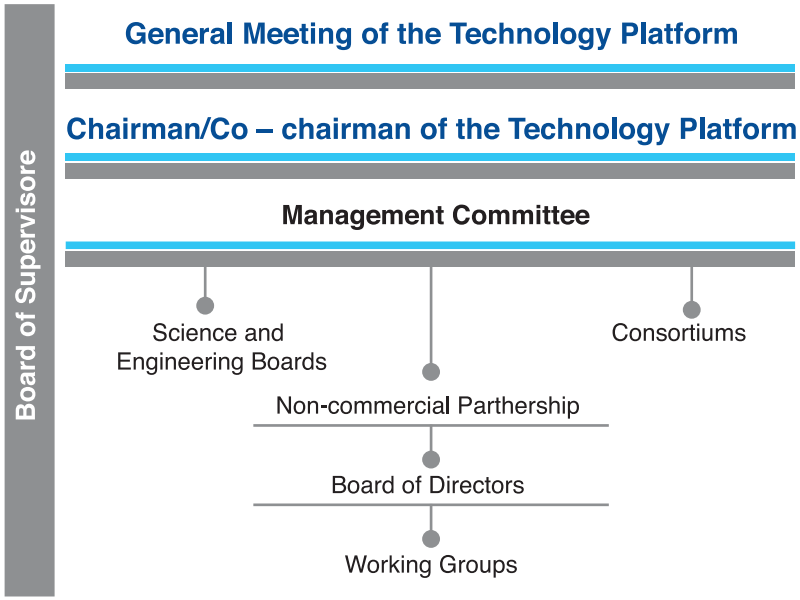
* In the reorganization.

ТЕХНОЛОГИЧЕСКАЯ ПЛАТФОРМА «МЕДИЦИНА БУДУЩЕГО»

Medicine of the future

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
July 7, 2011	Siberian State Medical University	Siberian State Medical University	Non-commercial partnership

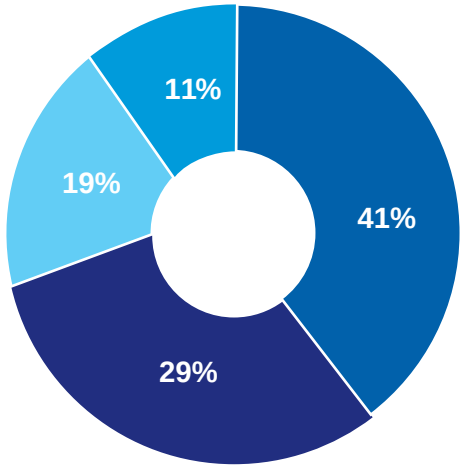
THE STRUCTURE OF THE TECHNOLOGY PLATFORM



Chairman of the Technology Platform
VSEVOLOD A. TKACHUK
Dean of the Fundamental Medicine Faculty
RAS Academician professor

Executive Director of Non-commercial partnership
ALEXANDER B. VOROZHTSOV,
Professor

THE PLATFORM MEMBERS



- Business structures
- Scientific and planning organizations
- Educational institutions
- Associations (partnerships)

- Members of the platform – 416 organisations
- Strategic research program
- 9 Science and Engineering Boards of the priority areas
- Well-developed system of expertise of projects
- 30 Full cycle complex programs
- 26 consortiums

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Official website: www.tp-medfuture.ru

Medicine of the future

PLATFORM'S KEY DIRECTIONS

Predictive and analytical activities. Strategic planning of biomedical and pharmaceutical research development, creation and realization of road map, priority identification.

Educational work. Upgrading of curriculums and educational programs focused on the needs of business and science, staff training and personnel recruitment.

Informational activity. Information distribution, information support, communication with Russian and European Technology Platforms. Organizing conferences, meetings, seminars and other events.

Organizational and financial activity, involvement of private and corporate capital to the programs and projects realization, foundation of funds for project development and its constant functioning.

PLATFORM'S COMPETITIVE ADVANTAGES

- Science and technology foresight
- Development priorities
- Development of scientific-technological backlogs in medium and long term perspective
- Planning for business interests

INTERNATIONAL COOPERATION

The Platform cooperates with Edinburgh University (Great Britain), Claude Bernard University (France), leading innovation consulting company EurA AG (Germany)

PLATFORM'S ABILITIES

- Encouraging innovations, expansion of scientific and industrial cooperation and support of scientific and technical activities and processes of modernization.
- Technology foresight.
- Complex expertise of projects by profile science and engineering boards and specification of technical requirements
- Creating strategic plans for pre-clinical testing of drugs for their further implementation, accounting the interest of the market.

THE COMPLEX FULL-CYCLE PROJECTS IMPLEMENTED BY SEVERAL PARTICIPANTS OF THE PLATFORM

- Devices and reagents for development of new diagnostics methods, monitoring and control of illnesses that pose a threat to public health.
- Development of the new type multiparameter multiplex biosensors;
- Gradient ceramic materials that mimic the architecture of the bone matrix;
- Development of the new biotargets and test systems and their use for the development of innovative anti-infective drugs.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

- Development and organization of production of innovative therapeutic and diagnostic radiopharmaceuticals for nuclear medicine;
- Development and organization of production of new generation multifunctional bioactive wound dressings and health aids;
- Synthesis, preclinical and clinical studies of import-substituting medicines.

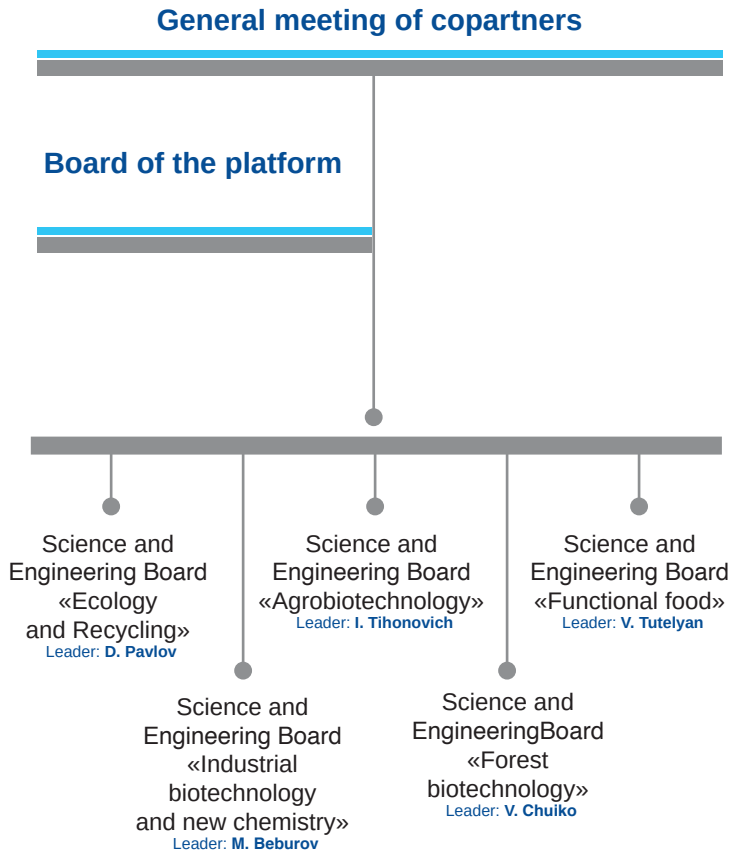
THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
January, 2018	General Meeting of members of the Technology Platform «Medicine of the Future» (Moscow)
June, 2018	The international forum of technological development «TECHNOPROM» (Novosibirsk)
July, 2018	Bio International Convention 2017 (San Diego)
October, 2018	Forum «Open innovations» (Moscow)
December, 2018	National annual exhibition and forum «VUZPROMEXPO» (Moscow)

BioTech2030 Technology Platform

Creation date	Coordinator of the platform	The Initiators of the Platform	Legal form
October 2, 2012	Research Center of Biotechnology RAS	Moscow State Univercity, Rostec Corporation	Association

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

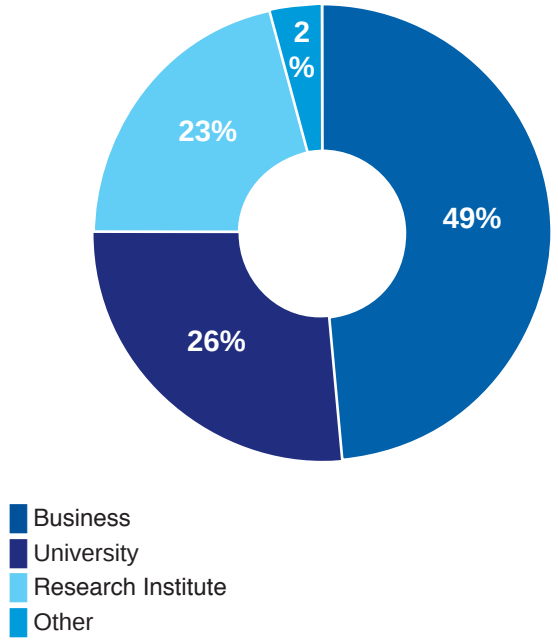


The chairman of the Board
VLADIMIR POPOV

Executive Director
ALINA OSMAKOVA

THE PLATFORM MEMBERS

The Platform includes more than 100 members



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E-mail: mail@biotech2030.ru

Official website: www.biotech2030.ru

BioTech2030 Technology Platform

PLATFORM'S KEY DIRECTIONS

● Biotechnology renewable raw materials processing

● Renewable biomass as a raw material base to chemical industry and heavy organic synthesis; genomic and post-genomic technologies, methods of bioengineering, cell technology for new products creation; biocatalytic and biosynthetic technology

● Biotechnology for new food products and food materials production, functional foods, etc., food quality and safety monitoring

● Biotechnology which increase the efficiency of commercial minerals extraction

● Biotechnology of processing and recycling industrial and agriculture waste, environmental protection; information systems of remote sensing monitoring for forest resource evaluation; agrobiotechnology.

PLATFORM'S ABILITY

The platform provides the integration of the national research and development system in biotechnology sphere in the international scientific community.; provides expert assessment of public and industry business solutions in the area of TP competence.

PLATFORM'S COMPETITIVE ADVANTAGES

● Uniting representatives of government, business, science and civil society in order to create new technologies, products and services

● Realization of bioindustry innovative development and bio resources application for sustainable Russian economy development

● Innovations' incentive, formation of new partnerships, supporting scientific and technological activity and bioindustry and related sector modernization processes; Development, discussion and adoption of documents defining basic scientific and technical priorities in the area of TP competence

● Integration of R&D national system in biotechnology sphere in the global scientific community

● Education system and training of specialists improvement;

Improvement of the legal and technical regulations in the field of bioindustry and bioresourses.

THE COMPLEX FULL-CYCLE PROJECTS REALIZED BY SEVERAL PARTICIPANTS OF THE PLATFORM

By the aid of TP «BioTech2030» there are realized several full-cycle projects uniting representatives of business and science in order to create new technologies, products and services.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

1.Development of state and professional standards in biotechnology sphere.

2. Involvement TP members in industry-specific events (conferences, forums, exhibitions, etc).

3. Development of educational programs like «Management of Biotechnology» in MSU.

4. Participation in the creation of FoodNet NTI roadmap. 5. Actualization of the Strategic Research Programm.

6. Facilitation in public and industry business solutions expertise in the area of TP competence..

INTERNATIONAL ACTIVITIES

1) International business and scientific cooperation (using the infrastructure of CLIB2021);

2) Representation of interests of Russian science in international funding programmes (Horizon 2020 Programme; ERA in Industrial Biotechnology);

3) Participation in exhibition and Congress activities: introduction of participants and projects of TP «BioTech2030» in the international public arena.

The international cooperation in the structure of TP «BioTech2030» coordinated by the Russian national contact center "Biotechnology, agriculture, forestry, fisheries and food"..

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

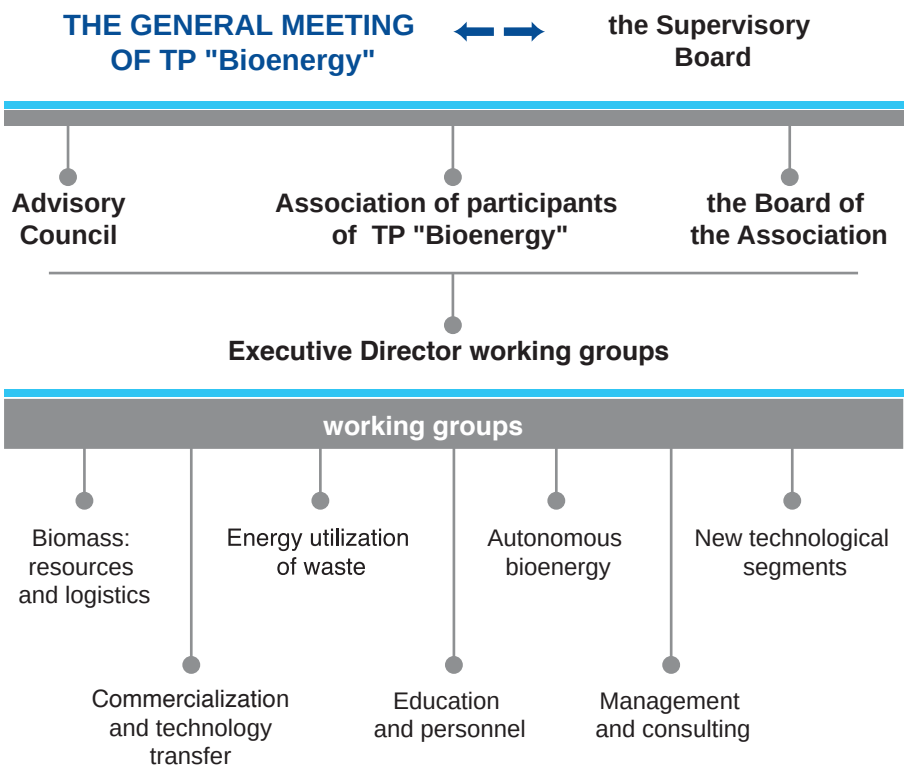
Period	Name of event
November 15-16, 2017	International Forum and exhibition for deep grain processing, industrial biotechnology and the Bioeconomy "Graintek-2017"
15-16 February 2018	Russian Investment Forum
19-21 February 2018	International Forum "Biotechnology: state and prospects of development"
28-30 March 2018	ICFEB 2018
Summer 2018	Startup Village 2018
October 2018	Golden autumn 2018
November 2018	RosBioTech 2018

BIOENERGY Platform

Bioenergetics

Creation date	Coordinator of the platform	The Initiators of the Platform	Legal form
November 19, 2010	RC “Kurchatov Institute”	RC “Kurchatov Institute”	Association

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

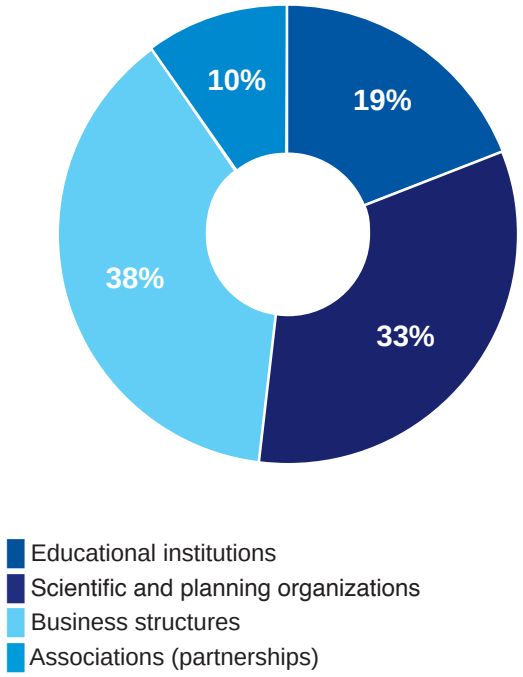


Chairman of The Supervisory Board
MIKHAIL V. KOVALCHUK

The Chairman of The Board
SERGEY YAKOVLEVICH CHERNIN

The Chairman of The Board
SERGEY YAKOVLEVICH CHERNIN

THE PLATFORM MEMBERS



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E-mail: info@tp-bioenergy.ru

Official website: www.tp-bioenergy.ru

BIOENERGY Platform

Bioenergetics

PLATFORM'S KEY DIRECTIONS

1. Biomass: resources and logistics

2. Deep processing of biomass», biorefining»

3. Transport biofuels I-V generations (biodiesel, bioethanol, biobutanol, etc.)

4. Aviation biofuels (biokerosene)

5. Generation of thermal and electric energy from biomass, cogeneration

6. Solid biofuels based on different types of biomass

7. Energy disposal of waste (incineration, gasification, pyrolysis)

8. Biogas technology

COMPETITIVE ADVANTAGES OF THE PLATFORM

The Association consists platforms professional competences of participants representing the various links in the technological chain (science – production – infrastructure – market), creates the conditions for the implementation of large-scale complex projects involving the most successful technology, investment resources and state support measures.

● Provide conditions for implementation of projects of interdisciplinary and intersectoral character that is based on cooperation with organizations and companies working in the field of agriculture, energy, housing, industry, environmental protection etc.

● Organization of the wide international cooperation of the participants of the platform with partners from CIS, BRICS, Eurasian Economic Union, etc.

PLATFORM'S COMPETITIVE ADVANTAGES

● TP «Bioenergy» brings together sufficient scientific and technological, technical and institutional capacity for accelerated development of priority directions of scientific researches in the sphere of creation of energy-efficient and resource-saving technologies of production, storage and transfer of energy derived from biomass, and development of new technologies of power generation on the principles of nature.

● Coordination of scientific-practical activities of the participants on the basis of the approved «Strategic research programme in the field of bioenergy» avoids duplication of research topics and projects, fragmentation of the platform participants in the process of research and implementation activities.

COMPREHENSIVE FULL-CYCLE PROJECTS, IMPLEMENTED BY SEVERAL PARTICIPANTS OF THE PLATFORM

1. Infrastructure project «Bioenergy village» Autonomous energy supply of settlements in 4 Russian regions based on the integrated use of local renewable energy (photovoltaic technologies, wind energy, bioenergy).

2. Integrated projects for implementation in the framework of innovation development programmes of state companies and corporations (PIR):

2.1. «Creating engineering biotechnology centre for oil and gas industry»

2.2. «The creation of the Russian industrial cluster for organic electronics and Photonics»

2.3. «Development of technologies for producing aviation biofuel in climatic and economic conditions of the Russian Federation»

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

Platform participants implement research projects to develop new technologies for bioenergy, including the following:

1. The technology for producing biodiesel by enzymatic method using as biocatalyst eksperimentov on the surface of yeast cells

2. Energy efficient and resource saving technology of obtaining chemical products, including motor fuels and aromatic hydrocarbons, liquid-phase metal oxide-based thermochemical cycles

3. Environmentally safe and high-speed, energy-efficient technology for recycling of organic fraction of household waste through a process of anaerobic microbial fermentation to reduce the anthropogenic load of solid waste landfills on the environment of the city and surrounding areas

INTERNATIONAL COOPERATION

development of technologies and implementation of joint projects in the field of bioenergy, biotechnology and ecology together with partners from the Republic of Belarus, the Republic of Kazakhstan and the Republic of Armenia within the framework of the Eurasian technology platform "EurasiaBIO"

joint implementation of the Russian-German project "Urban bioeconomy solutions – carbon dioxide sequestration with new automated photobioreactor concepts"

National Supercomputing Technology Platform

Creation date	Coordinator of the platform	The Initiators of the Platform	Legal form
September 28, 2011	M.V. Lomonosov Moscow State University, and Program Systems Institute of the Russian Academy of Sciences	M.V. Lomonosov Moscow State University, and Program Systems Institute of the Russian Academy of Sciences	Consortium

TECHNOLOGY PLATFORM CO-CHAIRS:

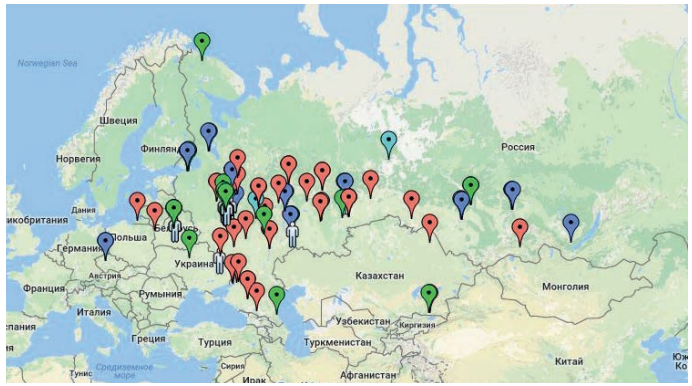
E. VELIKHOV, academician, president of National Research Center «Kurchatov Institute»

V. SADOVNICHIY, academician, rector of Lomonosov Moscow State University

V. BETELIN, academician, scientific coordinator of Scientific Research Institute for System Analysis, Russian Academy of Sciences

I. KAMENSKIKH, State Corporation «Rosatom»

THE PLATFORM MEMBERS



TECHNOLOGY PLATFORM SECRETARIAT:

VL.VOEVODIN, Research Computing Center of Lomonosov Moscow State University

B. SHABANOV, Joint Supercomputer Center of the Russian Academy of Sciences

M. YAKOBOVSKIY, Keldysh Institute of Applied Mathematics of the Russian Academy of Sciences

S. ABRAMOV, Program Systems Institute of the Russian Academy of Sciences

A. VOLGIN, State Corporation 'Rosatom" (executive secretary)

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E-mail: voevodin@parallel.ru

Official website: www.hpc-platform.ru

National Supercomputing Technology Platform

PLATFORM'S KEY DIRECTIONS

1. Development of supercomputing infrastructure in Russia.
2. Science.
3. Education.
4. International collaboration.
5. Cooperation with federal entities, industry and business.

PLATFORM COMPETITIVE EDGE

Integration of science, education, business, IT- companies and industry to meet the national-level challenges by making use of latter-day world-class computing technologies.

Collaboration with the leading research centers and scientific groups in the world.

PLATFORM'S COMPETITIVE ADVANTAGES

Provide unique potential of supercomputing technologies and mathematical modeling to advance and increase competitive abilities of industrial and commercial companies in Russia.

COMPLEX BEGINNING-TO-END PROJECTS, RUN BY SEVERAL PLATFORM PARTICIPANTS

Foundation of supercomputer complexes and centers starting from the scale of a lab to State-level shared-use large supercomputer centers.

Development of efficient applications to solve the scientific, industrial and social problems.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

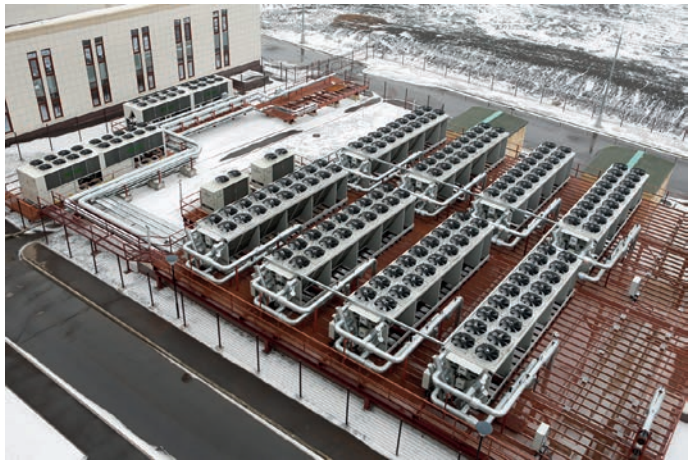
1.Development of national supercomputing infrastructure;

2. Arranging and conducting of the national supercomputing conferences and youth schools;

3. Maintenance of Supercomputing Consortium of Russian Universities;

INTERNATIONAL CONTACTS

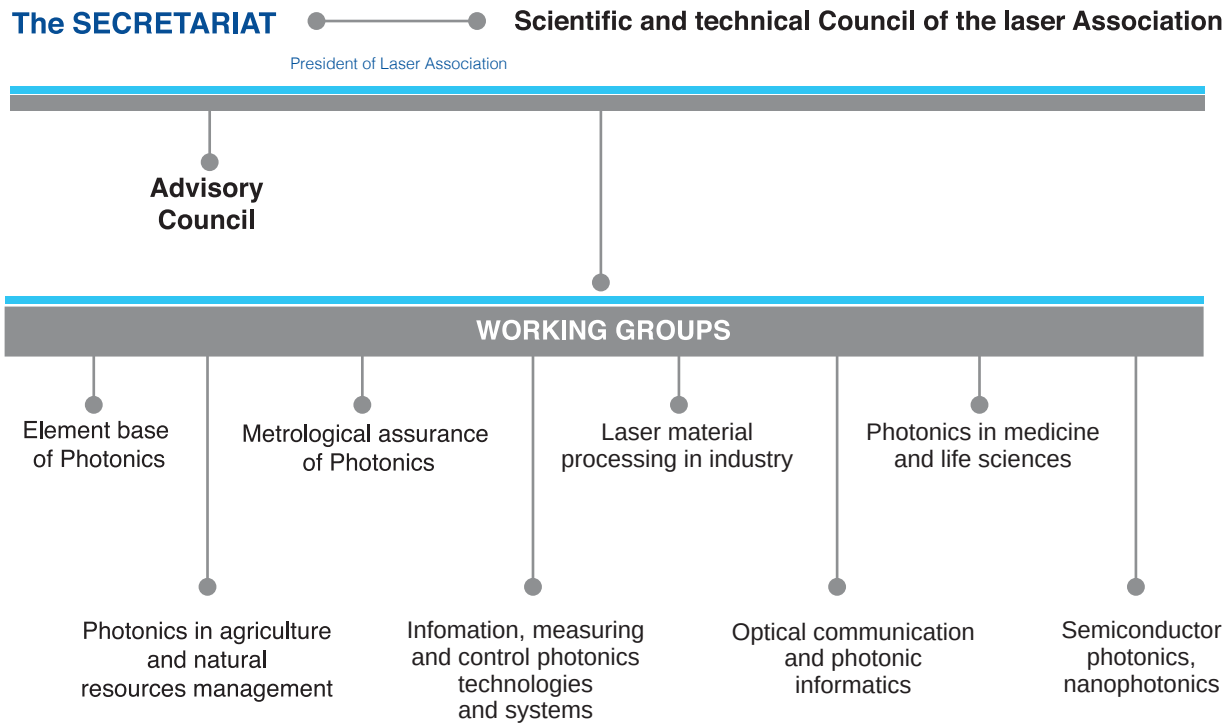
USA, Japan, China, South Africa, European countries. MSU is a member of the NESUS project (http://nesus.eu/), which includes more than 30 European countries.



Innovative laser, optical and optoelectronic technologies – Photonics

Creation date	Coordinator of the platform	The Initiators of the Platform	Legal form
April 1, 2011	Laser Association	Laser Association	Association

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

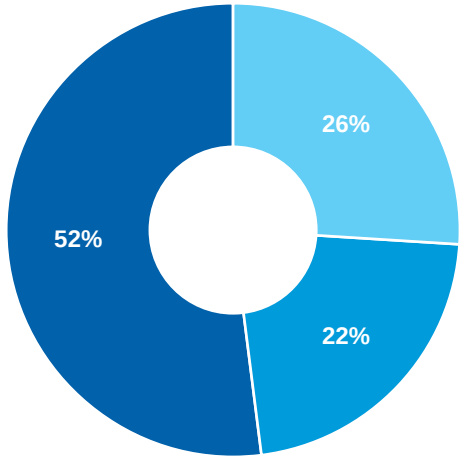


I. KOVSH
Coordinator
President of the Laser Association Head of the Platform

V. VOLGIN
Scientific Secretary of the Platform

THE PLATFORM MEMBERS

Platform ParticipantsThere are 194 participants in thePlatform (October of 2017)



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Tel.: +7 (495) 333-00-22
E-mail: las@tsr.ru; las@cislaser.com; tp@cislaser.com

Official website: www.cislaser.com; www.photonica.cislaser.com

Innovative laser, optical and optoelectronic technologies – Photonics

PLATFORM'S KEY DIRECTIONS

- Photonics and its applications analysis and prediction
- Complex expertise of profile projects and programs
- Information exchange assistance – issuing catalogues and directories, holding of exhibitions, conferences, round table discussions, etc.
- Development of innovative activities, stimulation of R&D organizations cooperation with production companies
- The help to the platform participants in their interaction with Federal Executive Authorities, state corporations, institutes of innovative development
- The help to the platform participants in their international activities on the platforms subjects

PLATFORM'S COMPETITIVE ADVANTAGES

- The highest competence of the thematic area
- Possibility of ensuring completeness and objectivity of examination for projects of any level in the field of photonics and its applications, detailed knowledge and strict accounting of domestic realities in case of assessment of profile R&D projects, productions and markets
- Democratic character and flexibility of structure, participation of the organizations of all scales and specializations in elaboration of common decisions of the technological platform
- Laser Association (platform coordinator) wide experience of work in laser-optical community at national and international level

COMPLEX PROJECTS REALIZED BY THE PLATFORM PARTICIPANTS NOW

- Drafting the RF Strategic program on photonics and its applications in 2017-2025
- Tens of projects resulting in photonics technologies creation and implementation in industry, agriculture, communications, etc.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

- Diode laser module with fiber-optic the output of LLD-150, («NPP «Inzhekt», Saratov) Lidar for remote measurement of the temperaturery of the atmosphere, (IAO SB RAS, Tomsk, Russia)
- Precision laser technological complex for the production of optical scales, grids, photos templates and the synthesized hologram-based three-dimensional laser micro-and nano-processing, (Iaie so ran, and LPS NP SB RAS, Novosibirsk)
- Laser welding technology of high-precision large-size structures of titanium alloys, (CJSC «RSLT», Yekaterinburg) Technology laser microreserve stakroge- kind for the manufacture of precision items electronics

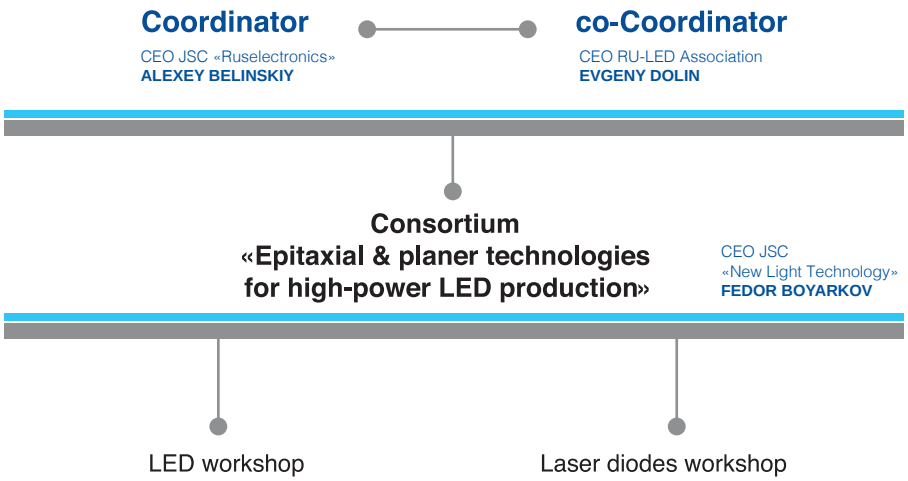
THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
January 2018	Adjustments and additional changes in the Strategic programme mu TP for the year
February 27– March 2, 2018	13-th international specialized exhibition "Photonics. World of lasers and optics" and the VI Congress templat- forms of "Photonics"
During the year	The organization of direct contacts between devel-opers of technology and about equipment Photonics with potential users of these products in Russia, the CU and the EAEU
During the year	Participation in exhibitions industries - users of Pho-tonics technology ("Svyaz-Expocomm", "Metalwork-ing", "OVC EXPO 2018"

Technology platform «Russian LED technology development»

Creation date	Coordinator of the platform	The Initiators of the Platform	Legal form
April 1, 2011	JSC “Radioelectronics”	OJSC ‘Rosnano’	Non-commercial partnership

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

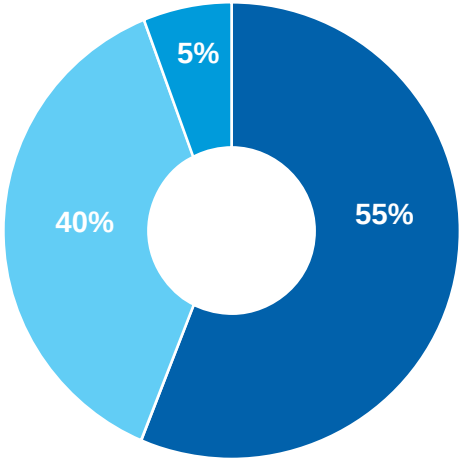


E. DOLIN
General director of the Platform

F. BOYARKOV

THE PLATFORM MEMBERS

The Platform includes 20 members



- Associations and partners
- Scientific and educational organizations
- Business structures

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Бережковская наб., д. 38, стр.1

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avgulyachenko@ruselectronics.ru
bauman@soptel.ru

Official website: www.ruselectronics.ru/

Technology platform «Russian LED technology development»

PLATFORM'S KEY DIRECTIONS

- Mass production of LEDs and LED lighting in Russia
- Research and development in the field of LED technology
- LED technology education programs development and coordination
- World-class R & D competitive in the field of LED lighting
- Combining the efforts of public authorities, scientific and industrial institutions to provide technological, legal, financial, administrative and informational basis for the development of LED industry.

PLATFORM'S COMPETITIVE ADVANTAGES

- Creating scientific and technological potential in LED industry and advanced development centers, the introduction of new technologies in the production and training of qualified personnel
- Development of the demand for LED technology and the formation of a civilized market
- Development of critical LED technologies
- LED lighting products quality improving
- Filling the domestic LED products market

INTEGRATED PROJECTS COMPLETE CYCLE BY THE PLATFORM MEMBERS

Creating a vertically integrated manufacturing enterprise with a full cycle of production of LEDs.

Scheduled power - LEDs 1 billion a year.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

1. Improve the performance of white LEDs and reduce their cost:

- new solutions development to improve the efficiency of heat dissipation from the light emitting chip;
- development of methods for increasing the output of light from the LEDs;
- development of phosphors with improved efficiency and spectral characteristics.

2. Development of the domestic component and raw material base for the production of LEDs and LED lighting equipment.

3. Development of domestic equipment for the production of LED heterostructures and crystals.

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2018-2019 YEARS

Period	Name of event
2018-2019	Full-cycle LED production launch

Air mobility and aviation technologies

Creation date	Coordinators of the Platform	The Initiators of the Platform	Legal form
November 29, 2010	FSUE «TsAGI», PJSC «United Aircraft Corporation», State Corporation «Rostec»	FSUE «TsAGI», FSUE «CIAM named after P.I. Baranov», FSUE «GosNIIAS», FSUE «GosNII GA»	Non-profit organization in the form of Association

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

In accordance with the Charter, the Technology platform is managed and provided by the Association «Technology platform «Air mobility and aviation technologies»

The General Meeting of the Association members

Supervisory Board | **Governing Board**

According to the decision of the Board are management (working groups) in order to implement specific projects and the operation of the Technology platform

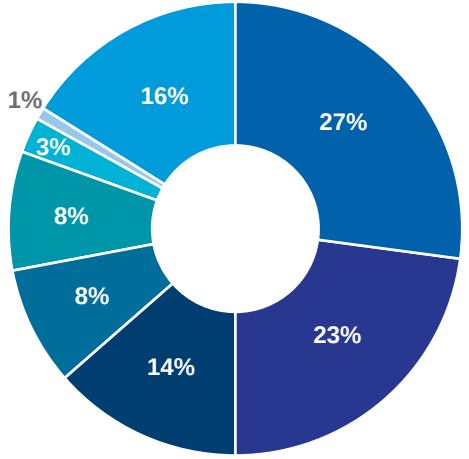
Platform's experts (total number – 542 people)

B.S. ALYOSHIM
Science and Technology Advisor of President of JSC «UAC», corresponding member of the RAS Supervisory Board Chairperson

A.A. KIM
Chairman of the Board

THE PLATFORM MEMBERS

The Platform includes 107 members



- Higher education institutions
- Research institutes
- Development organizations
- Holding companies
- Manufacturing plants
- Airlines, transport organizations
- Government agencies
- Design, engineering, service and other companies

Contact information:
Address: Russia, 140180, Moscow Region, Zhukovsky, Zhukovsky Street, 1

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Official website: www.aviatp.ru

Air mobility and aviation technologies

PLATFORM'S KEY DIRECTIONS

● Assistance in organization of interaction of participants of the Technological platform;

Attracting budgetary and extrabudgetary funding for projects and programs in the framework of the Technology Platform;

● Planning of activities of the Association members in the framework of the Technology Platform, including projects and programs, organization of the development of the basic planning, forecasting and program documents of the Technology Platform;

● Assistance in monitoring the functioning of the Technology Platform, including the implementation of projects and programs within the Technology Platform;

● Assistance in technical and organizational support for the implementation of projects and programs within the Technology Platform;

● Assistance in the implementation of research, development and technological work in the framework of the Technology Platform;

● Assistance in the formation of the need for staffing of high-tech areas for the creation and use of aviation equipment and other means of air transport, assistance in the training of personnel in aviation specialties;

● Assistance in the development of norms, rules and standards of state regulation that accelerate innovation processes and stimulate the introduction of new products (works, services) into the air transportation market and other applications of aviation technologies;

● Facilitating the transfer of technologies created within the framework of the Technology Platform to the aviation industry and other sectors of the Russian economy;

● Harmonization of the development of aviation technologies in Russia with relevant activities in the framework of foreign technology initiatives.

PLATFORM'S ABILITIES

● Complex and maximally objective approach to planning and organization of advanced research and development;

● Ensuring the balance of interests of science and industry;

● Professional and independent expertise;

● Qualitative analytical, information and communication support;

● Openness and transparency of activities and decisions.

PLATFORM'S COMPETITIVE ADVANTAGES

● Interaction with a large number of organizations and experts;

● Qualitative organization of project and expert work;

● Constructive relations with state authorities, specialized funds and development institutions;

● The presence of a legal entity - the Association for the formation of consortia, project teams, contracting, participation in competitive procedures and project implementation.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

«Development of technology of high-speed production of parts and components of aircraft engines heterophase techniques of powder metallurgy» (main executor – FGAEI HE «Peter the Great St. Petersburg Polytechnic University»).

Research and development of methods and technologies to improve the efficiency of the spray of liquid fuel and combustion of fuel-air mixtures in aircraft engines (main executor – FGAEI HE «Peter the Great St. Petersburg Polytechnic University»)

Develop a set of functional characteristics repair and recovery technologies critical parts of gas turbine engines and power plants (main executor – Samara University)

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
2017	Consideration and Approval of the updated version of the Strategic Program for Research and Development of the Technology Platform
2018	Opportunities and prospects for the development of super-sonic civil aviation (conference)
2018	Tendencies and projects in the field of "electrification" of aircraft (round table, conference)
2018	On the development of general aviation markets in the Russian Federation (round table)
2018	On innovative development programs for companies with state participation in the field of the Technology Platform
2018	On staffing and training of personnel for organizations participating in the Technology Platform (round table)

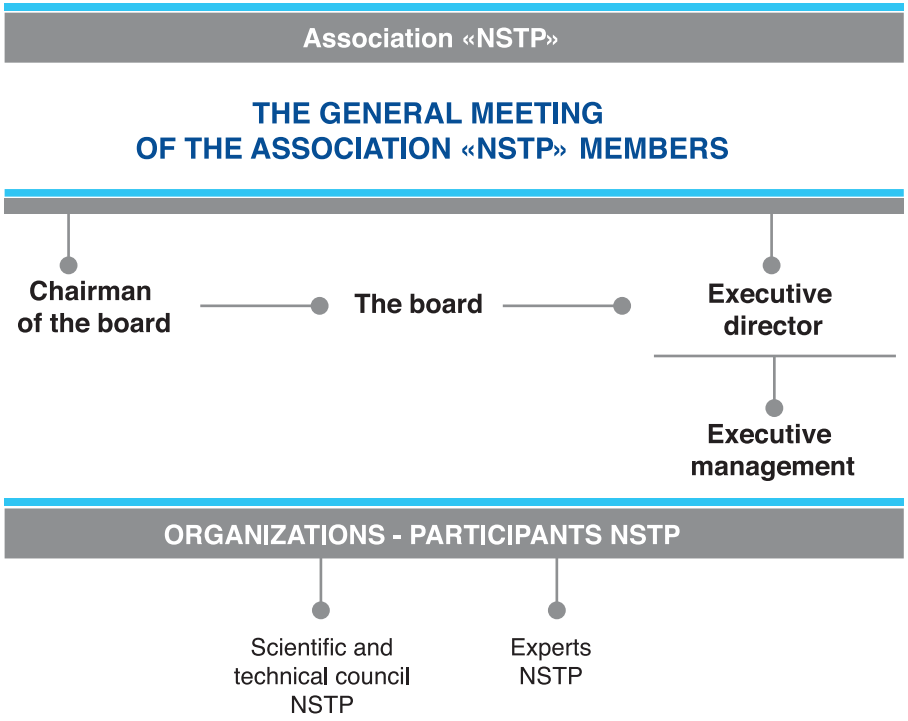
INTERNATIONAL COOPERATION

In the framework of the MAKS-2017 International Aviation and Space Salon, negotiations were held on possible cooperation with representatives of the Chinese delegation (the company AVIC Composite) and France (a private company engaged in the development of a promising engine for small aircraft).

National Space Technology Platform

Creation date	Coordinator of the platform	The Initiators of the Platform	Legal form
1 April 2011	Central Research Institute of Machine Building Moscow Aviation Institute (National Research University)	Central Research Institute of Machine Building, Moscow Aviation Institute (National Research University), Khrunichev State Research and Production Space Center, Scientific and Production Association named after S.A. Lavochkin, S.P. Korolev Rocket and Space Public Corporation Energia, Central AeroHydrodynamic Institute named after Professor N.E. Zhukovsky.	Association

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

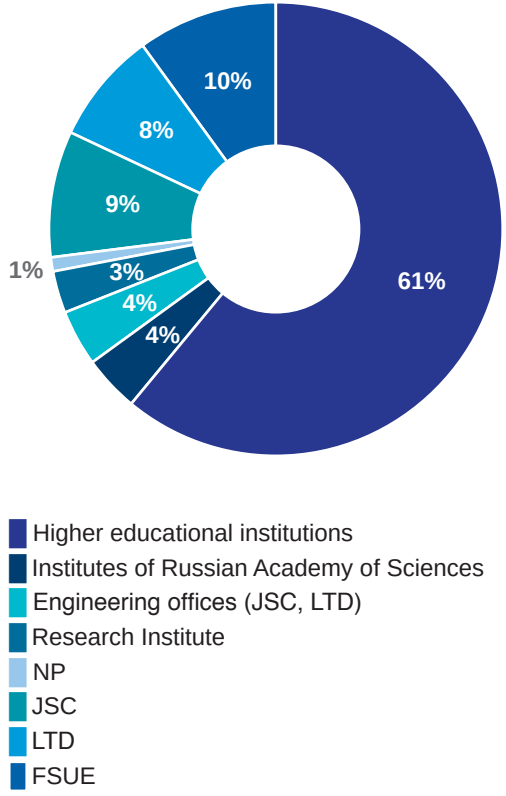


CHAIRMAN OF THE BOARD
DENIS LYSKOV,
CHIEF EXECUTIVE OFFICER
JSC «Glavkosmos»

EXECUTIVE DIRECTOR
TATIANA TERESHCHENKO

THE PLATFORM MEMBERS

The Platform includes 70 members



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Official website: www.spacetp.ru

National Space Technology Platform

PLATFORM'S KEY DIRECTIONS

- Develop a strategic research program providing the definition middle and long-term priorities in conducting researches and developments in rocket and space technologies.
- Expert, predictive and analytical activity, the development of road maps to achieve the strategic goals.
- Methodical, consulting and information support of federal executive authorities, public organizations and agencies business activity NSTP.
- Formation of a database of multiple equipment shared access space industry organizations and experts database for technological forecasting.
- Organization and carrying out expert activities, seminars, conferences including in the framework of career guidance activities.

PLATFORM'S ABILITY

NSTP – a key technology platform in the field of rocket and space technologies in which activities involved the State Space Corporation ROSCOSMOS, United Rocket And Space Corporation, the leading industrial companies, specialized scientific and educational organizations.

PLATFORM'S COMPETITIVE ADVANTAGES

- Examination of the scientific and technical projects in the NSTP profile
- Accounting expert opinions from NSTP during the competitive selection in Federal target program «Researches and developments on priority directions of scientific-technological complex of Russia in-2014-2020 years».
- Attracting highly qualified experts of NSTP in the development of system-forecast documents in the field of rocket and space activities.
- Information support of activities of specialized companies.
- Organization and carrying out relevant events (conferences, forums, competitions etc.) in the interest of the space industry.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

- In 2014-2017 years on the basis of competitive selection within Federal target program «Researches and developments on priority directions of scientific-technological complex of Russia in-2014-2020 years» recognized as winners of 15 projects with a total funding more than 839.5 million rub.
- In December 2015 was developed proposals for specialized companies that implement innovative development program.
- In 2015 NSTP became a partner of Aerospace competition-accelerator Generations - intensive educational development program of technology business for startups.
- With the support of The Ministry of Education and Science of Russia also with information support from NSTP embassy of France in Russia in collaboration with the French institute in Russia and Moscow Aviation Institute organized the 1st Franco-Russian forum in the field of aerospace education and science (Moscow, October 27-28, 2015).
- In 2015 and 2016 with the organizational and information support from NSTP the International Week of aerospace technology «Aerospace science week» (ASWeek) was organized.
- National Space Technological Platform (NSTP) provides information support to events organized by the platform participants on the activity profile NSTP.

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
2018 April	International Youth Scientific Conference "Gagarin Readings"
2018 September	Seminar on the forecast of the implementation of Russia's scientific and technological development priority in the field of outer space exploration.
2018 November	Organization and information support from NSTP to the IV International Week of Aerospace Technology "Aerospace Science Week"

National information satellite systems

Creation date	Coordinator of the platform	The Initiators of the Platform	Legal form
April 1, 2011	JSC Academician M.F. Reshetnev Information Satellite Systems	JSC Academician M.F. Reshetnev Information Satellite Systems Lavochkin Research and Production Association (NPO Lavochkin), Siberian State Aerospace University	Unincorporated association

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

President of the Technology Platform

Coordinator of the Technology Platform

Deputy Coordinator of the Technology platform for business communications
Edinosyak Sergey V Iadislavovich

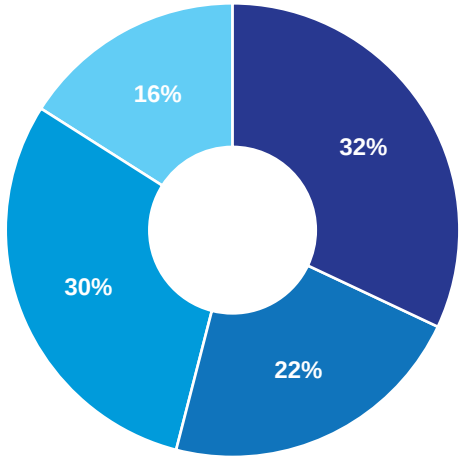
Deputy Coordinator of the Technology Platform for cooperation with universities and research organisations
Okhotkin Kirill Germanovich

President of the Technology Platform
TESTOYEDOV NIKOLAY ALEKSEEVICH

Coordinator of the Technology Platform - Association Director
KHALIMANOVICH VLADIMIR IVANOVICH

THE PLATFORM MEMBERS

The Platform includes 116 members



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Tel.: +7 (3919) 76-47-55
E-mail: esv@iss-reshetnev.ru; okg2000@mail.ru

Official website: tp.iss-reshetnev.ru

National information satellite systems

PLATFORM'S KEY DIRECTIONS

1. Satellite manufacturing
2. Microelectronics and Space instrumentation
3. Materials and technologies R&D for space engineering
4. Information and telecom systems manufacturing
5. Ground infrastructure development. Production and testing facilities development.
6. Aerospace services.

PLATFORM'S ABILITY

- System alignment and coordination of the process of developing advanced scientific and technological reserve in the design, production and testing of a new generation competitive hardware and space technology for various purposes
- Ability to develop advanced space technologies.
- Fully developed implementation of integrated design, engineering and technological solutions of the development of advanced space vehicles and communication systems, navigation and remote sensing of the new generation for defense, scientific and commercial applications with a competitively-capable world-class performance, including those with a lifetime of over 15 years
- Development of advanced on-board satellite solar-powered energy source to increase the efficiency of near-Earth orbit transportations
- Ability to deploy heavy payload to orbit with current and future deployment means.
- Creation of information system that provides communications for remote areas of Russian Federation and ensures its development.

PLATFORM'S COMPETITIVE ADVANTAGES

- Technological modernisation of the domestic space industry.
- Improving domestic space industry's competitive edge in the world.
- Introducing new communicational, navigational and monitoring technologies to the hi-tech economy sectors of Russia.
- Increasing access to the most demanded near-Earth orbits for Russia's state and private consumers.
- Broadening the use of the informational space technologies for better management of Russian Federation's federal subjects
- Development and implementation of the dual-use space technologies in the civilian sector of Russian Federation's economy
- Facilitating businesses' participation in R&D and commercialization of the research project's results
- Mobilising scientific, human and financial resources of the platform members to provide impetus for the innovational development and effective management
- Development of an integrated system of training of highly qualified personnel for the space industry through the integration of science, education and high-tech manufacturing

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

TP NISS has supported 62 scientific projects from Platforms's members that have been granted financing from Federal Targeted Programme. Overall financing amounts to more than 3.5 billion rubles.

THE COMPLEX FULL-CIRCLE PROJECTS REALIZED BY SEVERAL PARTICIPANTS OF THE PLATFORM

8 complex projects for high-tech production being realized under the framework provided by the order of the Government of the Russian Federation № 218.

INTERNATIONAL COOPERATION

Scientific and technical cooperation with the countries of the European Union is under way.

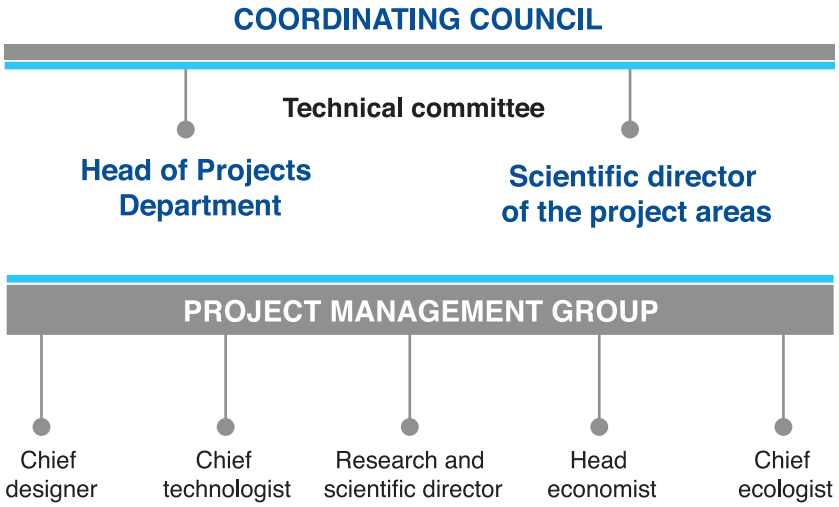
THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
November 2017	Participation in International Scientific Conference "RESHETNEV READINGS"
December 2017	Participation in exhibition and forum "VUZPROM-EXPO"
4th qrt. 2017	Annual Technology Platform members meeting
On regular basis	Submission of applications for scientific research federal tenders
On regular basis	Assistance to development of Nuclear-space innovation cluster and industrial park in Zheleznogorsk city
During 2017-2018	Communication with Interdepartmental Council of Defence Ministry and Ministry of Education and Science Ministry
On regular basis	Cooperation with other Technology platforms and AeroNet National Technology Initiative
Annually	Participation in International Military-technical forum "Army"

Closed nuclear fuel cycle with reactors on fast neutrons

Creation date	Coordinator of the platform	The Initiators of the Platform	Legal form
April 1, 2011	Devision for innovation management State corporation Rosatom	State corporation «Rosatom»	Corporation

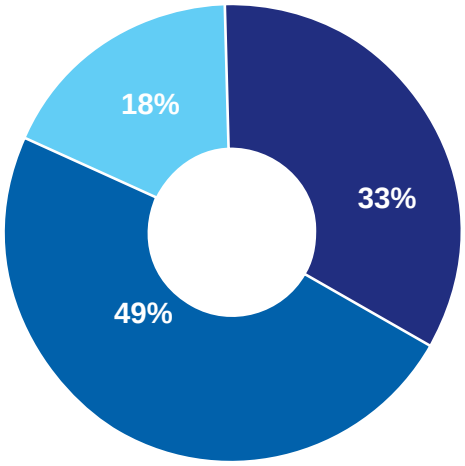
THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM



V. PERCHUKOV
Head of the Platform

THE PLATFORM MEMBERS

The Platform includes more than 30 members



Contact information:
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B. Ordynka str., 24

Tel.: +7 (499) 949-26-36
E-mail: VlVMaslov@rosatom.ru

Official website: www.proryv2020.ru;
www.innov-rosatom.ru

Closed nuclear fuel cycle with reactors on fast neutrons

PLATFORM'S KEY DIRECTIONS

1. The creation of scientific and technological base for large-scale development of atomic energy on the principles of natural security and providing for the development, construction and commissioning of the pilot demonstration power complex (hereinafter – ODAC) as part of a unit with a fast neutron reactor with lead coolant (BREST-300) and the NPP unit for reprocessing of spent nuclear fuel, the fabrication of dense and refabricate replytomessage fuel;

2. The modernization of existing and creation of new experimental test facilities to substantiate physical principles, design decisions, analysis and safety assessment of the implementation of major scientific and technological solutions of innovative nuclear energy;

3. Development, construction and commissioning of production replytomessage oxide fuel (reserve) for reactors on fast neutrons.

COMPETITIVE ADVANTAGES OF THE PLATFORM

The generated intermediate results in the development of technologies for closing the nuclear fuel cycle either ahead of the competition, or have no analogues.

PLATFORM'S COMPETITIVE ADVANTAGES

The composition and qualification of the enterprises – participants of the platform allows to carry out a full complex of works on closing the nuclear fuel cycle (research, design and prototyping of equipment and systems, design, construction and operation of industrial complexes).

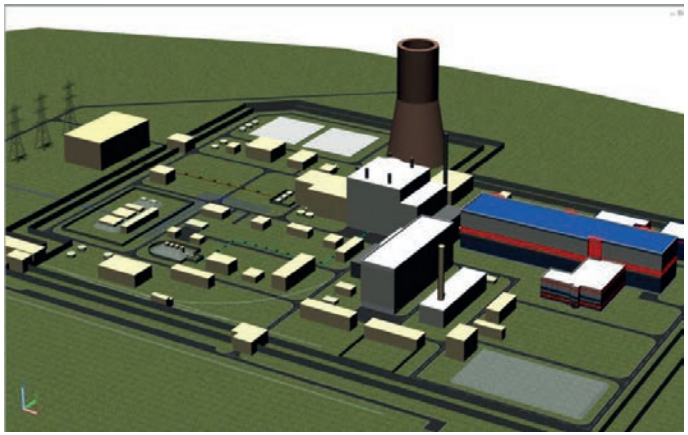
COMPREHENSIVE FULL-CYCLE PROJECTS, IMPLEMENTED BY SEVERAL PARTICIPANTS OF THE PLATFORM

Construction and commissioning of ADAC in the composition of the power unit with fast neutron reactor with lead coolant and the NPP unit for reprocessing of spent nuclear fuel, the fabrication of dense and refabricate replytomessage fuel.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

- Construction and commissioning of production replytomessage oxide fuel for fast neutron reactors.
- Construction and commissioning of ADAC.
- Technical re-equipment of the large physical stands.

The construction of a multipurpose research reactor MBIR.



THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
2017	The completion of the out-of-pile tests of mock-UPS of articles of the active zone and of tests of Executive mechanisms of system control and protection of reactor unit BREST-300.
2017-2018	Manufacturer of nestandartiniai-bathroom equipment complex production lines for the fabrication module and refabricate replytomessage nitride fuel for fast neutron reactors (hereinafter MFR).
2018	Commissioning of MPR.

Controlled fusion

Creation date	Coordinator of the platform	The Initiators of the Platform	Legal form
April 1, 2011	State Research Center of Russian Federation Troitsk Institute for Innovation and Fusion Research (SRC RF TRINITI)	SC “ROSATOM”	

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

STATE CORPORATION «ROSATOM»

Section Controlled Thermonuclear Fusion and New Power Technologies of Science and Technological Council of

Chairman Member of RAS
E.P. Velikhov

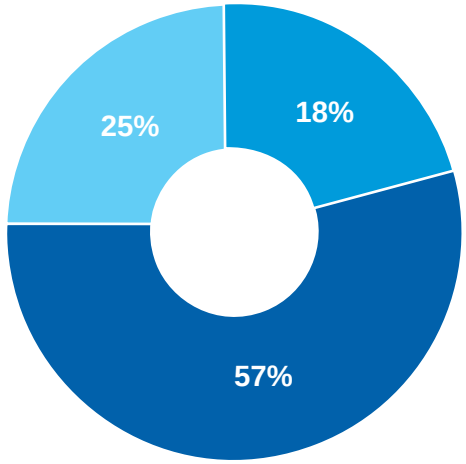
- Expert group «Problems of Controlled Thermonuclear Fusion based on Magnetic Plasma Confinement»
  Chairman Doctor of Phys.-Math Sci., Professor
  S.V. Mirnov
- Expert group «Engineering and Thechnical Problems of Controlled Thermonuclear Fusion»
  Chairman Member of RAS
  V.A. Glukhikh
- Expert group «Problems of Controlled Thermonuclear Fusion based on Inertial Plasma Confinement»
  Chairman Member of RAS
  V.P. Smirnov

VELIKHOV EVGENIY PAVLOVICH

Chairman of the Platform President of National Research Center «Kurchatov Institute» Member of Russian Academy of Sciences (RAS)

THE PLATFORM MEMBERS

The Platform includes 25 members



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Tel.: +7 (495) 841-53-08
E-mail: liner@triniti.ru

Official website: www.triniti.ru

Controlled fusion

PLATFORM'S KEY DIRECTIONS

- Development and modernization of tokamak innovative experimental base
- New plasma diagnostics tools
- Theoretical foundations of the processes in fusion devices
- Blanket technologies, including nuclear technologies of controlled fusion, tritium production, etc.
- IT, models and codes.
- Plasma control technologies and systems
- Demo fusion neutron source
- Hybrid fusion-fission systems
- First wall and divertor technologies, including lithium technology of capillary-porous structures
- Development of new materials
- Physics of HF and SHF heating, neutral injection
- Technologies of electron-cyclotron systems (gyrotrons, transmission lines, antennas)
- Education in plasma physics and control fusion

COMPETITIVE ADVANTAGES OF THE PLATFORM

- Unique knowledge in tokamak physics
- Unique plasma accelerators for material studies
- Unique lithium technologies for first wall protection (Research program on T-11M tokamak, SRC RF TRINITI)

PLATFORM'S COMPETITIVE ADVANTAGES

- Fundamental and applied research in the field of hot plasma physics, controlled fusion with magnetic and inertial confinement
- R&D in fusion neutron sources based on tokamaks with hybrid blankets
- Development of new technologies based on the usage of plasma accelerators and their applications in power technology, air and space technologies and in medicine
- Research of material properties in extreme conditions of high temperature, pressure, magnetic fields, particle and plasma irradiation
- Education programs for preparation of high quality specialists for R@D in international and domestic programs in controlled fusion and plasma physics.

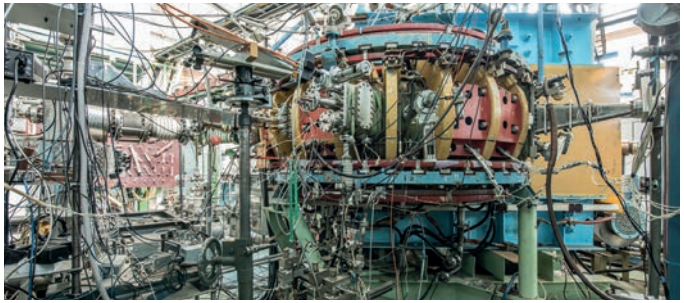
COMPREHENSIVE FULL-CYCLE PROJECTS, IMPLEMENTED BY SEVERAL PARTICIPANTS OF THE PLATFORM

- Russian-Italian tokamak Ignitor (NRC Kurchatov Institue, SRC RF TRINITI)
- International Thermonuclear Experimental Reactor (NRC Kurchatov Institue, SRC RF TRINITI, PC ITER-Center, Efremov institute of Electrophysiical apparatus, Bochvar institute of inorganic materials)

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

- Modernization of the tokamak T-15 for development of fusion-based neutron source (NRC Kurchatov institute)
- Creation of the thermonuclear complex "Baikal" (SRC RF TRINITI)
- Creation of high power lased thermonuclear installation (RFNC VNIIEF, Sarov)
- Development of fusion installations based on magnetic open traps (G/I/ Budker INF Siberian branch of RAS)

Plasma accelerator in SRC RF TRINITI



INTERNATIONAL COOPERATION

2017. Start of the Ministry of Education and Science precursory Project (NRC Kurchatov Institute, SRC RF TRINITI, JSC «Krasnaya Zvezda», NRNU «MIFI») on the design of International Russia-Italy Megascience Facility «Ignitor».

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017–2018 YEARS

Period	Name of event
13-17.02.2017	International (Zvenigorod) conference on plasma physics and controlled fusion
2017	XVII All-Russian Conference "Diagnostics of High Temperature Plasma", Zvenigorod
2017	Technical modernization of tokamak T-15 (will be put into operation in 2018)
2017	Start of the Kazakhstan material science tokamak (with NRC Kurchatov Institute and SRC RF TRINITI)

Radiation technology

Creation date	Coordinator of the platform	The Initiators of the Platform	Legal form
April 1, 2011	Radtech Association	Rosatom	Association

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

GENERAL MEETING OF THE PLATFORM MEMBERS

Board
Chairman
Alexandr Fertman

Director
Irina Mikheeva

Revision Committee

Research Panel

Leader: **Boris Gurovich**, Deputy Head of the Kurchatov Nuclear-Technological Complex for Reactor Materials and Technologies, National Research Center Kurchatov Institute

Entrepreneur Panel

Leaders: **Denis Kovalevich**, CEO of the Nanotechnology center TECHNOSPARK

«Service & Engineering» Panel

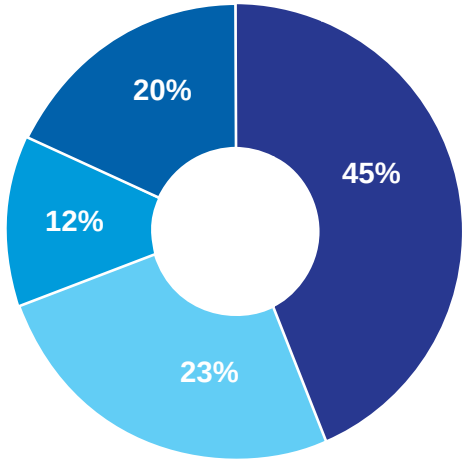
Leaders: **Alexandr Molin**, Deputy Director of the Atommed Center LLS

ALEXANDER FERTMAN
Chairman of the Board of the Radtech Association

IRINA MIKHEEVA
Director of the Radtech Association

THE PLATFORM MEMBERS

The Platform includes 74 members



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Tel.: +7 (906) 033-96-76
E-mail: prort2012@gmail.com

Official website: www.radtechnology.ru

Radiation technology

PLATFORM'S KEY DIRECTIONS

1. The radiation sources for the new electronics.
2. Design, development and application technologies of the synchrotron radiation sources.
3. New manufacturing technologies (additive manufacturing).
4. Creation of the energy-efficient compact sources and particle accelerators.
5. Design and creation of the systems and technologies of radiation processing of the materials.
6. Nuclear medicine and radiation therapy.
7. Creation of the compact, energy-efficient neutron sources.
8. Radiation chemistry.
9. Engineering and management of the systems of radiation sterilization and processing.
10. Study of the radiation effect on the cells of the animal and herbal products
11. Materials with high coefficients of radiation absorption for radiation protection.
12. Modeling of dose fields around the radiation sources.
13. The system of registration of radiation and data processing.

PLATFORM'S ABILITY

- Support of the projects in the framework of the platform technological priorities in microelectronics, healthcare, processing of polymers etc.
- Support of foundation and start of activity of the technological startups
- Formation of the infrastructure of the cooperation with the global high-tech companies
- Implementation of the technological foresight, analysis of market trends and development of strategic research program
- Representation of interests of the platform members in the state authorities
- Organization of the conferences, seminars and project sessions
- Organization of the educational programs and trainings

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

- Development of the actinic light source for the inspection of nanostructures in the micro- and nanoelectronics
- Development of compact neutron source with the high intensity for the boron neutron capture therapy of cancer
- Development of the composition of the scintillator with high light output for the security systems and thte medical equipment
- Preclinical studies of radiopharmaceutical based on gallium-68, obtained by using an automated synthesis module, for the visualization of foci of the tumor angiogenesis

THE COMPLEX FULL-CYCLE PROJECTS REALIZED BY SEVERAL PARTICIPANTS OF THE PLATFORM

Research of the gas dynamic and plasma-filled transport channels and the creation on its basis of the outputs of the electron beams used for the nanomaterial creation, metal cutting and welding (Tomsk State University of Control Systems and Radioelectronnics, Nanotechnology center "Sygma. Tomsk", Advanced Beam Technologies LLC)

PLATFORM'S COMPETITIVE ADVANTAGES

- Preparation of marketing reports of perspective markets
- Export support of the accelerators and centers on its base (negotiation with representatives from Cuba and Iran)
- Development of standards (4 standards were approved for the electron beam sterilization of food and agriculture products)

INTERNATIONAL COOPERATION

- Radtech Association collaborates with following foreign associations: International Irradiation Association and Radtech Europe
- Negotiating with the representatives of Cuba, Iran on the supply of Russian accelerators

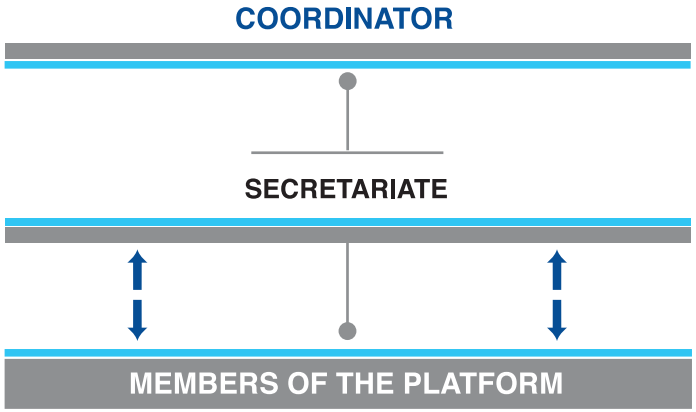
THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
17-19.10.2017	RadTech Europe Conference and Exhibition
05-07.03.2018	NICSTAR International Conference on the Advanced Applications of Radiation Technology
29.04-04.05.2018	The 9th International Particle Accelerator Conference IPAC'18
June 2018	Round table at Startup Village 2018
October 2018	Scientific-practical conference "Radiation technologies. Nuclear medicine"

Intellectual energy system of Russia

Creation date	Coordinator Of the platform	Co-initiators:
November 17, 2010	Federal State Budgetary Organization “Russian Energy Agency” (REA) of the Energy Ministry of the Russian Federation	Federal State Budgetary Organization “Russian Energy Agency” (REA) PJSC Federal Grid Company of the Energy Ministry of the Russian Federation

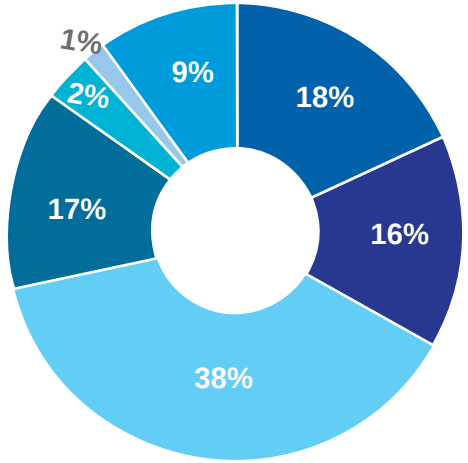
THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM



KONEV ALEXEY,
Innovation Director fsbi
Russian Energy Agency of the Energy Ministry
of the Russian Federation

THE PLATFORM MEMBERS

The Platform includes 210 members



- Educational institutions
- Research and project organizations
- Consulting, engineering and service company
- Productions company
- State body
- Financial-credit and state development institutions

Contact information:
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E-mail: info@rosenergo.gov.ru

Official website: www.rosenergo.gov.ru

Intellectual energy system of Russia

PLATFORM'S KEY DIRECTIONS

1. Develop implementation mechanisms to ensure compliance on a continuous basis functions TP IES in the interests of its members;

2. Coordination of TP IES with STI «Energinet», innovative development programs and R & d participants of TP IES;

3. Development/ updating of strategic documents of TP IES, including solid strategic vision for the development of smart technologies in the energy sector of Russia, the strategic studies subject to the provisions of the Concept of the national project «smart energy system of Russia»;

4. Interaction with the Ministry of education and science in the formation of the work the topic of intelligent networks of the State program «Development of science and technologies» for the period 2014-2020;

5. Organization of work on the structuring of projects on the subject of TP IES and financing (co-financing).

PLATFORM'S COMPETITIVE ADVANTAGES

● Developed relationships with relevant authorities, professional market participants and infrastructure organizations in the energy, development institutions

● An extensive panel of industry experts

● The availability of updated information on trends and projections of the technological development of the sector

PLATFORM'S COMPETITIVE ADVANTAGES

1. Monitoring and analysis of smart energy development in Russia and in the world

2. Assessment of the readiness of power companies to implement smart energy technologies

3. Examination of projects and programs in the development of smart energy

4. Development (harmonization) standards for development of smart energy technologies

5. Project development, expertise of normative legal acts aimed at supporting the technology development of smart energy

6. The development of professional standards in the field of smart energy

THE COMPLEX FULL-CYCLE PROJECTS REALIZED BY SEVERAL PARTICIPANTS OF THE PLATFORM

● Project «smart energy system of Russia»

● The national project «Digital substation»

● The project "Development and implementation of superconducting technology in the Russian energy sector"

INTERNATIONAL COOPERATION

Participation in the working agreement of the International Energy Agency on the program of cooperation in the field of intellectual networks ISGAN

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

● Development and implementation of digital electrical substations and stations on the newly constructed and reconstructed objects of power;

● Creating interconnections at 220 kV between UES Siberia and UES East through Transbaikal Converter system on the SS «Sankt-Peterburg» (SBPC);

● Creation of a high-temperature superconducting (HTSC) DC cable line for a voltage of 20 kV with a current of 2500 A with a length of up to 2500 m;

● The creation of the infrastructure of electric transport in the city of Moscow;

● Creation of a comprehensive automation system for 15 kV distribution networks of "Yantarenergo" (SMART GRID);

● Creation of an active-adaptive distribution network 10-110 kV in the territory of St. Petersburg;

● Creating a monitoring and managment system of the electric power in the four pilot *enterprises* of main electric networks – Khabarovsk, Amur, the Trans-Baikal and Krasnoyarsk.

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2018 YEAR

Period	Name of event
2018	Participation in the International Forum on Energy Efficiency and Development "Russian Energy Week-2018"
2018	Round table on "Federal initiatives in the field of intelligent energy" in the framework of the forum "RUGrids"

Environmentally friendly thermal power sector of high efficiency

Creation date	TP Coordinator	TP Initiators	Legal form
April 1, 2011	JSC “All Russia Thermal Engineering Institute” (JSC “VTI”)	Ministry of Energy of the Russian Federation, PJSC Inter RAO	No

TECHNOLOGICAL PLATFORM STRUCTURE

PARTICIPATING ORGANIZATIONS

Council of the Platform Participants

Platform Coordinating Council

JSC «VTI», Coordinator of the Platform

Technology Platform Directorate

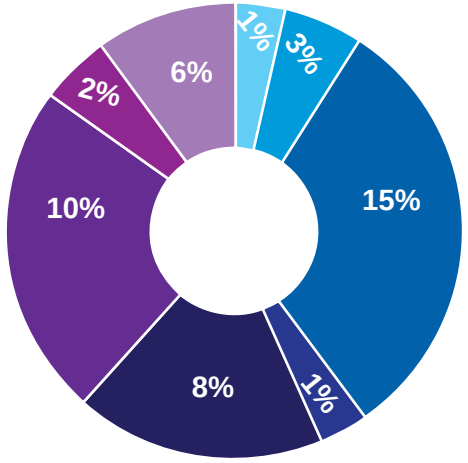
1. Technology Corridors
2. Road map.
3. Strategy research Programme
4. State politics, legislative, statutory and Regulatory Aspects of Innovations. Standartization and certification.

Expert Council of the Platform

BORIS F. REUTOV
Co-ordinator of Platform
Senior Vice-President of JSC “VTI”

PLATFORM MEMBERS

The Platform includes 52 members



Contact information:
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Tel.: +7 (495) 234-76-30
E-mail: vti@vti.ru

Official website: www.tprusenergy.ru

Environmentally friendly thermal power sector of high efficiency

PLATFORM'S KEY DIRECTIONS

Domestically- produced gas turbines (GT) and combined cycle gas turbine (CCGT) Units unit with efficiency of ≥ 60 %.

2. Combined heat and power plants of high efficiency, reliability and flexibility with a single-unit capacity in the range of 100 MW - 170 MW, designed for construction of new CHP plants and modernization of the existing plants.

3. Development of combined-cycle plant modules with a single-unit electrical output capacity in the range of 20 up to 100 MW, designed for supplying the cogenerated electricity and heating power from CHP plants of towns and city disctricts.

4. Advanced ultrasupercritical coal-fired power plants with a single-unit capacity in the range of 660 MW up to 1 0000 MW and efficiency of 45–47%.

5. The development of coal-fired power plants of new generation with a single-unit capacity in the range of 100–200–300 MW based on modern fuel combustion technologies of high efficciency.

6. Development, scaling-up and commercial exploitation of up-to date pollution control equipment for power plants, such as fly ash hadling systems, desulphurization units, flue gas denitrification plants as well as CO_2 capture and utilization technologies.

7. Hibryd-type power generation units combining fuel cells and turbine systems

PLATFORM'S COMPETITIVE ADVANTAGES

1. High expert potential: TP possess all competences required for implementation of the most complicated projects in the power sector; among its members are RD institutions, manufacturing enterprises, design and engineering companies, universities and financial institutions.

2. High level of TP member competences from the redearch community: most of them are the leader with a wealth of experience in R&D and implementation of integrated multi-purpose projects.

3. Availability of infrastructure that allows to solve the most complicated S&T problems: state-of-the-art equipment, istruments and accredited test-benches, jointly used research centers.

4. Mechanisms provided by Technology Park.

PLATFORM'S CAPABILITIES

1. Organization of jointly implemented R&DD projects aimed at the development of advanced technologies and process equipment.
2. Systematization and other emgineering services related to approbation and adaptation of new equipment for commercial exploiation.
3. Access to information collected from power generating enterprises and built-up data bases, comprehensive analysis of the obtained data, consultation activities.
4. Engineering design activities, including implementation of typical and individual engineering design projects related to introduction and explotationof new technologies and process equipment.
5. Expert evaluation of R&DD projects, R&D and Innovative Development Programmes in the interest of power companies (TP members).
6. Expert evaluation, testing (including certification tests) and other certification activities.
7. Development of federal/industrial/corporate standards.
8. Training and Educational activities: degree education (higher education, post graduate courses), upgrading qualifications, re-education, dissertation councils.
9. Development of educational programs in collaboration with industrial partners.

THE COMPLEX COMPLETE-CYCLE PROJECTS IMPLEMENTED THROUGH COLLABORATION OF TP PARTICIPANTS

1. The development of technological standards for power sector, including national standards, environmental requirements to be met by a new poer plant tp be put into operation, establishing specific emmisision limit values.
2. Development of scientific and technical solutions and control techniques to manage the CCGT combustion chamber modes with a view to improve its enegy efficiency and environmental performance.
3. Technical solutions for development of an A-USC heavy-duty coal-fired power unit.
4. Working –out solutions for improving efficience and environmental parameters of the coal-fired power plants – through use of FCB boilers, more efiicent combustion technologies and others.
5. Engineering development and commercialization of the upgraded gas turbine unit – GTD-110 M.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY TP

1. Development of the cogeneration units for supplying heat and power to meet the needs of towns and city districts.

2. Development of advanced gas turbine units and CCGT units of high flexibility to be used within the peak load curve.

3. New technical solutions and control techniques to manage the CCGT combustion chamber modes with a view to improve its enegy efficiency and environmental performance.

4. Development of a technological solutions for environmentally friendly low-emission burners designed for a boiler of a coal-fired plant.

5. Development of new generation coal-fired CHP plants with improved technical and economic performance parameters designed for replacement of the currently-operated equipment and construction of new power plants.

6. R&D with the view to create domentically-produced pollution control systems (such as fly ash hadling systems, desulphurization units, flue gas denitrification plants) as well as technologies for carbon capture and its further utilization.

7. Improving flexibility of steam gas and CCGT power plants.

8. Dvelopment of systems for on-line monitoring and diagnosing the technical conditions of the thermal and mechanical equipment at power plants

9. R&D aimed at development of up-to-date heating supply systems, with development of the related equipment.

THE MAIN TP EVENTS

Period	Name of event
November 2017	8th International Conference "Equipment Vibration, Vibration Adjustment, Monitoring and Diagnostics"
April 2018	International S&T Confernece on CCGT waste-heat boilers exploitation: the problems, best practices and prospects
June 2018	V International Conference on use of solid fuels for efficient and environmentally friendly electricity and heat production
September 2018	65th S & T Session on gas turbine issues: the Annual meeting of the Gas Turbine Council.
October 2018	III International Conference "New energy technologies and their prospects"

Perspective renewable energy technologies

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
November 24, 2010	JSC “RusHydro”	JSC “RusHydro”	Without a legal entity

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

THE MANAGING COMMITTEE

Advisory Council

WORKING GROUPS

- Hydropower
- Tidal waves and currents
- Solar energy
- Hydrogen energy
- Energy supply system
- Wind energy
- Geothermal energy
- Energy storage devices
- Other types of energy storage

Management

ELISTRATOV VIKTOR
Member of the UK Platform, Head of the Department SPbSPU

KALINKO OLEG
Coordinator Of The Platform, Member of the management company of the platform Head of the direction electrical power engineering and solid fuel of UK “RUSNANO”

KOZLOV, MIKHAIL
Member of the management company of the platform

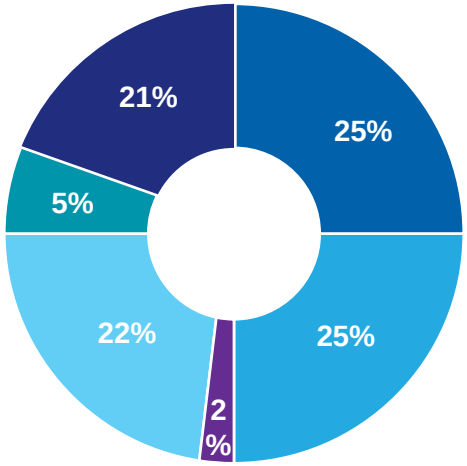
REUTOV BORIS
CEO OJSC “VTI”, Member of the management company of the platform

SOROKOVIK DANIEL
The Deputy coordinator of the Platform, Leading expert of Department of innovation development, JSC “RusHydro”

KHAZIAKHMETOV RASIM
Member of the management company of the platform

THE PLATFORM MEMBERS

The Platform includes 139 members



- Business structures
- Higher education institutions
- Foreign organizations
- Research universities
- Non-profit partnerships
- Planning organizations, engineering and service companies

Contact information:
Address: Russia, 127006, Moscow, Malaya Dmitrovka str., 7

E-mail: info@i-renew.ru

Official website: www.i-renew.ru

Perspective renewable energy technologies

PLATFORM'S KEY DIRECTIONS

- Hydropower (including large);
- Wind energy;
- Energy of tides, waves and currents;
- Solar energy;
- Geothermal energy;
- Energy storage devices;
- Hydrogen energy;
- Other renewable energy technologies;
- Systems of energy supply on the basis of complex use of renewable energy sources..

PLATFORM'S COMPETITIVE ADVANTAGES

The goal of the Platform is to unite the efforts of government, business, financial institutions and development institutions, scientific and design communities, educational institutions in creating conditions for renewable energy development, introduction of highly efficient generation technologies based on renewable energy sources (RES), increasing the competitiveness of the products and services of renewable energy in the Russian and world markets.

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

- Execution Platform as a non-profit organization
- Attracting funds from the budget and extrabudgetary sources for the implementation of priority projects of the Platform
- Participation in the International forum on renewable energy (REENCON-2017)

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

- Updated the Strategic research agenda of the Platform (www.i-renew.ru/program).
- Participants of the Platform are 26 projects for a total amount of about 1,5 billion rubles, in accordance with the directions outlined in the Strategic research agenda. Financing of projects carried out at the expense of extrabudgetary sources, as well as within the Federal program «Research and development on priority directions of development of scientific-technological complex of Russia for 2014-2020».
- Regular analysis of the proposals of the working groups on scientific and technological areas of the Platform, the implementation of the selection of proposals for their compliance projects, and objectives of the strategic program of research and development Platform, including for possible participation in the Federal program of IR.
- Conduct regular scientific and technological workshops with heads of working groups of the Platform.
- In cooperation with the joint Institute for high temperatures of RAS, Moscow power engineering Institute conducted industrial practice of students of Moscow power engineering Institute in the laboratories of the joint Institute for high temperatures Russian Academy of Sciences.
- Under the auspices of the Platform held an international conference «Renewable energy XXI century: energy and economic efficiency» REENCON-XXI (www.reencon-xxi.ru/).
- With the active participation of the Platform held a number of educational acceleration events in the field of modern power generation (Power&Energy) for technological entrepreneurs of various stages within the accelerator «GenerationS», including:
  - participation of employees of the companies-corporate partners of the track Power&Energy in business and technical examination of projects and mentoring sessions.
  - organization of seminars and expert sessions with project teams of innovation projects to assess the potential implementation of the proposed technologies and technical solutions, seminars;
  - providing informational, consulting, organizational and PR support in the implementation of programs and projects.
- News and documents of the Platform are published on the official Internet portal of the Platform «TPWI.RF» and «i-Renew.ru» (www.i-renew.ru/) and on the page of social network facebook (www.facebook.com/PTofRES/).
- Carried out information support of the Internet magazine «the Fifth element» and «Technology platform».

Small distributed energy

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
April 1, 2011	NCP « Distributed energy»	Agency for forecasting balances in electric power industry INTER RAO UES, Russian Read and Bioenergy society	Ex: non-profit partnership

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

The General meeting of TP «MRE» (consortium)

The co-chairs of TP «MRE»
Fsbi «REA» **(I.S. Kozhukhovsky)**
Subcommittee on MRE of the state Duma of Russian Federation **(S.Y. Esakov)**
Jsc «INTER RAO UES»
NP «Russian peat and bioenergy society» **(A.A. Bochenkov)**

Advisory Council
Representatives of relevant research institutes and design agencies, major energy companies, manufacturers of energy equipment, non-profit associations, promoting distributed energy in Russia (32 participants)
Chairman – **O.S. Popel**

Coordinating Council
Fsbi «Russian energy Agency»
Jsc «INTER RAO UES»;
NP NP «Peat and bioenergy society»;
RRC «Kurchatov Institute»;
JSC «MC «UEC», the Yaroslavl region Government,
OJSC «Yaroslavl Generating Company», etc.

Non-commercial partnership «Distributed energy»
Coordination of the Technology Platform (Protocol coordination Council dated 21.02.2014 № 6
Coordinator - O.A. Novoselova
(General Director of «Distributed generation, Vice President of NP «ER»)

I. KOZCHUHOVKIJ
Co-chair of the Platform

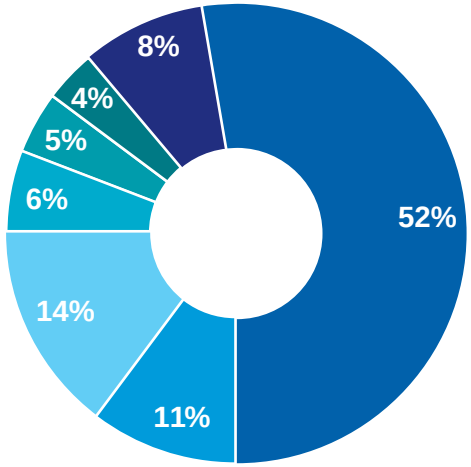
S. ESYAKOV
Co-chair of the Platform

A. BOCHENKOV
Co-chair of the Platform

O. NOVOSPELOVA
Co-chair of the Platform

THE PLATFORM MEMBERS

The Platform includes 25 members



Production enterprise
Research organizations
The design of the organization, engineering and service companies
Educational institutions

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E-mail: noa@ds-energy.ru

Official website: *В разработке*

Small distributed energy

PLATFORM'S KEY DIRECTIONS

● coordination of work (communication platform) for development of innovative sector of the Russian energy industry - small scale distributed power generation;

● promotion of the best Russian technologies and projects in the field of small distributed energy (including in collaboration with financial institutions and development institutions (RUSNANO , RVC, the Fund for the development of the industry., SKOLKOVO, etc.)

● assistance to interested organisations promotion at the Federal and regional levels of integrated projects in the field of distributed energy, including in the framework of the Working group of the energy Ministry on the implementation of smart energy systems and government initiatives «EnergyNet»

● organization of interaction of the organizations - members of TM in companies with state participation (JSC «Inter», JSC «RusHydro» , JSC «rosseti», RAO «UES of East» on the promotion of the most promising developments in the framework of innovative programs of state-owned companies

PLATFORM'S COMPETITIVE ADVANTAGES

● coordination of efforts of business, science, government agencies , financial institutions in development of innovation sector of the Russian energy - distributed energy.

● assistance to interested organizations, companies (groups of companies) in cooperation with Federal and regional authorities, development institutions to promote the most promising developments and projects in the field of low distributed energy.

● identify and develop to the stage of loan financing and/or subsidies for highly efficient investment projects, facilitating interaction with Russian and international financial institutions («industry development Fund «, «WEB», «SKOLKOVO», «RVC», etc.), search of the interested strategic investors, the formation of sustainable business structures, implementation of functions of «integrator» integrated projec

THE COMPLEX FULL-CYCLE PROJECTS REALIZED BY SEVERAL PARTICIPANTS OF THE PLATFORM

«Automated energy-technology complexes of modular type, as the basis for the creation of highly efficient industrial processing of natural raw material and technogenic wastes «(NRC» Systems – Inegrated in the consortium)

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

● a meeting of the Expert Council on Legislative Regulation of Distributed Energy, including the RES of the Energy Committee of the State Duma of the Russian Federation (May 25, 2017)

● organized and held (February 20, 2017) Round table of the Committee on Energy of the State Duma of the Russian Federation "Distributed energy as an important area of modern energy"

● participated (with a report) in the preparation and conduct of the Meetings of the Coordinating Council on Energy, Energy Saving and Energy Efficiency of the Association of Interregional Social and Economic Cooperation "Central Federal District" on the issue "Development of distributed energy and its role in the implementation of investment projects (July 3, 2017)

● took part in the preparation and conduct (with a report) of the Round Table of the Analytical Center under the Government of the Russian Federation "Features of Distributed Generation Development in Russia" (September 20, 2017)

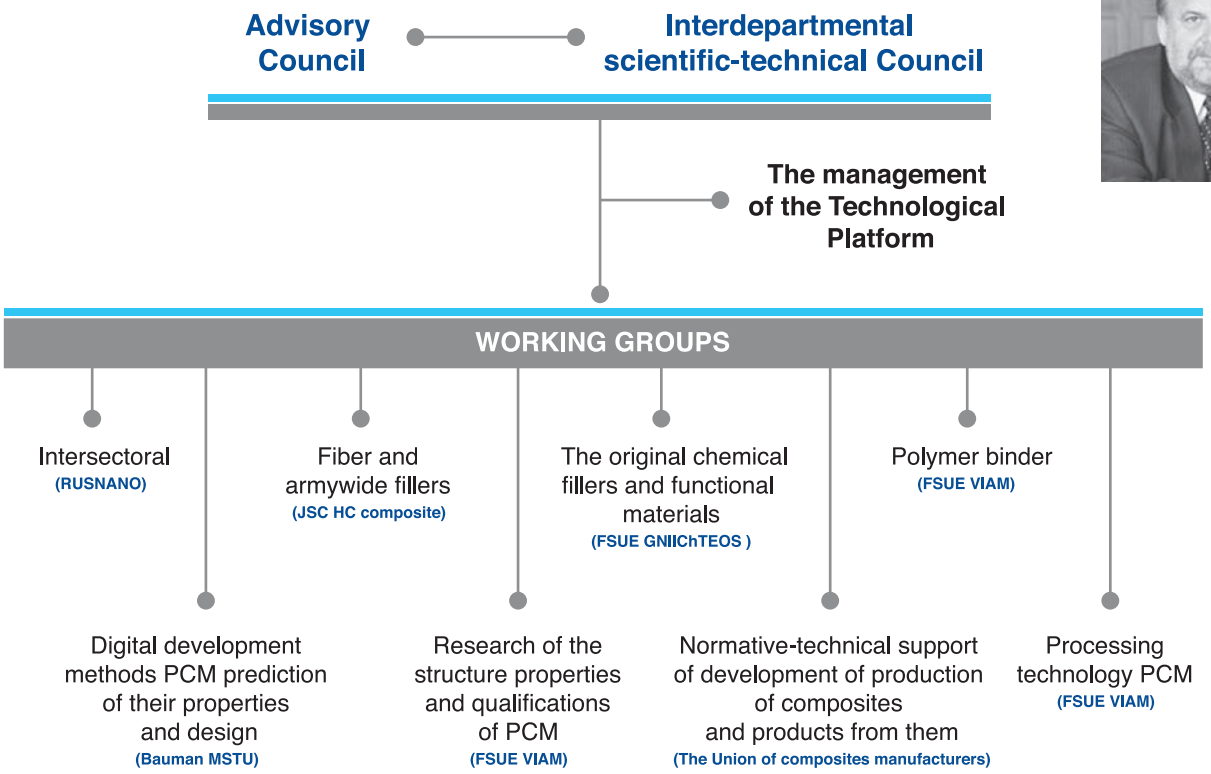
THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2018-2019 YEARS

Period	Name of event
February 2018	A session of the expert Council of the energy Committee of the State Duma on the development of base of small distributed energy.
January 2018 – December 2018	Interaction with financial structures (banks , funds) and development institutions (SKOLKOVO , RUSNANO, RVC, FRP) in order to promote the most promising developments of the organizations - members of TP "Small distributed energy"
February 2018 – March 2018	Round table of the State Duma Energy Committee on the development of distributed energy

New polymeric composite materials and technologies

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
13 Jun 2013	FSUE “VIAM”, OJSC “RUSNANO”, JSC “HC “Composite”, State Corporation “rostec”	state Corporation “Russian technologies”, Federal state unitary enterprise “VIAM”, Russian Academy of Sciences, state Corporation “Rosatom”, JSC “RUSNANO”, JSC “HC “Composite”	Non-profit partnership

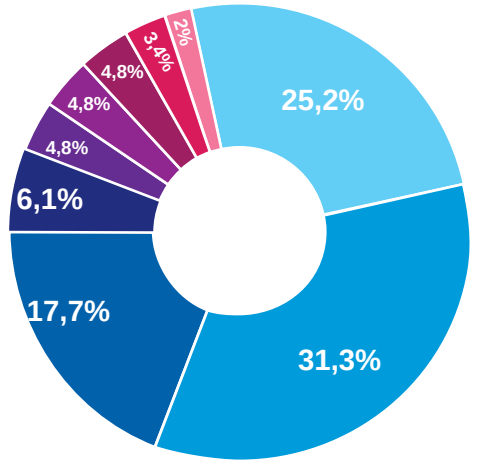
THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM



CEO FSUE VIAM
KABLOV E.N.

THE PLATFORM MEMBERS

The Platform includes 147 members



Contact information:
Address: FSUE “VIAM”, 10500, Moscow, Radio str., 17

Tel.: +7 (499) 263-88-75
E-mail: tppkm@viam.ru

Official website: тппкм.виам.рф

New polymeric composite materials and technologies

PLATFORM'S KEY DIRECTIONS

● The formation of a single promyshlennovskiy platform for the development, production and the use of polymer composite materials and designing products for various industries;

● Attracting results fundamental and fundamentally oriented research institutes of the Russian Academy of Sciences, public research centers and institutions of higher education for the achievement of the strategic scientific, technological and industrial tasks;

● Development and implementation of training plans and educational programs for the preparation and retraining of specialists engineering, scientific composition, professional workers and management personnel recruitment and retention in enterprises and organizations of the industry promising young specialists and scientists;

● Significant cost reduction materials, processes and energy consumption, increase productivity through the implementation of new technological approaches, reduction the cost of polymer composite materials and significant the expansion of their functionality;

PLATFORM'S COMPETITIVE ADVANTAGES

Technology platform formed as the main tool implementation of the Concept «Development production of new polymeric composite materials» project which developed by the Ministry of industry and trade of the Russian Federation in accordance with the decision of 09.06.2010, №1 Of the Council of General and chief designers, leading scientists and experts in the field high-tech sectors of the economy.

THE COMPLEX FULL-CYCLE PROJECTS REALIZED BY SEVERAL PARTICIPANTS OF THE PLATFORM

The project «Heat supply» (JSC «HC «Kompozit»)

The aim of the project is development of technology of production of pipes from polymer composite for main and distribution heat supply networks, hybrid plastichnosti pipe of high hardness, and composite large diameter pipes resistant to aggressive media and composite pipes with elements of diagnosis.

The project «Showcase» (JSC «GNIIChTEOS»)

The aim of the project is to develop technologies for obtaining structural and functional composite materials of new generation and design considerations for a shock-resistant, vandal-resistant architectural glazing structures, and also mastering the production. of high-tech products based on the technological solutions.

The project «ARKA» (FSUE «VIAM»)

The aim of the project is to develop technologies for production of composite materials of new generation and design solutions for use in the construction of prefabricated bridges using as the aerial parts of the supports of the arch elements and the profiled decking, as well as development of production of high-tech products based on the technological solutions.

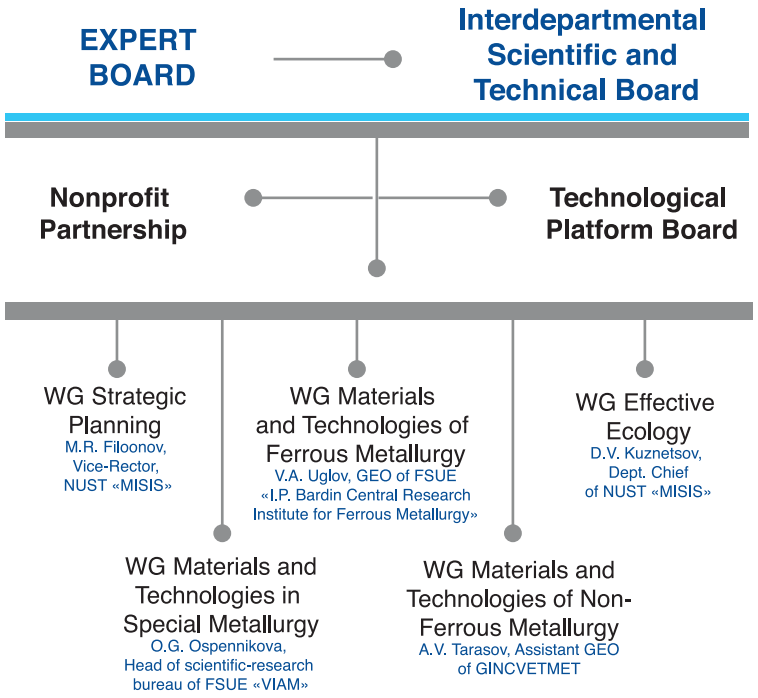
THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

Technological platform «New polymer composite materials» performs work in support of the (examination of the obtained results, coordination of scientific research) Routines «Development of production of composite materials (composites) and products from them» state program of the Russian Federation «Development of industry and increase of its competitiveness».

Materials and technology in metallurgy

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
June 13, 2013	FSUE “VIAM”, NUST “MISIS”, FSUE “I.P. Bardin Central Research Institute for Ferrous Metallurgy”	MINPRMTORG OF RUSSIA, SC Rostec Corporation, FSUE “VIAM”, Russian Academy of Sciences, Managing Company «Aluminium Products», FSUE “I.P. Bardin Central Research Institute for Ferrous Metallurgy”, FSUE CRISM “Prometey”, The United Shipbuilding Corporation, SC “Rosatom”, NUST “MISIS”	Non-profit Partnership

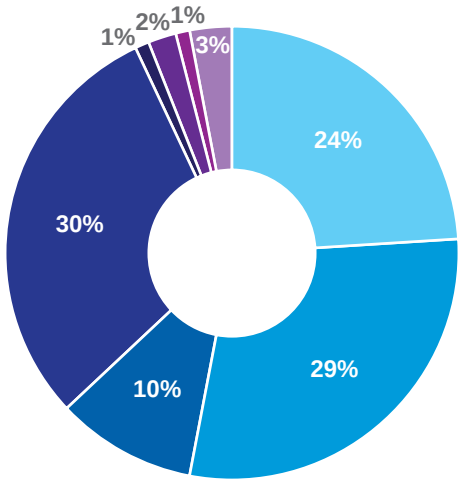
THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM



CEO FSUE VIAM
KABLOV E.N.

THE PLATFORM MEMBERS

The Platform includes 136 members



- Educational Institutions
- Scientific Organizations
- Experimental Design Bureau
- Manufacturing Organisations
- Public Authorities
- Public Corporation
- Foreign Companies
- Other Members

Contact information:
Address:
NUST “MISIS”: 4 Leninskiy Prospekt, Moscow, 119049
FSUE “VIAM”: 17 Radio St., Moscow, 105005

Tel.: +7 (495) 638-45-33
E-mail: science@misis.ru
Tel.: +7 (499) 261-86-77
E-mail: inno@viam.ru

Official website: www.tpmtm.ru

Materials and technology in metallurgy

PLATFORM'S KEY DIRECTIONS

- Development of theoretical foundations, materials methodologies and production technologies
- Development of new generation materials with enhanced features
- Development of resource-saving and energy-efficient technologies in metallurgy
- Composite materials with metal and by intermetallic matrices

Modern equipment technologies

- R&D approach in the materials and metallurgy technologies

PLATFORM'S ABILITY

One of the features of the Technology Platform «Materials and Technologies in Metallurgy» is its organization to meet the state demands for research and development, technological and experimental designing, industrial prototyping to achieve the goals and strategies of sustainable development of the metallurgy with renewable resources for various industries.

PLATFORM'S COMPETITIVE ADVANTAGES

There is a new class of complex high-alloyed austenitic nitrogenous steel with anticorrosion in inorganic and bioactive environment and with special properties.

There is a prototyped created pf cascade solar elements based on metal-organic perovskite compounds for converting solar energy into electricity with over 15% of power efficiency with planned figures over 20% NUST "MISiS"

THE COMPLEX FULL-CYCLE PROJECTS REALIZED BY SEVERAL PARTICIPANTS OF THE PLATFORM

Non-model technology of producing of large size castings with thin walls of titanium alloys, implemented on the base of large sized titanium casting that helps to get cast parts without environmentally harmful metal surface dump operations. Through an initiative of the Public Joint Stock Company Ufa Engine Industrial Association (PJSC UMPO), the National University of Science and Technology MISIS, in cooperation with Ufa State University of Aviation Technology (USUAT).

An integrated industrial technology to extract neodymium and rare earth elements of the moderate group. Realization of the project helped industrial implementation of the technology and practice to build a competitive industrial production of high-energy magnetic materials in Russia capable to provide effective recycling of technological waste at the same time. The project was initiated by Rosatom State Atomic Energy Corporation in cooperation with NUST "MISiS"

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

Concentration of financial and administrative resources to create a modern new generation industry of materials production in respect of development and implementation of mass production of energy-efficient and resource-saving technologies in manufacturing and processing of structural and functional materials, as well as technical upgrade of metallurgical enterprises with robotic, automated and computerized equipment, including complete logistics cycle of production and processing from raw materials to the final and semi-finished products for various industries.

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

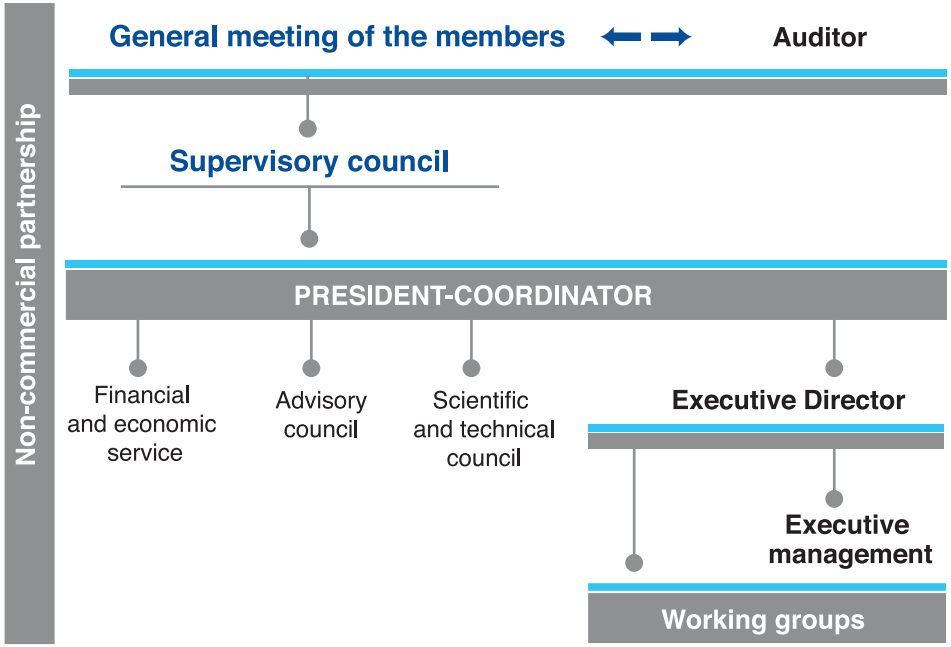
Period	Name of event
April 6-7, 2017	International Conference of Refractory Specialists and Metallurgists
May, 2017	International Conference on Crystal Physics and Deformation Behavior of Prospective Materials
September, 2017	International Conference on Permanent Magnets
October, 2017	XIV International Symposium on Self-Propagating High-Temperature Synthesis (SHS 2017)

Technology Platform of solid minerals

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
27.06.2013	FGBUN IPKON RAS	PJSC “SUEK” FGBUN IPKON RAS FGBOU IN Ural State Mining University FGBOU IN NMSU “Mountain”, FGBUN IGD UB RAS JSC SPC “Mechanobr Technique” FGBUN IGD SB RAS	Non-commercial partnership

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

PARTICIPANTS OF THE TECHNOLOGICAL PLATFORM



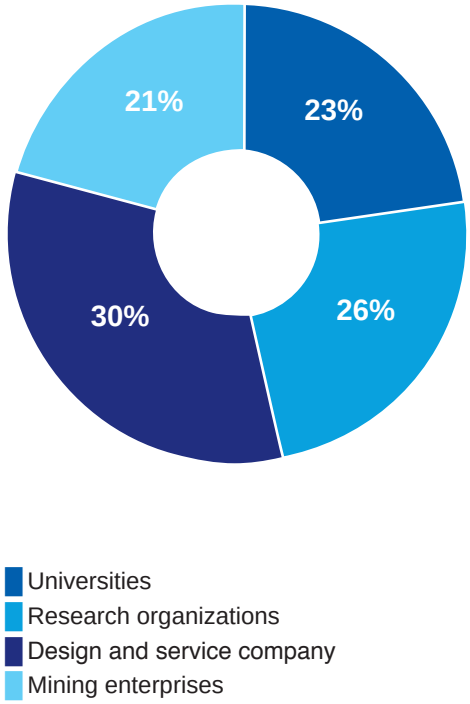
ZAHAROV VALERY
President - Coordinator
Director of the Russian Academy of Sciences IPKON
Corr. Russian Academy of Sciences, prof., Ph.D.

WEISBERG LEONID ABRAMOVICH
Chairman of the Supervisory Board
Chairman of the Board
JSC SPC “Mekhanobr - Technique”
Academician of Russian Academy of Sciences, prof., Ph.D.

ALEXANDER VARTANOV
Executive Director
Deputy. Director of the Russian Academy of Sciences IPKON

THE PLATFORM MEMBERS

The Platform includes 105 members



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Official website: www.TPTPI.com

Technology Platform of solid minerals

PLATFORM'S KEY DIRECTIONS

● examination and preparation of recommendations for projects in the mining profile;

● development of changes in the regulatory framework of industries, TPI;

● development of training programs and standards of certification training for industries, TPI;

● implementation of innovative projects in the sectors of solid minerals;

● organization of activities to improve participants ' communication industries, TPI;

● development of programs of development of the domestic mining engineering and mechanical engineering;

● management and protection of intellectual property.

PLATFORM'S ABILITY

● creation of energy efficient and resource saving technologies, providing, in their commercialization and implementation, the expansion of mineral resource base, increasing value-added products, productivity and competitiveness of enterprises of the mining industries of Russia;

● creation of conditions for the elimination of the backlog of Russia in the methods and volume of production of solid minerals in the future – achieving a leading scientific, technical and economic positions of enterprises of the mining industries of Russia;

● the accumulated potential of the research and development of the partnership members on a number of scientific and technical directions in the field of mining and deep processing of solid minerals undertaken at the global level, primarily in geomechanical and geodynamic research, development wellbore («ISR») mining methods of solid minerals, developing the fields of the poor and fine-ores.

PLATFORM'S COMPETITIVE ADVANTAGES

● knowledge mobilization partnership on the basis of cooperation together leading industrial and academic organizations and institutions in the formation and implementation of best national and international practices in the field of mining, dressing and deep processing of solid minerals;

● joint solution of applied tasks in the sphere of subsoil use by the members of the partnership, through the development of innovative technologies corresponding to the modern level of scientific and technological development, and removing barriers to collaboration on public - private partnerships.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

● Support of projects on scientific and technological security of mining operations and environmental management

● Preparation of a draft decree of the Government of the Russian Federation on approval of the program of state support for R & d and ODA in the field of exploration and mining in accordance with the list of machinery and equipment for the exploration and mining subject to import substitution.

● Participation in the international championship of engineering cases

● The development of the concept of transition of the mining industry on best available technologies. Participation in the preparation of cross-sectoral and information technology industry BREF

● The formation of the Eurasian technology platform «Production and processing of solid minerals»

The formation of a complex research program «mine Safety»

Edition of the Terminological dictionary «Mining».

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
02.2017	The formation of an integrated research programme "Safety in mining"
During the period	Participation in the implementation of an integrated research programme "Safety in mining"
02.2017–11.2017	Involved in the organization of the international championship of engineering cases 2017
02.2018–11.2018	Involved in the organization of the international championship of engineering cases 2017
09.2018	The formation of the cluster for the mining industry in the Kemerovo region (engineering center)
During the period	Implementation of projects "Smart mining", the Formation of methane centre

Hydrocarbon production and use technologies

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
23 November 2011	The non-commercial partnership Development of innovation fuel-energy complex «National Institute of Oil and Gas» (NP “NIOG”)	Gubkin Russian State University of Oil and Gas	Non-profit partnership

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

SUPERVISORY BOARD

Chairman of supervisory council NP “NIOG”
Kydryashov Sergey

Chief director of TP
Martynov Victor

Deputy director of TP Director of NP “NIOG”
Silin Mikhail

Academic Board

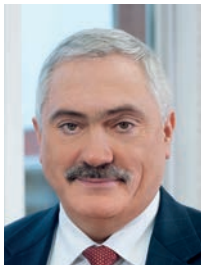
Expert board for directions

Expert board for the projects

Executive Commitee

Coordinator of the TP

Secretariat



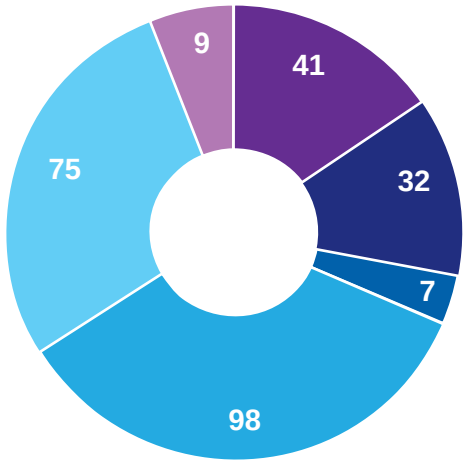
Chief director of TP
MARTYNOV VICTOR

Chairman of supervisory council NP “NIOG”
KYDRYASHOV SERGEY

Deputy director of TP Director of NP “NIOG”
SILIN MIKHAIL

THE PLATFORM MEMBERS

The Platform includes 262 members



41 Institutions of higher education
32 Scientific research institutes
7 Experienced and development offices
98 Project and service companies
75 Manufacturing companies
9 Foreign organizations

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Hydrocarbon production and use technologies

PLATFORM'S KEY DIRECTIONS

- The growth of hydrocarbon reserves;
- The increase of oil recovery efficiency;
- The intensification of oil production;
- Technologies APG utilization;
- Drilling and oil and gas fields development;
- Technology offshore fields development;
- Hydrocarbon production from unconventional fields.
- Equipment for oil and gas production.
- Hydrocarbon production from unconventional fields.

PLATFORM'S COMPETITIVE ADVANTAGES

TP is a voluntary association of participants that is based on the principle of equality regardless of their organizational and legal form and form of ownership. The only condition of accession to the TP is their agreement with purposes and objectives of the TP and part in their achievement.

PLATFORM'S ABILITY

- event management for interaction of the participants of TP with international organizations;
- development of scientific and innovation infrastructure;
- assistance in training and advanced training of scientific personnel and engineers;
- development of communication in scientific, technical and innovation sphere;
- development of mechanisms of regulation and self-regulation;
- selection and project expertise for the Federal target program "Research and development in priority areas of development of the scientific and technological complex of Russia.

THE COMPLEX FULL-CYCLE PROJECTS REALIZED BY SEVERAL PARTICIPANTS OF THE PLATFORM

- Joint meetings of Advisory Board for innovative development oil and gas industry (Ministry of Energy) and Technology Platform «Hydrocarbons production and use technology»
- Working meetings of the Platform participants with representatives of major oil and gas companies (PJSC «Gazpromneft», PJSC «Lukoil», JSC «Zarubegneft», etc.)
- Creation of a working group on the development a program of increased oil production
- Creation of working groups on standardization in the oil and gas industry
- Creation of working groups on the development of professional standards
- Launch of a quarterly electronic magazine «Technology of production and use of hydrocarbons»

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

- Creation of the National Oil and Gas Electronic Library
- Creation of information resources: oilring.ru, tp-ning.ru, electronic magazine «Technology of production and use of hydrocarbons»
- Creation of the All-Russian Center for collective use
- Creation of expert councils
- Creation the collection of developments for oil and gas industry
- Development of professional standards
- Creation of the Road map for innovation in oil and gas industry
- Creation of the catalog of innovative developments of participants

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
during 2017-2018	Meeting of the Technology Platform "Technology of production and use of hydrocarbons," with the support of the Ministry of Energy
October 2017-2018	Exhibition-Forum "Open Innovation"
November 2017	International Exhibition-Forum of equipment and innovative solutions for the oil and gas industry and the extractive industry "Exploration, production, processing 2017"
November 2017	International Industrial and Economic Forum "Unification Strategy: Solution of relevant problems of oil and gas and petrochemical complexes at the present stage"
December 2017-2018	Annual National Exhibition «VUZPROMEXPO»; Spend meetings of participants TP with representatives oil and gas companies (PJSC «Gazpromneft», PJSC «Lukoil»,PJSC «Rosneftl», PJSC JSOC "Bashneft", JSC«Zarubegneft», etc.) with a view of identifying strategic directions researches which are claimed by the companies and a view of getting acquainted with the Programs innovative development of companies.

Deep processing of hydrocarbon resources

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
April 1, 2011	OJSC VNIPIneft	Russian Academy of Sciences A.V.Topchiev Institute of Petrochemical Synthesis, RAS, Institute of Problems of Chemical Physics,RAS, Boreskov Institute of Catalysis,RAS, PJSC «Rosneft», OJSC “Tatneftekhiminvest-holding” PJSC «Gazprom Neft» PJSC «SIBUR», OJSC VNIPIneft	Non-commercial partnership

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

THE GENERAL MEETING OF PARTNERSHIP MEMBERS

The scientific council

Bureau of technology platform

S. M. ALDOSHIN
Chairman of the scientific Council of the platform academician, Vice-President of RAS

V. M. KAPUSTIN
General Director of JSC “VNIPIneft” organization - coordinator of the platform

S. N. HAJIYEV
Member of the Bureau TP academician, Director of tips RAS

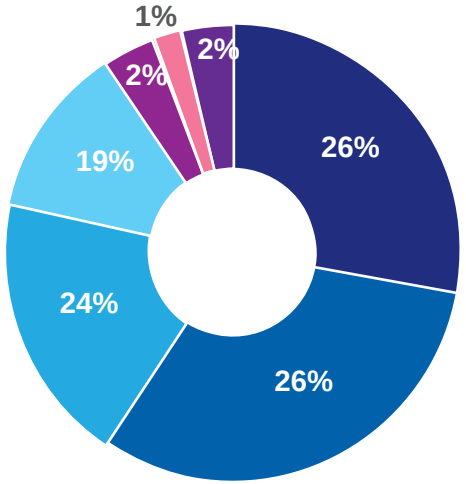
V. N. PARMON
Member of the Bureau TP academician, Scientific Director, IR, SB RAS

L. M. GOKHBERG
Member of the Bureau of TP Ph. D.,first Vice-rector, HSE

EXPERT GROUPS ON KEY DIRECTIONS OF THE PLATFORM ACTIVITIES

THE PLATFORM MEMBERS

The Platform includes 123 members



- Higher education institutions
- Scientific research institutes
- Manufacturing plants
- Other members
- Experimental design bureau
- Foreign companies

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Deep processing of hydrocarbon resources

PLATFORM'S KEY DIRECTIONS

- Processes and catalysts for processing of heavy oils and residual materials
- Production of environmentally friendly fuels, oils and additives
- Processes and catalysts for the production of monomers, intermediates and raw materials for the petrochemical industry
- Processes and catalysts for processing of natural and associated gas, production of hydrogen, synthesis gas and products based on them
- Processes and catalysts for the production of polymeric materials, including for extreme conditions
- Processes and catalysts for the production of composite materials

PLATFORM'S ABILITY

- Expert evaluation of projects
- Analyze the current state of the industry
- Participation in the formation of subjects of the Federal program «Research and development in priority areas...» Ministry of education and science
- Expert analysis of the feast of the companies with state participation
- Organization of round tables and conferences with the involvement of all stakeholders

PLATFORM'S COMPETITIVE ADVANTAGES

- The interaction between the leading universities, academic and branch institutes, the largest oil companies in the country, as well as the Federal bodies of Executive power.
- Created the largest database of domestic innovative developments in the field of oil and gas processing and petrochemistry.

THE COMPLEX FULL-CYCLE PROJECTS REALIZED BY SEVERAL PARTICIPANTS OF THE PLATFORM

1. Development and techno-economic analysis of the technology of complex processing of matrix oil with the maximum extraction of valuable products
2. Development of complex technology of processing of oil and vegetable raw materials to produce diesel fuels for Arctic and aviation kerosine
3. Development of technology for production of import-substituting catalysts of deep hydroperiod vacuum gasoil
4. The study of kinetics and mechanism of thermolysis of crude oil and the development of production technology of new forms of oil carbon (needle coke structure, additives coking)
5. Utilization of acid tar waste volume production refineries

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

Two project leading participants TP GUR received the status of «national project» in the field of energy:

- «Hydroconversion heavy crude oil with the aim of obtaining high-quality fuels, oils and feedstock for petrochemical processes»;
- «Catalysts for deep processing of oil raw materials (based on aluminum oxide)».

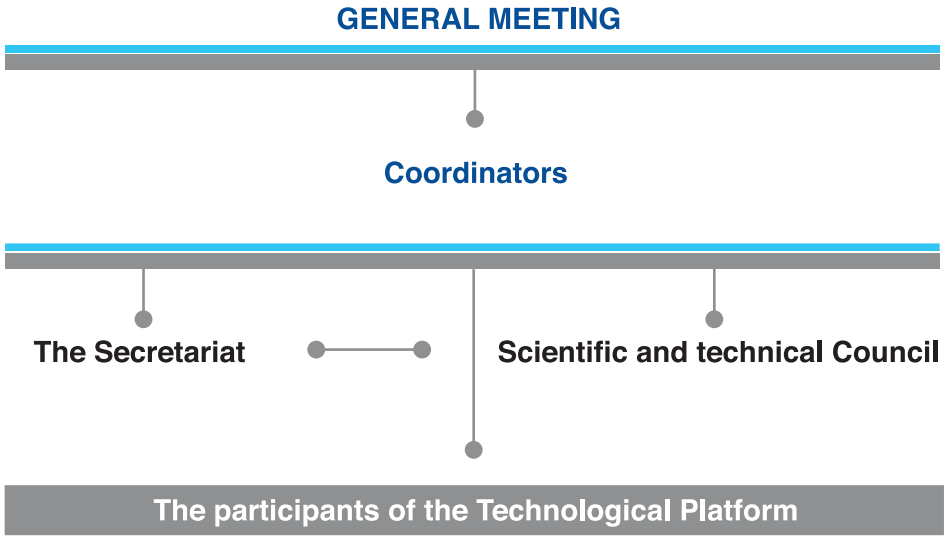
THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
November 2017	IX international industrial and economic Forum "the Strategy of enterprises: the Decision of actual problems of oil and gas and petrochemical complexes at the present stage" - the organizer – JSC "VNIPIneft", together with partners, Moscow

Technologies of mechatronics, embedded control systems, radio frequency identification and robotics

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
February 17, 2011	the Moscow Institute of physics and technology (MIPT), Federal state Autonomous scientific institution “Central research and experimental design Institute of robotics and technical Cybernetics” (RTC)	MIPT, RTC, JSC “RUSNANO”, JSC “breeze”	Association (in approval process)

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

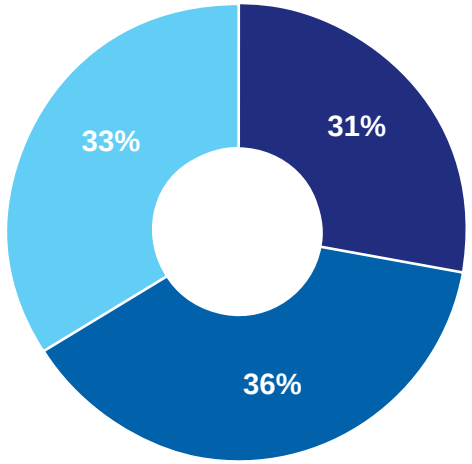


N. KUDRYAVTSEV
MIPT Rector

A. LOPOTA
Director-Chief Designer of the RTC Central Research Institute

THE PLATFORM MEMBERS

The Platform includes 122 members



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Address: RTC: Russia, 194064, Saint-Petersburg, Tikhoretsky prospect 21
MIPT: Russia, 141701, Moscow region, Dolgoprudny, Pervomaiskaya str., 5, K. 406

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Tel.: +7 (498)713-91-08
E-mail: tp@mipt.ru

Official website: www.tp25.su

Technologies of mechatronics, embedded control systems, radio frequency identification and robotics

PLATFORM'S KEY DIRECTIONS

1. Navigation, telematics and motion control.
2. Robotics, mechatronics and actuators.
3. The RFID technology.
4. And telecommunications services in parts of embedded control systems, RFID and robotics facilities.
5. Electronics and microprocessor «system-on-chip».
6. Sensors, vision systems, human-machine interfaces.
7. Technology information processing, software for embedded control systems, radio frequency identification, and robotics, technology of its development.

PLATFORM'S ABILITY

● Regular monitoring and analysis of the domestic and international level and application of emerging technologies in civil and defense sectors of the economy, the surveys of the current state of the industry.

● Timely support and coordination of production, scientific organizations and educational institutions for implementation of research and development, organization and production development and personnel training.

PLATFORM'S COMPETITIVE ADVANTAGES

1. Expanding the range of domestic scientific and technical products with a high knowledge-based component, and its integration into the civil sphere.
2. Improving the competitiveness of the industry by conducting research and development in the field of control systems, radio frequency identification, and robotics.
3. The creation and application of effective mechanisms of scientific-industrial cooperation between scientific, industrial organizations and universities, both public and commercial.
4. Creating opportunities for technology transfer, including foreign.
5. Activities in the field of publication of magazines and periodicals in the field of scientific research and production.
6. The involvement of the participants of the technological platform in public-private partnerships.
7. Development of standards and implementation of voluntary certification.
8. The collection and dissemination of information, creation of databases in order to assist members.
9. Improvement of legislation in the areas concerning the activities of the Technology platform, jointly with the authorized bodies.

THE COMPLEX FULL-CYCLE PROJECTS REALIZED BY SEVERAL PARTICIPANTS OF THE PLATFORM

The establishment of a universal collective rescue means a new type with the function of self-control for evacuation of personnel in emergency situations of natural and technogenic character on the Arctic shelf.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

● Development of base line of domestic intellectual pressure sensors with the aim of import substitution when building a high-tech control systems and automation.

● Development of design and production technology of micromechanical sensing elements for navigation systems of high accuracy.

● Development of a new generation of fast neural network learning means recognition of a wide class of chemicals (highly intelligent artificial nose) based on solid state gas sensing matrices.

● Development of advanced technologies and structures of a series of ICS for device control and management of important engineering systems and objects with increased requirements to protection of information and consumption, working in wireless sensor networks.

● Creation of experimental prototype Autonomous amphibious transport-technological complex with an intelligent system control and navigation for year-round carrying out reconnaissance drilling on the Arctic shelf.

● Experimental development of a medical centre for minimally invasive surgery vascular and oncological diseases on the basis of a laser coagulator and ultrasonic dopplerography.

● Development of 3D nanotechnology of formation of topological elements of the functional layers on the basis of local rentgenostrukturnyj processes of chemical deposition from the gas phase.

● Development of a multifunctional complex antijamming radio communication and radar detection of objects.

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
2017-2018	Part of the technology platform in exhibitions in embedded systems, mechatronics, robotics and radio frequency identification.
2017-2018	Round tables at exhibitions.
2017-2018	Working meetings with key enterprises of the real sector of the economy in the directions of the technological platform «Technologies of mechatronics, embedded control systems, RFID and robotics».

Microwave technologies

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
April 1, 2011	JSC “RUSELECTRONICS”	IMVSE RAS, JSC “Concern” Orion”, JSC “OIF behalf of Kozitsky”	Non-profit partnership

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

CONTROLS OF TECHNOLOGY PLATFORM «Microwave technologies»
Coordinator: JSC «Ruselectronics»

The Executive Department
(Management)

Advisory Council

Scientific and Technical Council

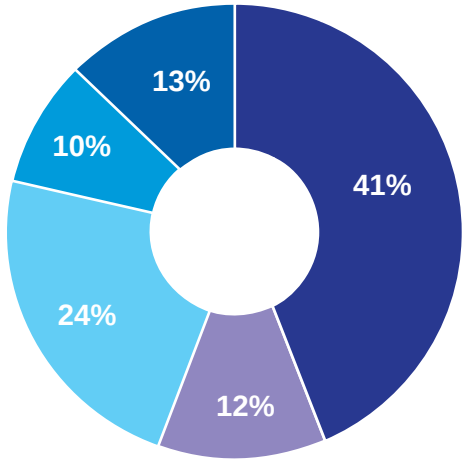
Expert Council

- Section of Development of the Strategic Research Program
- Section for general affairs, regulatory framework development and evaluation of innovative programs effectiveness
- Section of information of Technology Platform «Microwave technology» activity
- Section for consideration and approval of program of scientific and technological development of the participants of «MicrowaveTechnologies» Technology Platform

ARSENIY BRYKIN,
Deputy of GM –
State Secretary

THE PLATFORM MEMBERS

The Platform includes 69 members



- Joint-Stock Companies
- Public companies
- Educational institutions
- Scientific organizations of RAS
- Business structures (CJSC, LLC)

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avskurihin@ruselectronics.ru

Official website: www.isvch.ru/tp

Microwave technologies

KEY ACTIVITIES OF THE PLATFORM

- creating optimized heterostructures based on GaN and other wide bandgap materials (GaN, SiC, diamond) for power microwave (SHF) and EHF devices and radiation-resistant BEC;
- development and implementation of the technology for creating microwave and microwave transistors and other extreme electronics based on wide-band semiconductor materials;
- development of a functionally complete set of microwave and EHF MIC with operating frequencies up to 150 GHz;
- creation of solid-state pulse powerful amplifiers in the frequency range up to 18 GHz with an output power of up to 100 W and an efficiency of at least 65 %;
- development of industrial technologies for: producing high-resistance monocrystalline Si, bulk growth and epitaxy heterostructures layers SiC, GaN, Ga2O3, InP, InGaAs, SiGe and using GaN/Si and GaN/SiC to produce different classes of solid, semi-conductor devices;
- production development of heterogeneous technology integration A3B5 - CMOS and A3B5-N - Si;
- introduction of HTCC and LTCC technologies of multilayer circuit boards, metal-ceramic (Al2O3, AlN) frames of discrete models and devices;
- technology design of synthesis of new nano heterostructures by MBE for semiconductor high-power transistors and microwave MIC;
- gas-phase epitaxy technology design from organometallic compounds for the growth of metal films and dielectrics;
- research of nano heterostructures technology foundations of nitrogen containing solid solutions A3B5-N (GaPAsN and InGaAsN);
- R&D of technology of high-power semiconductor devices and MIC of microwave range based on «N- face» hetero epitaxial nitride nanostructures;
- development of technology of heterostructures Si/GaP/GaPAsN;
- development of high-efficiency technology of microwave conversion of petroleum gas and other wastes into useful products and materials

COMPETITIVE ADVANTAGES OF THE PLATFORM

Regular participation in exhibitions, publications and message monitoring the world's leading companies, organizations of meetings, round tables and consultations provide information to developers, manufacturers and consumers BEC and complexed systems for the best available microwave technologies.

Strategic research program of technological platform «Microwave technologies» is based on significant public policy and regulation documents of Russian Federation.

PLATFORM FEATURES

Definition of perspective directions of development of microwave technologies and products ensuring a significant improvement in the qualitative characteristics of microwave devices and providing the world leadership of Russian companies in this field.

COMPLEX FULL-CYCLE PROJECTS IMPLEMENTED BY SEVERAL PLATFORM PARTICIPANTS

Research work «Research of constructive and technological principles of making a broadband amplifier and generating microwave components based on wide bandgap semiconductors» (leading implementer: NRU MIEE).

R&D «Highly integrated elements of K-band receiver modules type «system on chip», performed as silicon nano heterostructure technologies for communication systems» (leading implementer: TUSUR).

R&D «Development of super-low noise microwave heterostructure transistor range of 0,5–18 GHz» (leading implementer: MEPhI).

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY THE PLATFORM

R&D «Development of the amplifier module in the range of 26-40 GHz on the basis of the lamp of a running wave». Implementer: JSC «SPE «Almaz».

R&D «Development and making a mass production on domestic enterprise of running wave lamps with high operating time to failure for the equipment of space communication repeaters». Implementer: JSC «SPE «Almaz».

R&D «Development and commercial production of sets of monolithic integrated circuits based on A3B5 nano heterostructures for transmitting and receiving modules of a high degree integration». Implementer: JSC «OKB-Planeta».

R&D «Development of a transceiver module for RIS-V3M sensor». Implementer: JSC «SPE «Istok» on behalf of Shokin».

R&D «Development and fabrication of complex measuring unit (CMU) prototype for continuous and non-separated measuring the amount oil, associated gas and produced water extracted from wells». Implementer: JSC «SPE «Istok» on behalf of Shokin».

R&D «Development of basic manufacturing elements of active MMIC technology HEMT-based heterojunction structures GaN / AlGaN with non-combustible ohmic contacts». Implementer: JSC «SPE «Istok» on behalf of Shokin».

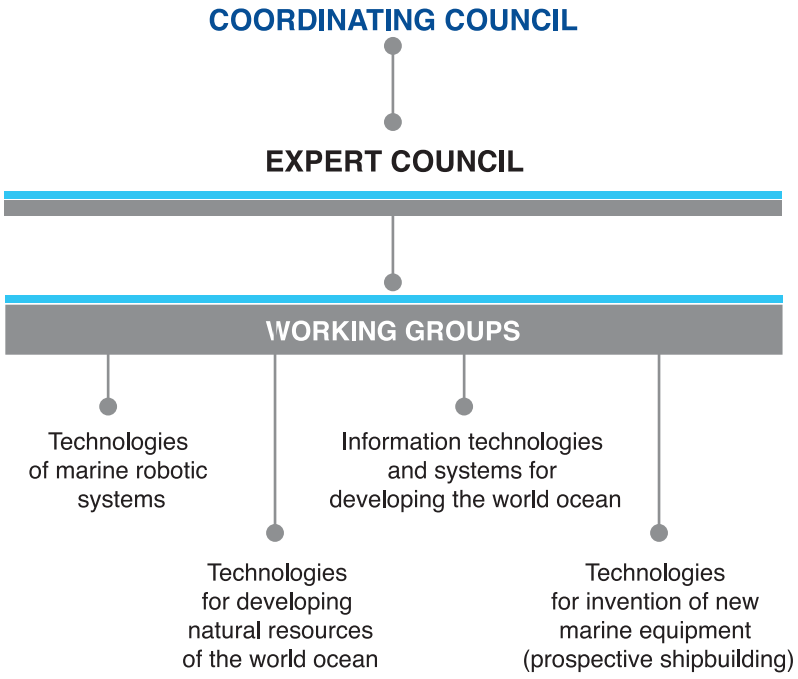
ANNOUNCEMENT OF THE MAIN EVENTS FOR 2017–2018

Period	Name of event
April 16-19, 2018	18th International Exhibition «Equipment and Technologies for Oil and Gas Complex» («Neftegaz-2018»)
May 2018	Scientific-Technical Conference «Microwave Electronics 2018»
April 17-19, 2018	«ExpoElectronica-2018» (participation in the exhibition)
August 21-26, 2018	«Army 2018» (Participation in the forum)
October 2018	«ChipEXPO-2018» (participation in the exhibition)
October 2018	XVI All-Russian Scientific and Technical Conference «Solid State Electronics. Complex functional blocks REE»
October 2018	«Interpolitex-2018» (participation in the exhibition)
October 2018	«Power Electronics 2018» (participation in the exhibition)
December 2018	VI annual national exhibition-forum «VUZPROMEXPO-2018»

Development of ocean resource

Date of creation:	Organizations - initiators and coordinators of the technological platform	Legal form
April 1, 2011	JSC Concern Morinformsystem - Agat, JSC United Shipbuilding Corporation, JSC Concern Marine Underwater Weapon - Gidropribor	An association is being formed from the organizations of the participants of the TP “Ocean Development” in Primorsky Krai

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM



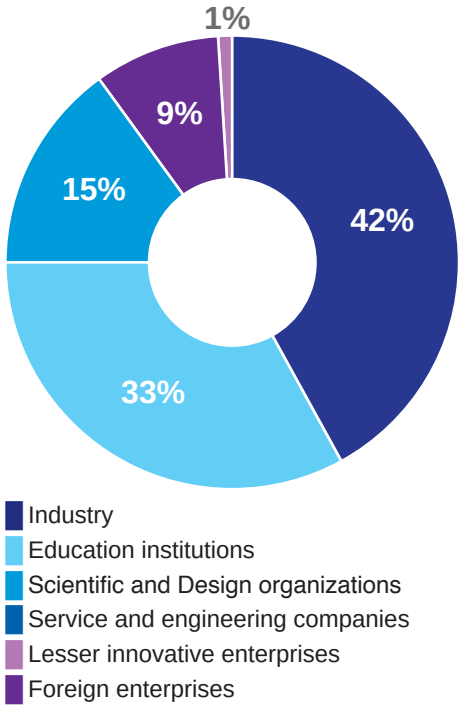
KOBYLYANSKY V. V.
JSC Concern Morinformsystem - Agat

KOLODIAZHNYI D. YU.
JSC “USC”

TRUSHENKOV V. V.
JSC Concern Marine Underwater Weapon - Gidropribor

THE PLATFORM MEMBERS

The Platform includes 67 participants



Coordination council members were approved in November 2016
Update of the Expert Council was completed in 2017

Re-registration of participants of the Technology Platform “Ocean Development” completed in 2017

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Development of ocean resource

THE PLATFORM KEY AREAS

- Marine robotic systems technologies:
  - technologies of creation the unmanned underwater vehicles (robots);
  - development and creation of infrastructure for marine underwater robotic systems;
  - technologies of creation the control structures, navigation and communication systems, information processing methods;
  - rescue techniques using the automatic devices;
  - mobile software and hardware for the full-scale testing new types of marine equipment and robotic systems..
- Development of natural resources of the ocean:
  - new technologies of automated production and transportation of raw materials
  - creationof technical equipment complex for the subsea and under-ice well drilling;
  - new generation technologies of building the subsea pipelines and communications;
  - automated processes of biological resource reproduction;
  - sea animals population automated monitoring technologies;
  - marine bionics.
- IT and systems for the development of ocean resources:
  - remote methods of sea state analysis;
  - space based communications;
  - creation of mobile automated systems for submarine trials
  - technology of deepwater stationary units creation, including underwater neutrino telescopes and power plants;
  - technologies of creation the systems and tools for automated subsea technological processes;
  - new technology of underwater communications.
  - perspective shipbuilding technology
  - building of underwater manned vehicles;
  - establishment and maintenance of deepwater vehicles and devices;
  - new systems of marine hydrocarbons transportation;
  - development of new marine geophysical investigation methods including the building of specialized vessels
  - the use of nanotechnology to create advanced ships and marine equipment;
  - creation of technical means of under-ice drilling;
  - development of air-independent propulsion based on closed-cycle Turboshaft.

THE PLATFORM COMPETITIVE ADVANTAGES AND CAPABILITIES

Interdisciplinary technological platform «Development of ocean resource» initiated by large industrial enterprises that are interested in the innovative development of underwater technology and marine instrumentation constructing which is its main competitive advantage. 110 organizations, which are among the participants of The Platform, operate and represent all the technologies and expertise in the field of marine activities of the Russian Federation. They also are the authors of the major developments in area. The expert community of these organizations are able to effectively carry out any analytical work: from R&D conclusions to the development of legislation in the field of marine activities of the Russian Federation.

COMPLEX PROJECTS, IMPLEMENTED BY THE PLATFORM MEMBERS

Creation and development of the Far East Scientific-Production Association in underwater robotics and marine engineering, including the construction of hydrofoil vessels and ground effect vehicles.

Design department was founded; experimental underwater system sample was developed and built.

Regular publishing journal «Marine Information and Control Systems».

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

- participation in 1-st, 2-nd и 3-rd Eastern Economic Forum;
- annual participation in «Open Innovations Forum»;
- constant work of the Far Eastern Center of Competence JSC “Concern” Morinsis-Agat” based at the FEFU. This is the basis for creating the new Scientific-Innovative Zone of Russian Island. Interacting with the Far Eastern Federal University and the Russian Academy of Sciences, The Competence Center significantly increases the economic activity in the region;
- concluded new contracts;
- The Platform carries out support to the R&D projects performed by FEFU;
- participated in the International Conference “Offshore Marintec Russia” in Saint Petersburg (October 4-7 2016) This event has been dedicated to shipbuilding and the development of high-tech equipment for the Arctic and offshore development. Expert-speakers talked about the oil and gas service equipment as well as security and development of gas and oil fields and seismic exploration on the Arctic sea shelf.

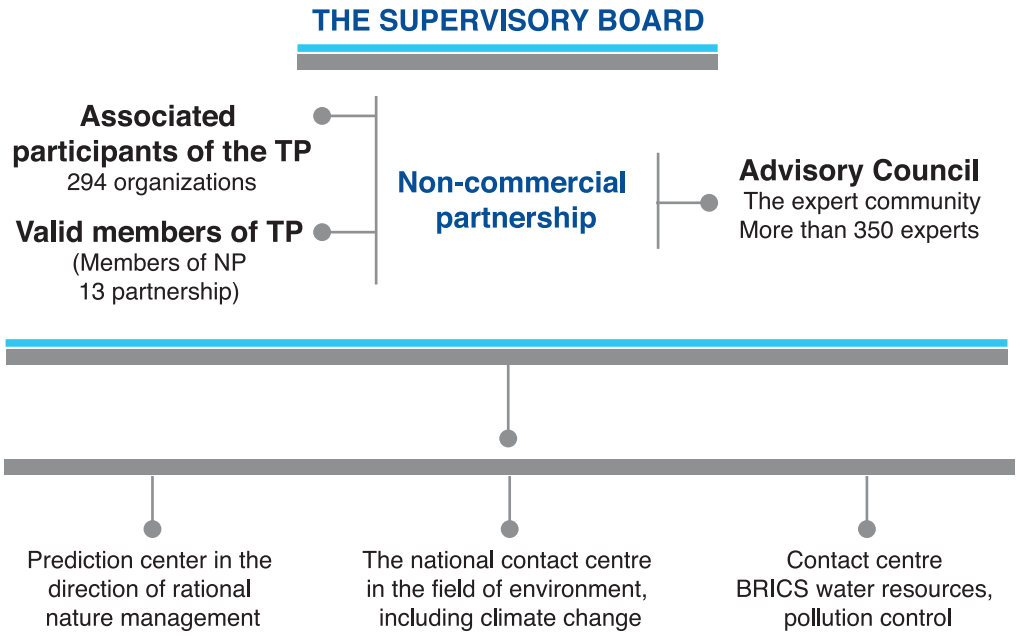
THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Name of event
The Platform members will participate at the 4 East Economic Forum
Will participate in the development of science-innovative zone of the Russian Island (within the territory of priority development «Free port of Vladivostok»
Willcarry out the sea trials of robotic experimental samples and other marine equipment
Continuing the development of the technical design of permanent sea testing ground to examine new models of marine equipment and holding international underwater robotics competition

Technologies of ecological development

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
5 July, 2011	VOO “Russian geographical society”	Russian Sate hydrometeorological University, Moscow state Universit, National research University “Higher school of Economics”	Non-commercial partnership

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

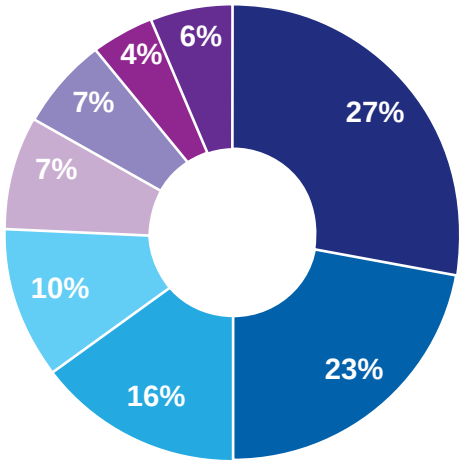


N. KASIMOV

Chairman of the non-commercial partnership “Technological Platform “Technologies of ecological development” First Vice-President of Russian Geographical Society, Academician

THE PLATFORM MEMBERS

The Platform includes 307 members



- Research Institute
- Educational institutions
- Profit making organization
- Non-profit organization
- Production company
- Experimental project Bureau, project organization, Etc.
- State sponsored companies
- Other

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Technologies of ecological development

PLATFORM'S KEY DIRECTIONS

- Environmentally friendly production technology
- Technologies of environmentally safe waste management, including the elimination of accumulated environmental damage
- Technologies and systems of monitoring, evaluation and forecasting the state of the environment
- Technologies of rational nature management, ensuring environmental safety and new environmental standards of human life
- Technologies ensuring environmentally safe development of the Arctic zone of the Russian Federation

PLATFORM'S ABILITY

Scientific-technological forecasting – foresight-research and expert activities

Find modern and innovative solutions in the field of rational nature management and environmental safety

Advisory and expert support of projects and studies

Information support and organization of conferences, meetings, seminars, schools and other events

International co – operative interaction and development of relations with representatives of European scientific organizations and organizations of the EurAsEC countries and the BRICS

PLATFORM'S COMPETITIVE ADVANTAGES

High expertise

The experience of forecasting the development of markets and technologies

Experience of interaction with Federal Executive authorities and international organizations

Developed communication possibilities in the search for partners and formation of scientific and technological consortia, support and counselling project activities.

THE COMPLEX FULL-CYCLE PROJECTS REALIZED BY SEVERAL PARTICIPANTS OF THE PLATFORM

Development of technology for integrated environmental monitoring of water areas of sea and river ports - RSHU

Microfluidic system for ecological-analytical control of atmospheric air and industrial emissions - Samara state aerospace University S. P. Korolev

Technology cryostructuration to combat desertification and restore degraded land, IAPI.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

The national contact point "Climate action".

Development of the Eurasian technological platform "Technologies for Sustainable Ecological Development" and the Eurasian network of technology transfer.

Development of cooperation of the BRICS countries in priority

directions "Water resources" and "Prevention and liquidation of natural disasters ".

Conducting the contest "Clean Energy for Territory Development"

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
from 25 to 28 April 2017	The General meeting of participants in the frame of the exhibition-forum ECOTECH
March 2018	International Forum «Ecology»
December 2017	ECOTECH exhibition and forum

Technology platform «Industry of the future»

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
14 September 2011	Association «TECHNOLOGY PLATFORM ”INDUSTRY OF THE FUTURE”» The State Atomic Energy Corporation ROSATOM	Open Joint Stock Company «Russian Board of Industry» Open Joint Stock Company «Scientific and Production Association Russian basic information technology “ (RusBITech)	Association

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

GENERAL MEETING OF TECHNOLOGY PLATFORM PARTICIPANTS

Association «TP «Industry of the Future»

Scietific and Technical Council of The Technology Platform

Expert Council of the Technology Platform

General meeting of Association members

Board of Directors

Chairman of the Board

Chief Executive Officer

Supervisory Board of The Technology Platform

Directorate for Projects Realisation

Planning and Control Department

Project Realisation Department

Executive Directorate

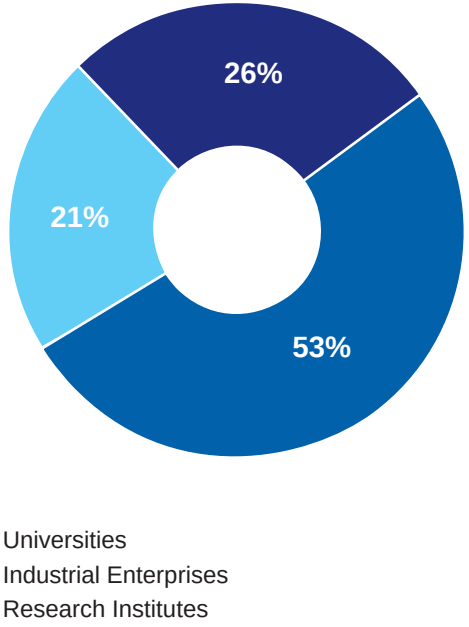
Information Support Department

PR Department

Directorate for Analysis and Technology Development

THE PLATFORM MEMBERS

The Platform includes more than 100 members



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E-mail: info@mtevs.org

Official website: www.mtevs.org

Technology platform «Industry of the future»

PLATFORM'S KEY DIRECTIONS

Information and communication technologies

New materials and nanotechnology

Prospective types of arms, military and special equipment (amse)

Transport and space systems

PLATFORM'S COMPETITIVE ADVANTAGES

● The interdisciplinary nature of the TP provides integration and contributes to the development of advanced technologies that are relevant at the same time for multiple industries.

● The membership of the TP, including both universities and research institutes involved in the development of breakthrough science and technology solutions, and innovative enterprises involved in the creation of sophisticated high-tech products and interested in the commercialization of new developments.

● High competence level of specialists in TP, which include:

- Scientific and technical experts with experience in scientific and technical expertise of projects, experience in implementation of large projects in the development of technical (design and technological) documentation on the results of research and development;
- Lawyers with many years of experience in the development of draft legal acts in different spheres of government regulation;
- Professional financiers and economists, having considerable experience in the preparation and support of investment projects realization, specifically in the development of business plans and financial models.

PLATFORM'S ABILITY

● Analysis of technological capabilities of Russian industry, forecasting of development of industrial and technological market trends, evaluation of capabilities of domestic innovative solutions and adaptation of the best international practices in the field of innovative industries to the Russian conditions.

● Organization of scientific and industrial cooperation for the rapid and effective expansion of advanced technologies in real economy sector and their assimilation at all stages of high-tech products life cycle: from design to disposal.

● Contribution to the building of an integrated system of training and professional development of scientific and engineering personnel.

THE COMPLEX FULL-CYCLE PROJECTS REALIZED BY SEVERAL PARTICIPANTS OF THE PLATFORM

Integrated project on development and implementation of additive technologies with a variety of high-tech industrial branches:

- development of metal-powder composition for domestic and foreign additive equipment;
- development of advanced technological equipment for the additive production, including software;
- Adoption of computer simulation technologies, specifically for the details design optimization
- Adoption of developmental industrial technologies of fabrication operations by using additive methods.
- Adoption of industrial technology in operating cycle, engineering of mass production.
- Adoption of integrated logistic support technologies for product support in operation, and also MRO and inventory and logistics management.
- implementation of programs on training of personnel, providing assimilation and adaptation of additive technologies

Integrated project on assimilation and implementation of advanced manufacturing in aerospace branches:

- Development of new types of high energy materials and industrial process of fabrication of fuel composition.
- Development of domestic CAE package – a virtual testing facility

Integrated project on development of advanced ceramic production for machining industrial enterprises:

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

● Implementation (in cooperation with the enterprises – participants of the Technology Platform) of a modern national lifecycle support solutions.

● Realization of projects (required to create a management system controlling the entire lifecycle of high-tech products) on preparation of engineering personnel.

● Creation of cooperative chains (scientific and industrial consortia) for the implementation of integrated projects on development of additive technology (including the development of powder materials, equipment, pilot and industrial technology) by the domestic enterprises (participants of the Technology Platform).

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
During the 2017-2018 biennium	Arrangement of the TP's section sessions.
During the 2017-2018 biennium	Holding the meetings for discussion of the available advanced developments of the leading Russian universities to find solutions on key technology issues faced by companies in accordance with their innovative development programs.
III quarter of 2017	Monitoring of domestic breakthrough developments in of technological areas supported by TP and actualization in accordance with the results of the Strategic Research Program of TP.
During the 2017-2018 biennium	Implementation of professional training programs of the engineering staff, in collaboration with leading universities - members of TP.

«Textile and light industry» (TP «T&LI»)

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
February 21, 2012	KNRTU	MSUDT, SUTD, TSNIIKP	Association (Tp «T&Li»)

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

SUPERVISORY COUNCIL — **Observant council**

The scientific and technical council

- Textile industry — **Razumeyev K.E.**
- Clothing and fur industry — **Viktorov L.D.**
- Leather and footwear industry — **Klenovskaya N.V.**

Management

Expert advices

- Textile industry — **Popov L.N.**
- Clothing and fur industry — **Kornilov N.L.**
- Leather and footwear industry — **Andrunakievich A.G.**

- Coordinator of the scientific and technical council for the textile industry — **Vinogradov Y.V.** «MSUDT»
- Coordinator of the scientific and technical council for the leather and footwear industry — **Markovets A.V.** «SUTD»
- Coordinator of Scientific Technical Council of Education and Human Resources — **Bokova E.S.** «MSUDT»
- Coordinator of Scientific Technical Council for the development and implementation of advanced technology innovation — **Lavrenteva E.P.** «INPTS TLO»
- Coordinator of the scientific and technical council for new materials — **Cheshkova A.V.** «ISUCT»

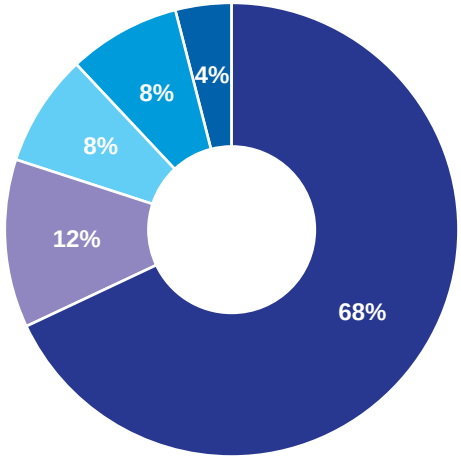
- The Working Group on the work with Russian, European and international activities of TP — **Head O.V. Kashcheev**
- Working Group to develop and implement a strategic research agenda of TP — **Head V.V. Hammatova**
- Working Group to coordinate activities with business, engineering companies and OJSC «INPTS TLO» — **Head N.I. Samojlenko**

Supervisory Council
GERMAN S. DYAKONOV
The chairman of board AC «TP «T&LI», coordinator «TP «T&LI», rector KNRTU

AC «TP «T&LI» Head
ABUTALIPOVA L.N.
Co-Chair of the TP «TiLP»

THE PLATFORM MEMBERS

The Platform includes 120 members



- Companies manufacturers
- High professional educational institutions
- Russian Associations (partnerships)
- Scientific research institutes
- Foreign organizations

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E-mail: t.fedorova50@mail.ru; venerabb@mail.ru

Official website: www.kstu.ru

«Textile and light industry» (TP «T&LI»)

PLATFORM'S KEY DIRECTIONS

The development and creation of innovative regional clusters and cooperative projects in the Eurasian space in the framework of the Eurasian technology platform Industrial Light Industry Technology (ETPPTLP) with Armenia, Kyrgyzstan, Belarus, Kazakhstan. The development of joint projects of training and retraining personnel in the framework of International Apparel Federation.

Scientific and technological forecasting of textile and light industry by the analysis of the development of promising markets? Innovative products and services, as well as the identification of excellence centers in thematic areas.

The development of road maps for the main thematic areas, works and projects of technological platform in the research and development field of strategic research program.

PLATFORM'S COMPETITIVE ADVANTAGES

The openness of the Technological Platform for joining all organizations interested in solving the platform tasks regardless of sectoral focus. The choice of strategic scientific directions in the solution of TP tasks by the consensus of experts representing science, education, business, industry.

The development of road maps of perspective scientific directions in the Eurasian space.

The development of mechanisms for cross-platform and inter-cluster interaction of TP members.

PLATFORM'S ABILITY

Identification of research and development direction for which the platform participants are interested in coordinating their actions and cooperating with each other at the pre-competitive stage.

Development of short-, medium- and long-term development priorities in the areas of TP work in the cooperation of the platform participants in the field of research and development.

Improvement of legal and regulatory regulation in the field of scientific, scientific and technical, and innovative development.

Creation of a proposals bank on innovative developments for business and government agencies on promising and priority areas for the development of the technological platform.

Execution of project expertise in the interests of the technological platform and external customers.

Formation of the catalog of priority projects in textile and light industry sectors.

Preparation of proposals to state authorities on the measures necessary to bring promising developments obtained in the framework of platform activities to the market.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

1. Development of scientific bases and creation of new resilient resource-saving import-substituting technical and special-purpose textile products generation;

2. Development of perspective directions foe using of metalized cloths based on using their technological and shielding properties;

3. Development of medicine sedative drugs with improved solubility and bioavailability indicators for the medical textile production.

THE COMPLEX FULL-CYCLE PROJECTS REALIZED BY SEVERAL PARTICIPATES OF PLATFORM

1. Development of innovative knitting structures and their production technology for a thermo-insulating layer from natural fibers of firefighters and rescue services fighting clothes;

2. Development and technology of elementaryization and fractionation of bast fibers and design of equipment for its implementation providing a new assortment of textile materials for various purposes, including those with controlled properties;

3. Development of a technology of the production of materials and products from them for the restoration of tissues based on new biologically active substances from natural sources in order to prevent and correct socially significant and professional diseases.

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017–2018 YEARS

Period	Name of event
November 2017	Meeting of TP "TiLP" to discus strategic research program
February 2018	International industry forum "Legpromforum – 2017"
May 2018	International scientific-practical "SMARTEX - 2017" Work TP "TiLP" with engineering centers within the IPN IGPU Ivanovo. General meeting of TP "TiLP"
October 2018	International Scientific and Technical Forum "Kosygin Readings", Meetings of the Working Groups of TP "TILP", Moscow

Environmentally safe vehicles “Green car”

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
April 20, 2012	Central scientific research automobile and automotive engine institute “NAMI”	Ministry of Industry and Trade of the Russian Federation	Association (registration phase)

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

Technology platform counsil
(representatives of all member organizations)

Technology platform president
Sergey Gaisin, CEO, FSUE “NAMI”

Monitoring board
Chairman – **Alexander Morozov,**
Deputy Minister of Trade and Industry

Platform executive board
Chairman – **Alexey Guskov**
Deputy Chairman – **Pavel Burlachenko**

Platform Committees and Commissions

PLATFORM DIRECTORATE
(“Innovative automotive industry” association)


Chairman
ALEXANDER MOROZOV

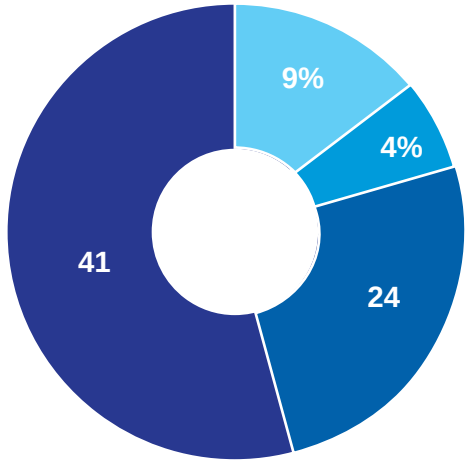

Chairman
ALEXEY GUSKOV


SERGEY GAISIN,
CEO, FSUE “NAMI”


Deputy Chairman
PAVEL BURLACHENKO

THE PLATFORM MEMBERS

The Platform includes 78 members



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E-mail: greencar@innauto.ru

Official website: www.innauto.ru
www.tp-greencar.ru;

Environmentally safe vehicles “Green car”

PLATFORM FOCUS

- Generating a common information database and discussion board;
- Forming a common concept for the automotive industry technology evolution;
- Concentration of scientific, engineering, financial and administrative resources in order to ensure commercial success of innovative technologies;
- Optimizing legislation and requirements;
- Generation of synchronized education curriculums and a continuous system of education standards update;
- International collaboration.

PLATFORM ADVANTAGES

The platform is a vast business-association, bringing together key automotive industry companies including the main domestic car manufacturers in Russia. The basis of the Platform is the leading automotive research facility, FSUE “NAMI”, with tight connections to all the most significant industry leaders in Russia and abroad.

Currently, the Technology Platform is the leading business association in automotive industry of Russian Federation.

PLATFORM COMPETENCE

- Connecting domestic and foreign companies for project implementation;
- Industry projects financing assistance;
- Technological and marketing prognosis for the automotive industry;
- Government relations;
- Forming strategic partnerships;
- Taking part in government strategic planning for automotive industry.

FULL CYCLE PROJECTS, IMPLEMENTED BY THE PLATFORM

The major full-cycle project “Shuttle” was presented at Moscow International Motor Show - 2016.

PROJECT PORTFOLIO

Currently the main projects of the Technology Platform are aimed at implementation of the “AutoNet” roadmap, specifically in the following projects:

- Development of automotive intellectual systems components and sensors;
- Development of proving grounds for vehicles with intellectual systems;
- Development of vehicle legislation and regulations;
- Development of electric drive systems and other components.

“Shuttle” project (presented at Moscow International Motor Show 2016)

MAIN EVENTS FOR 2017-1018

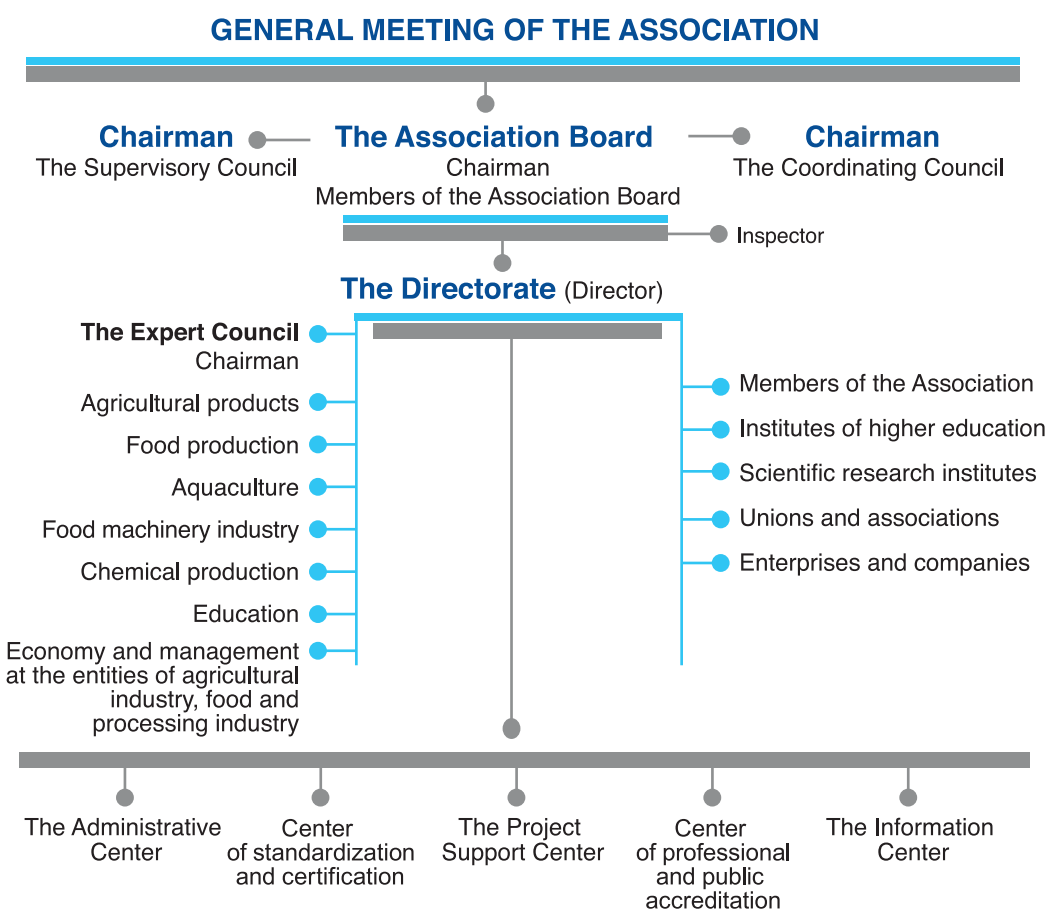
As for November 2016, the event schedule has not been finalized. However, The Technology Platform regularly holds and takes part in all major events for the automotive and related industries.

The platform held 2 international conferences in 2016.

Technologies of Food and Processing Industries of Agro-industrial Complex– Healthy Food

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
November 20, 2012	Association «Technology platform «Technologies of Food and Processing Industries of Agro-industrial Complex– Healthy Food»	1. Voronezh State University of Engineering Technologies 2. Michurinsk State Agrarian University 3. Astrakhan State University	Association

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM



ZHURAVLEV ALEKSEY VLADIMIROVICH
The Director of Association

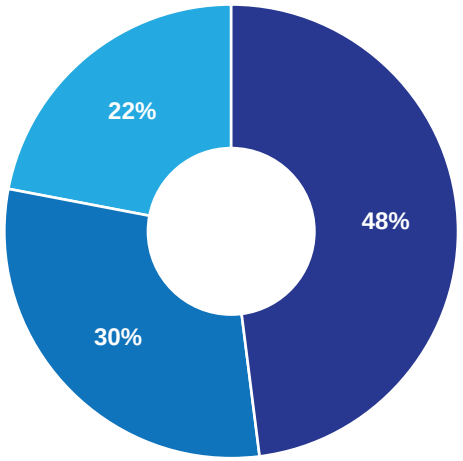
NIKITIN ALEXANDER VALEREVICH
The Chairman of the Association Supervisory Council

FADDEEVA ELENA ALEKSEEVNA
The Chairman of the Association Coordinating Council

CHERTOV EVGENIY DMITRIEVICH
The Chairman of the Association Board

THE PLATFORM MEMBERS

The Platform includes 56 members



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Official website: www.platforma-apk.com; платформа-апк.рф

Technologies of Food and Processing Industries of Agro-industrial Complex– Healthy Food

PLATFORM'S MAIN DIRECTIONS

1. Agricultural products
2. Food production
3. Aquaculture
4. Machinery industry
5. Biochemical production
6. Education
7. Economy and management at the entities of agricultural industry, food and processing industry

COMPETITIVE ADVANTAGES OF PLATFORM

1. The only federal Technology Platform in Russia which was approved

2. The Platform coverage is more than 50 regions 3. The Platform has the status of «Eurasian technology platform «Technologies of Food and Processing Industries of Agro-industrial Complex– Healthy Food»

4. The scientific and theoretical journal «Technologies of Food and Processing Industries of Agro-industrial Complex– Healthy Food» is published by the Platform. This journal was included in the list of publications, which are recommended by Higher Attestation Commission, and was included in database of AGRIS

INTERNATIONAL COOPERATION

The agreement with the non-profit joint-stock company "National agrarian scientific-educational center"

The agreement with the Eurasian Aquaculture Alliance

The agreement with the partnership, OOO "KazExpoFood"

Cooperation with the relevant Ministries of the Republic of Armenia, Belarus, Kazahstan, Kyrgyzstan and also Universities

PLATFORM'S DIRECTIONS OF ACTIVITIES:

1. The Association assistances for receiving governmental support for implementation of innovative projects

2. Consortiums are organized and supported by the Association for implementation of large-scale complete cycle projects

3. The Association arranges congresses, forums, exhibitions, conferences, seminars on the technology platform activities

4. Technological projection, equipment selection and supply, assembling, warranty service and service after expiry of the warranty for food industrial enterprises

5. Projection and construction enterprises' energy facilities

THE COMPLEX FULL-CYCLE PROJECTS ARE REALIZED BY MEMBERS OF THE PLATFORM

1. Creation of a complete cycle of the high-technology greenhouse complex

2. Production of high-protein feed products with probiotic properties

3. Creating new technologies of deep and complex processing of food raw materials and fish products for a healthy diet

4. Technology for production of functional and therapeutic-prophylactic purposes foods with a prepared biochemical composition, which based on the using modern methods of selection of vegetable, fruit and other agricultural crops

THE MOST IMPORTANT PROJECTS ARE REALIZED BY PLATFORM

1. Development of technology selection and technological transformation of biologically active substances with the obtaining of import-substituting complexes of micronutrients

2. Construction of the national scientific and educational centre for the development of competitive advantages APK

3. Formation of agricultural sustainability on the basis of the strategy of innovation-oriented development in the framework of the common economic space

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
May 2018	The competition "Youth in science. Modern realities», Voronezh
June 2018	The conference of General Meeting
September 2018	All-Russian Conference "Day of grower", Michurinsk
October 2018	Forum "Open Innovation"
November 2018	VIII Agriculture Congress
November 2018	The conference the Coordinating Council

Light and reliable structures

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
March 26, 2012	S.P. Korolev Rocket and Space Corporation «ENERGIA»	S.P. Korolev Rocket and Space Corporation «ENERGIA», Central Aerohydrodynamic Institute named after N.E. Zhukovsky (TsAGI), Institute of Strength Physics and Materials Science Siberian branch of Russian Academy of Sciences, Institute of Machines Science named after A.A.Blagonravov of Russian Academy of Sciences, Bauman Moscow State Technical University, Moscow Aviation Institute, National University of Science and Technology MISiS, National Research Nuclear University MEPhI, Institute of Control Sciences named after V.A. Trapeznikov of Russian Academy of Sciences.	

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

GENERAL MEETING OF THE PLATFORM PARTICIPANTS

- Supervisory Council
- The Steering Comminte
- Scientific and technical councils

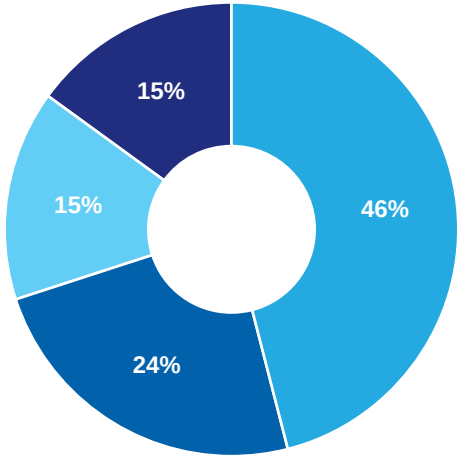
WORKING GROUPS

VIKTOR SADOVNICHIY
Supervisory Council Chairman,
Rector of Lomonosov Moscow State University, academician of RAS

ALEXANDER CHERNIAVSKY
Platform Coordinator
Adviser of General Director
S.P. Korolev Rocket and Space Corporation «ENERGIA»

THE PLATFORM MEMBERS

The Platform includes 53 members



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Tel.: +7 (495) 513-81-52
E-mail: Irina.Vorobey1@rsce.ru; Alexander.Cherniavsky@rsce.ru

Official website: www.lnkon.ru

Light and reliable structures

PLATFORM'S KEY DIRECTIONS

- aerospace and aviation industry;
- shipbuilding;
- nuclear and power engineering;
- heavy and transport engineering;
- industrial construction;
- tool engineering;
- engineering education

PLATFORM'S ABILITY

Possibility of interaction of the entities and organizations of various industries, universities, scientific organizations and small businesses, state structure of the power for the solution of questions of implementation of world-class technologies in the Russian industry.

INTERNATIONAL COOPERATION

Together with Berlin Technical University the annual Russian-German seminar «Tribology in the aerospace industry is held: damping, wear and structural dynamics in space systems».

PLATFORM'S COMPETITIVE ADVANTAGES

Creation of integration structures on innovative technologies with participation of universities, institutes of RAS, large industrial enterprises and small businesses.

THE COMPLEX FULL-CYCLE PROJECTS REALIZED BY SEVERAL PARTICIPANTS OF THE PLATFORM

Improvement of technology of welding by friction with hashing with ultrasonic influence for formation of one-piece compounds of the disperse strengthened aluminum alloys of transport and aerospace appointment.

Development and implementation of methods multi-level dynamic modeling in the design of new rocket and space technology.

Development of technology of receiving powder compositions for production by method of injection formation of metal products of irregular shape with the increased physicomechanical properties for transport and space systems (PIM technology).

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

Development of the technology and application of functional nanocomposite coatings equipment to extend the active use and protection of designs solar spacecraft.

Production organization of solder lamellar heat exchangers.

Development of technology for small-scale production of aluminum honeycomb to rocket and space industry of the Russian Federation.

Development and research of new generation ejector vacuum systems for power plants.

The scientific and technological challenges of providing electron-beam additive manufacturing of large-sized products with a controlled internal structure of the wire high-strength and heat-resistant alloys for aerospace industry.

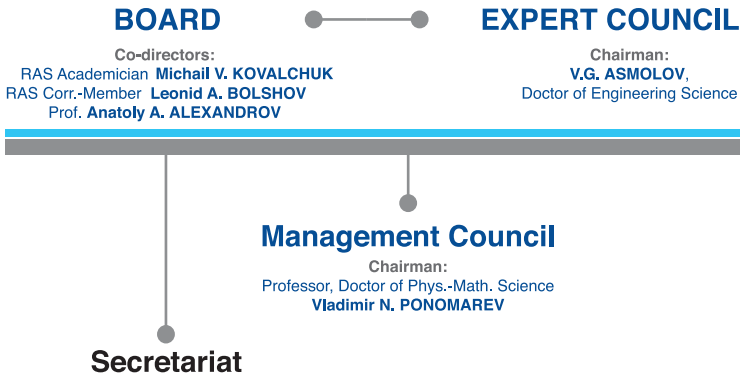
THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2018-2019 YEARS

Period	Name of event
2018-2019	Development of new projects of the Technological platform
2018-2019	Coordination and examination of results innovation project
2018-2019	Implementation of projects within the Federal Program «Researches and development and Federal Space Program
2018-2019	Holding the Russian and International conferences

Industry and Energy Integrated Safety

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
June 15, 2011	Nuclear Safety Institute of the Russian Academy of Sciences (IBRAE RAN)	Nuclear Safety Institute of the Russian Academy of Sciences (IBRAE RAN), National Research Center “Kurchatov Institute” Bauman Moscow State Technical University	Association registration

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM



MICHAIL V. KOVALCHUK
Co-Director Of Platform

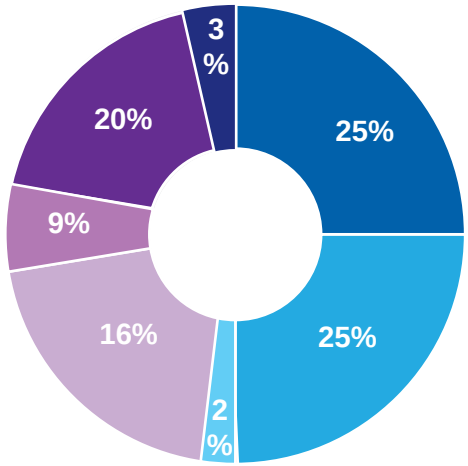
L. BOLSHOV
Co-Director Of Platform

ANDREY ALEXANDROV
Co-Director Of Platform

V. PONOMAREV
The Chairman of the Board of the Platform

THE PLATFORM MEMBERS

The Platform includes 137 members



- Higher education establishments
- Scientific research institutes
- Development design offices
- Project, engineering and service companies
- Industrial organizations
- Financial and credit organizations and state institute of development
- Other organizations

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Industry and Energy Integrated Safety

PLATFORM'S KEY DIRECTIONS

1. Creation of the basic models for analysis and safety justification of specific technologies or projects on the basis of the nuclear energy experience on the order of companies.
2. Development and improvement of common methods of probabilistic and deterministic safety analysis of different technologies. Risk assessment and management in industry and energy.
3. Development of methods of analysis and environmental safety justification, including environmental safety of the Arctic regions, waste management and disposal (recycling).
4. Development of integrated safety monitoring methods for various non-nuclear technologies using the latest diagnostic equipment.
5. Development of recommendations on the construction of integrated monitoring and safety control systems of complex technical objects.
6. Improving the working methods of interaction with the population in severe accidents at industrial and energy facilities.
7. Application of Lifecycle Management technologies of knowledge-intensive products and industrial facilities (by industry branches).
8. Development of public-private partnership instruments in addressing integral safety tasks in industry and energy.

THE PLATFORM COMPETITIVE ADVANTAGES

High expertise potential.

Ability to attract extra-budgetary resources for projects.

Experience of interaction with federal bodies of executive and legislative authorities and international organizations.

Developed communication capabilities in the partner search, the formation of scientific and technological consortia, support and counseling of project activities.

Interaction with other technological platforms.

PLATFORM ABILITY

1. Advisory and expert support of projects and research.
2. Selection of the best modern innovative technologies for the realization of projects.
3. Together with the VEB JSC «Federal Center for Project Finance» to assist in the drafting of projects, their implementation and attraction of extra budgetary resources for their implementation.
4. Organization of experience exchange and cooperation with foreign and Russian representatives of scientific organizations and industrial enterprises.
5. Creation of integrated solutions based on PLM-technologies for the automation of engineering activity of Russian enterprises.
6. Development and implementation of projects to ensure physical protection of enterprises and industrial, energy, transport, etc. facilities.
7. Organization and carrying out of industrial safety examination of buildings and structures at hazardous production facilities, technical devices used there, safety documentation on conservation, elimination of hazardous production facilities.
8. Development and implementation of projects using innovative technologies in the sphere of housing and communal services.

INTEGRATED FULL-CYCLE PROJECTS IMPLEMENTED BY SEVERAL PLATFORM PARTICIPANTS

Implementation of the «Pelena» project to ensure the physical protection of a facility using radio-wave means of intrusion detection.

Serial production of filters «Peat filter element», produced in accordance with TU 0391-018-02997983-98 amounting to 2000 m^3/year.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

1. The project to create a comprehensive solution on the basis of PLM-technologies for the automation of enterprise engineering activity.
2. Pilot project «Integrated information control system for territory (region) sustainable development» (in the concept following-up of construction and development of agro-industrial complex «Safe City»).
3. Development of means for high-speed data processing of information sensors in situational management systems.
4. There have been developed and implemented more than 600 systems of surface run-off sewage treatment plants and of local treatment facilities for the mechanical gravity cleaning of the surface drain at peat filters.
5. There have been developed and successfully applied at the thermal and nuclear power plants domestic disinfectant «Silver bullet».
6. Implementation of the project to seal the urban sewer systems by unlimited inflow of infiltration and ground water.
7. «Interplatform interaction with technological platforms «Industry of the future», «Air mobility and aviation technologies» and others.

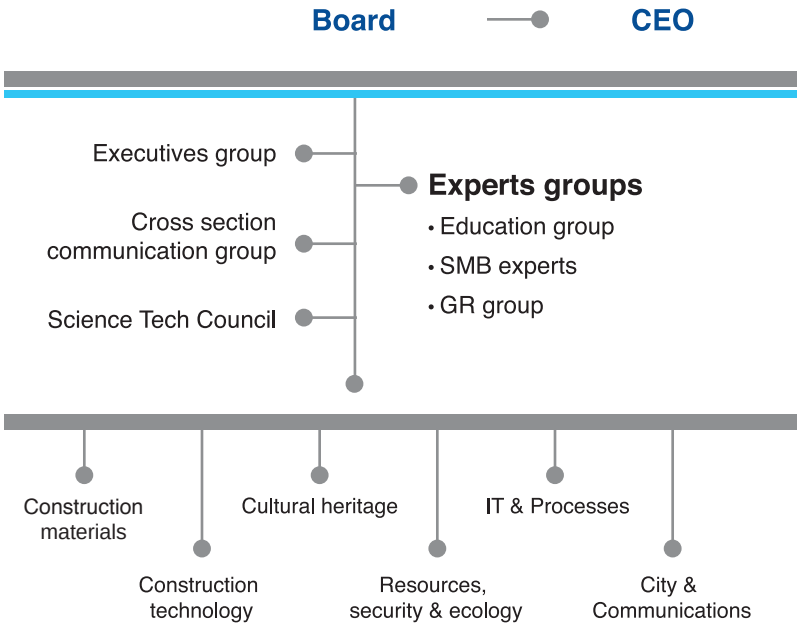
THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
December 8, 2017	22nd The National Congress "Modernization of Russian Industry: Development Priorities" (Moscow)
February, 2018	23d Internetional Forum «Safety Technologyes» (Moscow)
September, 2018	Forum «Industry of the Future» (Urals Federal District)
October, 2018	Forum-Dialogue «Indastrial Safety – the responsibility of government, business and society (Moscow)
November, 2018	Seminar: «Technologies and tools of complex automation of machine-building production. Building a common information space for managing engineering data» (Moscow)

ТПСА Construction and Architecture

Creation date	Coordinators of the Platform	The Initiators of the Platform	Legal form
July 17, 2014	MGSU, MARCHI, JSC RC “Contruction”, RAASN (Academy)	MGSU, MARCHI, JSC RC “Contruction”, RAASN (Academy)	

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM



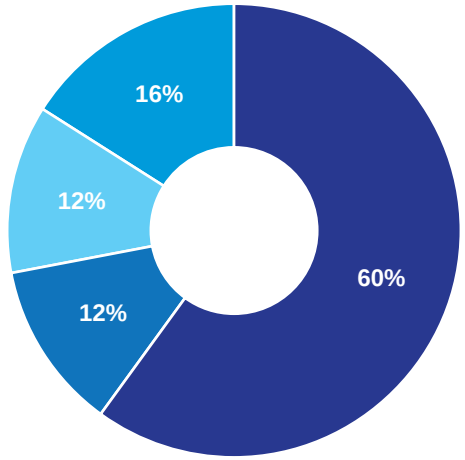
Platform Coordinator
ANDREY VOLKOV

Platform Coordinator
ALEXANDER KUZMIN

Platform Coordinator
ANDREY ZHIVAYKIN

THE PLATFORM MEMBERS

The Platform includes 181 members



Scientific and engineering organizations – 12%, Educational institutions – 16%, Associations and partnerships – 12%, Business structures – 60%

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Construction and Architecture

PLATFORM'S MAIN DIRECTIONS

- Construction technologies and equipment
- Construction and building materials
- City and communication
- Information environment and process control
- Cultural heritage
- Resource efficiency, safety, and environmental

COMPETITIVE ADVANTAGES OF PLATFORM

Ensuring of conformity of products and professional personnel with international standards and norms in the framework of increasing the competitiveness of business and the achievement of high quality of life. The development of research in the architectural / construction industry, liaising with foreign professional societies, organization of interaction with the European technological platform in the field of construction.

PLATFORM'S COMPETITIVE ADVANTAGES

Attracting the results of fundamental and applied research of the state academies of Sciences, research organisations and enterprises, educational organizations to meet the strategic scientific, technological and production tasks.

Development and implementation of innovative educational, professional workers and managerial staff, to attract and retain businesses and organisations of promising young specialists and scientists.

Promoting economic efficiency and technological equipment of architectural-construction complex, the solution of the actual and perspective tasks of import substitution.

Promotion of international cooperation between universities, professional development of professional staff and creation of new ties between universities within the framework of the international program ERASMUS + International Credit Mobility.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

Developing a roadmap for National technology initiatives in the construction sector

Development of strategy of innovative development of the construction industry in the Russian Federation

Development of programs of integrated rehabilitation of cultural mining settlements of the Urals means of planning and architecture on the basis of public-private partnerships.

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2018-2019 YEARS

Period	Name of event
01.2018	The Fifth International Conference "Russian Days of Dry mortars"
03.2018	TPCA Conference. Adoption of an updated strategic research plan
04.2018	XXI International Scientific Conference "Construction the formation of living environment"
06.2018	Presentation of plans for the development of standards for the life cycle of buildings and structures

Use of results of space activity for the benefit of end users

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
June 24, 2016	Open joint stock company "scientific and production corporation" "RECOD";	Open joint stock company "Scientific and production corporation" "RECOD"; Joint-stock company "Space-Rocket center "Progress"; Joint-stock company «Russian space systems»; Open joint stock company "Glavkosmos"; "Moscow State University named after M.V. Lomonosov"; "Saint-Petersburg national research University of information technologies, mechanics and optics"; "National research centre "Kurchatov Institute"; Joint-stock company "Research and production complex "Dedal.	The Association in a registration stage

THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM

THE GENERAL MEETING OF PARTICIPANTS OF A TECHNOLOGICAL PLATFORM

- The Board Technology Platform
- Scientific and technical Council
- Coordinating Council
- Advisory Council
- The Supervisory Board
- Executive management

THE WORKING GROUPS ON THE DIRECTIONS

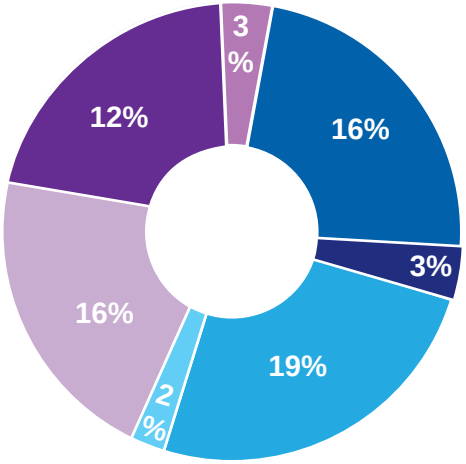
- Coordination, regulation, support, control, creation of conditions for market and competition, uniform technical policy, determine priorities, the concentration of resources and efforts
- The creation of new domestic technical, software, system and other products and services based on the use of RKD
- Forming an integrated system of training and advanced raining of specialists in the use of RKD in the system of higher, special and General education
- The international cooperation in the sphere of use of RKD
- The formation of a unified legal and regulation framework of legal regulation in the field of use RKD
- System, fundamental and applied research on issues of ensuring the efficient use of RKD
- Implementation in all constituent entitles of the Russian Federation, regional target programs use RKD

Coordinator of the technological platform
BEZBORODOV VYACHESLAV GEORGIEVICH

Deputy Coordinator of the technological platform
DUBOVTSEV NIKOLAY NIKOLAEVICH

THE PLATFORM MEMBERS

The Platform includes 71 members



- Federalnye Executive authorities
- Regional bodies of Executive power
- Municipal formation
- Industrial enterprises and scientific institutions
- The institutes of the Russian Academy of Sciences
- Educational institutions
- Representatives of business structures

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Use of results of space activity for the benefit of end users

PLATFORM'S KEY DIRECTIONS

Coordination of efforts and resources of the state, civil

society, science, business and education with the aim of placing

tion utverzhdenii President of the Russian Federation The basics of the state policy in the field of use the results of space activities (further – RKD) in the interests of modernization of economy of the Russian Federation and development of its regions for the period up to 2030 (PR-51, dated 14 Jan 2014).

The commercialization of RKD, the promotion of space products, services and technologies in the Russian and world markets, including through active involvement of small and medium business in the sphere of creation and use of RKD.

Space and geoinformation support of major infrastructure projects.

COMPETITIVE ADVANTAGES OF THE PLATFORM

Integrated use of heterogeneous results of space activities and other information resources in order to more effectively implement the regulations address the problems of the consumers.

Development and creation of space products and services, competitive on the world market.

Collection, systematization, analysis and recording of requirements of different consumer groups RKD to create space products.

Relationship to other Technology platforms.

PLATFORM'S COMPETITIVE ADVANTAGES

A professional forum to develop and discuss the basic conceptual system-technical solutions and technologies for the use of RKD.

The transfer of space technology, products (services), established in the framework of the Technological platform in various spheres of socio-economic activities.

Bring space products and services to a wide range of consumers, including improving the quality of life of the population.

Support and assist in the implementation of initiative projects and technologies, including in the interests of the enterprises of small and average business.

The exchange of experience, technologies and knowledge.

The satisfaction of urgent social needs in the RKD's involvement in the actual processes of socio-economic development of our country through the consolidation and coordination of efforts and resources of government, business, science and civil society.

Assist in the coordination of international cooperation in the use of RCU, including the organization in the established order of interaction with competent bodies of foreign States and foreign legal entities or individuals, creating a space providing space products and services.

Extension as a priority of international cooperation in the use of RKD with the member States of the Customs Union, the Eurasian economic community States – participants of Commonwealth of Independent States, BRICS and the SCO.

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

The commercialization of RKD, the promotion of space products, services and technologies in the Russian and world markets, including through active involvement of small and medium business in the sphere of creation and use of RKD.

Space and GIS software major infrastructure projects..

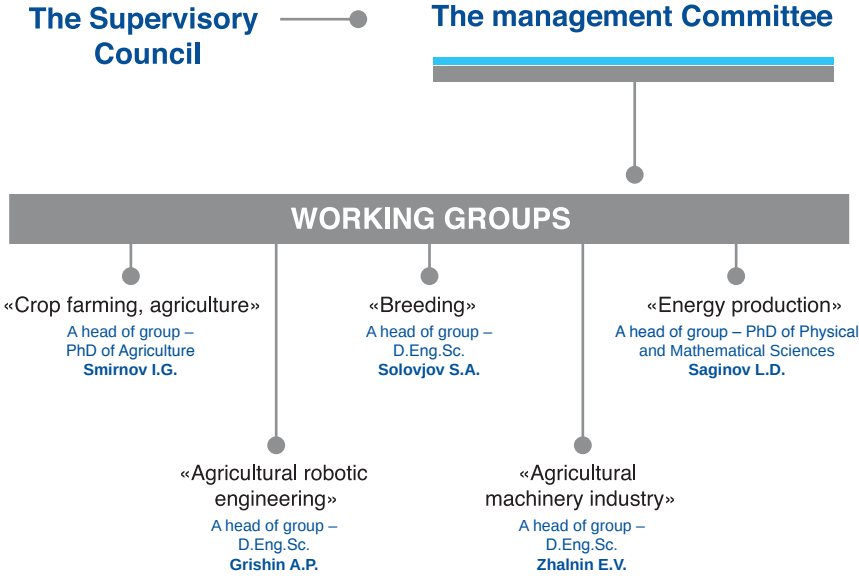
THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
2017	Scientific-practical seminar on the basis of the Fund «SKOLKOVO» - «The Experience of the integrated use of results of space activity in the interests of regions»
The time specified	International conference «Space for life, for the people!»
november 2017	Exhibition forum of the Eurasian economic Union «Eurasian week».
2018	The General meeting of participants of a Technolog-ical platform
The time specified	Organization and holding of specialized conferences, seminars, schools and other public events, including with foreign participation, dedicated to the promotion of national space activities and technologies on the domestic and world market

Innovative agriculture machine technologies (IAMT)

Creation date	Coordinator of the Platform	The Initiators of the Platform	Legal form
June 24th, 2016	FSBSI «Federal research center of agricultural engineering VIM» (FSBSI FSAC VIM)	FSBSI «Federal research center of agricultural engineering VIM» (FSBSI FSAC VIM)	Non-commercial partnership

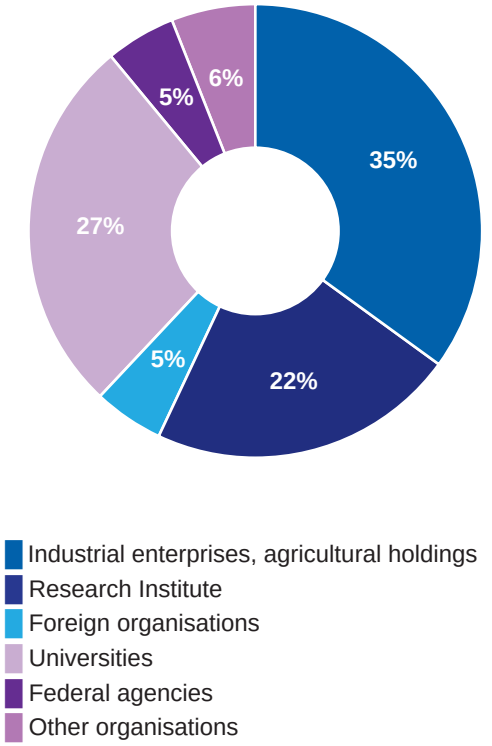
THE STRUCTURE OF THE TECHNOLOGICAL PLATFORM



President of the technology platform – A director of FSBSI FSAC VIM, academician of RAS
IZMAILOV ANDREY YURJEVICH

Managing technology platform – A deputy director of FSBSI FSAC VIM, D. Eng. Sc., professor
GODZHAEV ZAHID ADYGEZALOVICH

THE PLATFORM MEMBERS



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E-mail: fic51@mail.ru; vim@vim.ru

Official website: vim.ru

Innovative agriculture machine technologies (IAMT)

KEY DIRECTIONS OF THE PLATFORM

- Robotized and automated machine-technological complexes for the use of effective intellectual agriculture and monitoring, incl. with the use of unmanned drones
- Creation of innovative environmentally friendly machine technologies and mobile power tools and a complex of machines for agricultural production
- Creation of electric and heat technologies, systems and technical means of power supply, mechanization of animal husbandry using intelligent automation
- Creation of a comprehensive training system
- Creation of transport-technological agricultural machines with electric drive up to 450 kW
- Development of intelligent technologies for cultivating crops and obtaining seed based on the principles of tracking individual physiological processes in plants
- Development of methods and tools for diagnostics and repair of agricultural machines and their working bodies

THE ABILITY OF THE PLATFORM

This platform is the only one in the world. However, it is partly on the existing European technological Platform FABRE - Technological platform of livestock and reproduction.

Competitive advantage of our platform in the presence of objects of innovative scientific and industrial infrastructure, allowing to provide communication of science, production and business, to concentrate resources on priority directions of scientific and technological development of the agrarian and industrial complex of the Russian Federation.

INTERNATIONAL COOPERATION

1. Jointly with the Azerbaijan State University of Oil and Industry (Baku) develops joint projects in the field of renewable energy sources (generation of energy of sea waves into electric) and automated frequency-controlled electric drives in mobile energy facilities.

2. Jointly with the “Kazakh Institute of Plant Protection” (Almaty) the project “Development of intelligent agrotechnologies and the creation of unmanned aerial vehicles for the introduction of plant protection products and fertilizers in the system of accurate farming is being prepared”.

COMPETITIVE ADVANTAGES OF THE PLATFORM

The unique possibilities of the Russian Technology Platform Innovative machine technologies of agriculture consist in the fact that within the framework of this platform the scientific and technical, production, personnel and financial potential of many advanced research institutes (FSBSI FSAC VIM, Central Research Automobile and Automotive Engine Institute «NAMI», FSBSI All-Russian Selection and Technology Institute of Horticulture and Nursery, etc.), universities NRI “MEI”, Bauman MSTU, RSAU-MTAA, etc.), as well as design bureaus and plants (CJSC Petersburg Tractor Plant, Concern Tractor Plants, Rostselmash, JSC «Bryanskselmash», JSC «Buinsky machines Building Plant «, etc.), creating machinery and technologies for agriculture - more than 40 organizations.

THE COMPLEX FULL-CYCLE PROJECTS REALIZED BY SEVERAL PARTICIPANTS OF THE PLATFORM

1. Creation of unmanned aerial and land vehicles for agricultural purposes, incl. within the framework of projects of national technological initiatives «Autonet», «Aeronet», «Foodnet».
2. Development and creation of all-season and environmentally safe removable running systems, mobile energy means of agricultural designation.
3. Development of an intelligent combine harvester of class 6 and a tractor of class 2,3,4 incl. robotic.
4. Development of a system of technical means of autonomous power supply for agricultural facilities, as well as renewable energy sources.
5. Development of innovative technologies for treating friction surfaces of working organs of agricultural machinery.
6. Phytotron with computer-controlled modes, volume up to 10 m^3.
7. Creation of robotic complexes

THE MOST SIGNIFICANT PROJECTS IMPLEMENTED BY PLATFORM

1. Creation of an integral wheeled agricultural tractor of classes 3, 4
2. Development and production of unmanned gyroplanes for monitoring and agricultural works
3. Development and production of a self-propelled chassis of class 0,6 with traction electric drives for selection-seed farms

THE ANNOUNCEMENT OF THE MAIN ACTIVITIES PLANNED FOR THE 2017-2018 YEARS

Period	Name of event
1 quarter of 2017	A foundation conference of the platform
1 quarter of 2017	The conference «Condition and perspectives of using electric and hydraulic power drive on agricultural machines»
1 quarter of 2017	The regulations confirmation of the platform
2 quarter of 2017	The formation of the management, expert and labour bodies of the platform, the formalization of the interaction between the members and the allocation of responsibility for individual actions to build the platform
3–4 quarter of 2017	The development and approval of Strategic research program 2018-19 years, as well as the program for the implementation and extension of advanced technologies in agricultural production
4 quarter of 2017	Holding of meetings of participants of the technological platform on actualization of the road map of the national technological initiative “Aeronet”
4 quarter of 2017 – 2018	The realization of the priority projects of high readiness
4 quarter of 2017 – 2018	The launch of the priority advanced projects.

Eurasian technology platforms

	Participants of the ETP	Main directions
SPACE AND GEOINFORMATION TECHNOLOGIES – PRODUCTS OF GLOBAL COMPETITIVENESS	Russia, Belarus, Kazakhstan	Research in the field of space technologies and geoinformation systems
EURASIAN BIOMEDICAL TECHNOLOGY PLATFORM	Russia, Belarus, Kazakhstan	Bioengineering technologies, Nano-, Bio-, information and cognitive technologies
EURASIAN SUPERCOMPUTER TECHNOLOGY PLATFORM	Russia, Belarus, Kazakhstan	Development of the element base for supercomputers, supercomputer services in the interests of science, education, the economy, social sphere
PHOTONICS	Russia, Belarus, Kazakhstan, Armenia, Kyrgyzstan	Element base of photonics, laser technologies and equipment, optoelectronics
EURASIAN LED TECHNOLOGY PLATFORM	Russia, Kazakhstan, Belarus, Armenia	Development and use of LED technology in the interests of science, education, economy, social sphere
TECHNOLOGIES FOR EXTRACTION AND PROCESSING OF SOLID MINERALS	Russia, Kazakhstan, Belarus, Kyrgyzstan	Extraction and deep processing of rare-earth ores, geological prospecting, subsoil use
TECHNOLOGIES OF ECOLOGICAL DEVELOPMENT	Russia, Belarus, Kazakhstan	Technologies of ecological safe handling with waste, development of the market of ecological services
EURASIABIO	Russia, Belarus, Kazakhstan, Armenia	Development of biotechnologies, project expertise, technology transfer, bioeconomic
TECHNOLOGIES OF FOOD AND PROCESSING INDUSTRY OF THE AGRO-INDUSTRIAL COMPLEX – HEALTHY FOOD	Russia, Belarus, Kazakhstan	Production, processing, storage of agricultural products, cattle breeding
EURASIAN AGRICULTURAL TECHNOLOGY PLATFORM	Russia, Belarus, Kazakhstan, Armenia, Kyrgyzstan	Farming, veterinary, machinery industry, transfer of innovative technologies
LIGHT INDUSTRY	Kyrgyzstan, Russia, Kazakhstan, Belarus, Armenia	Development of textile and light industry, industrial technology
TECHNOLOGIES OF METALLURGY AND NEW MATERIALS	Belarus, Russia, Kazakhstan, Armenia	New materials, ferroalloys

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