

FORUM RESULTS

2018 ATOME X PO

GLOBAL PARTNERSHIP — JOINT SUCCESS

14–16 MAY 2018. SOCHI



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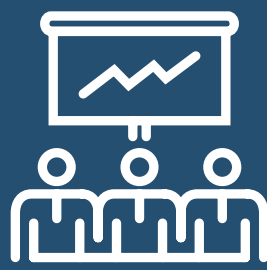
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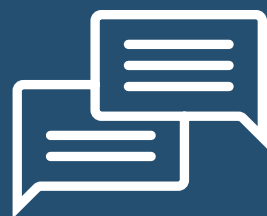
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WELCOME ADDRESS BY RUSSIAN PRESIDENT VLADIMIR PUTIN TO PARTICIPANTS OF THE X INTERNATIONAL FORUM ATOMEXPO 2018



Dear Colleagues,

Welcome to the opening of the 10th Anniversary Forum ATOMEXPO 2018.

Over the years, ATOMEXPO has brought together heads of major companies, government agencies, non-commercial associations, and leading experts from Russia and around the world and established itself as a respected platform for discussing topical issues in the nuclear industry at the highest professional level.

I would like to stress that in the current conditions providing access to stable and environmentally friendly energy sources is crucial to the development of the global economy and the preservation of the planet's natural balance. Above all else, demand for energy-efficient and safe nuclear technologies is growing steadily.

Russia has traditionally been a leader in the development of nuclear technologies, the

construction and operation of nuclear power plants and their attendant infrastructure, and fundamental and applied research. We need to consolidate this potential, including through broad international cooperation in these areas.

I am confident that this year's Forum, which is taking place under the slogan 'Global Partnership – Joint Success', will contribute to the development of consolidated approaches to the use of the peaceful atom and the launch of promising joint projects in this important area.

I hope the talks and meetings you have here prove to be constructive and mutually beneficial, and I wish you all the very best.



VLADIMIR PUTIN



FORUM BY THE NUMBERS



> **4 000**

FORUM
PARTICIPANTS



68

COUNTRIES
PARTICIPATING*



648

COMPANIES
PARTICIPATING



205

SPEAKERS



25

BUSINESS
EVENTS



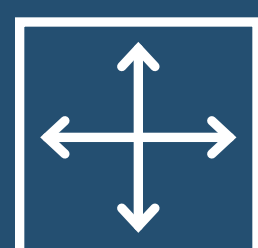
39

AGREEMENTS
SIGNED



279

MEDIA
REPRESENTATIVES



20 000 M²

OF EXHIBITION
SPACE

*COUNTRIES TAKING PART IN THE FORUM FOR THE FIRST TIME —
THE REPUBLIC OF CONGO AND THE REPUBLIC OF GEORGIA



21

COMPANIES TOOK PART
IN THE FORUM
FOR THE FIRST TIME

INCLUDING:

ASSYSTEM ENERGY
& INFRASTRUCTURE

DEKRA INDUSTRIAL OY

DOKA

ELSEWEDY ELECTRIC

TÜV NORD

NOVAWIND JSC

REIN JSC

SC ELECTROSHIELD SAMARA CJSC

TRANSFORMER LLC



OPENING OF THE FORUM





**PARTICIPATING IN THE ATOMEXPO 2018
OPENING CEREMONY WERE:**

JACQUES REGALDO

Chairman of WANO

AGNETA RISING

Director General
of the World Nuclear Association (WNA)

WILLIAM D. MAGWOOD IV

Director General
of the Nuclear Energy Agency (NEA)

YUKIYA AMANO

Director General of the IAEA

ALEXEY LIKHACHEV

Director General of ROSATOM

DMITRY MEZENTSEV

Chairman of the Federation Council
Committee on Economic Policy

Alexey Likhachev kicked off the ceremony: *“Our forum reflects the constantly growing interest in nuclear power – an integral part of green energy production. This year, representatives from 66 countries will be taking part in the forum, with more than 40 national delegations working at the forum. The theme of our anniversary forum is ‘Global Partnership – Joint Success’, which is right on target, because it is only by cooperating, working together, and building long-term partnerships that we will be able to improve ourselves and advance together, bolstering green energy production, an integral part of which is nuclear energy”.*



In turn, IAEA Director General Yukiya Amano noted the importance of ATOMEXPO and the great role that Russia plays in the development of the world nuclear industry. *“I’ve seen with my own eyes how the Russian nuclear industry is developing, and how new power units and accelerators are being built. It is important for the IAEA to support the development of the nuclear industry, especially the efforts of countries who are newcomers, and therefore we fully support this forum.”*



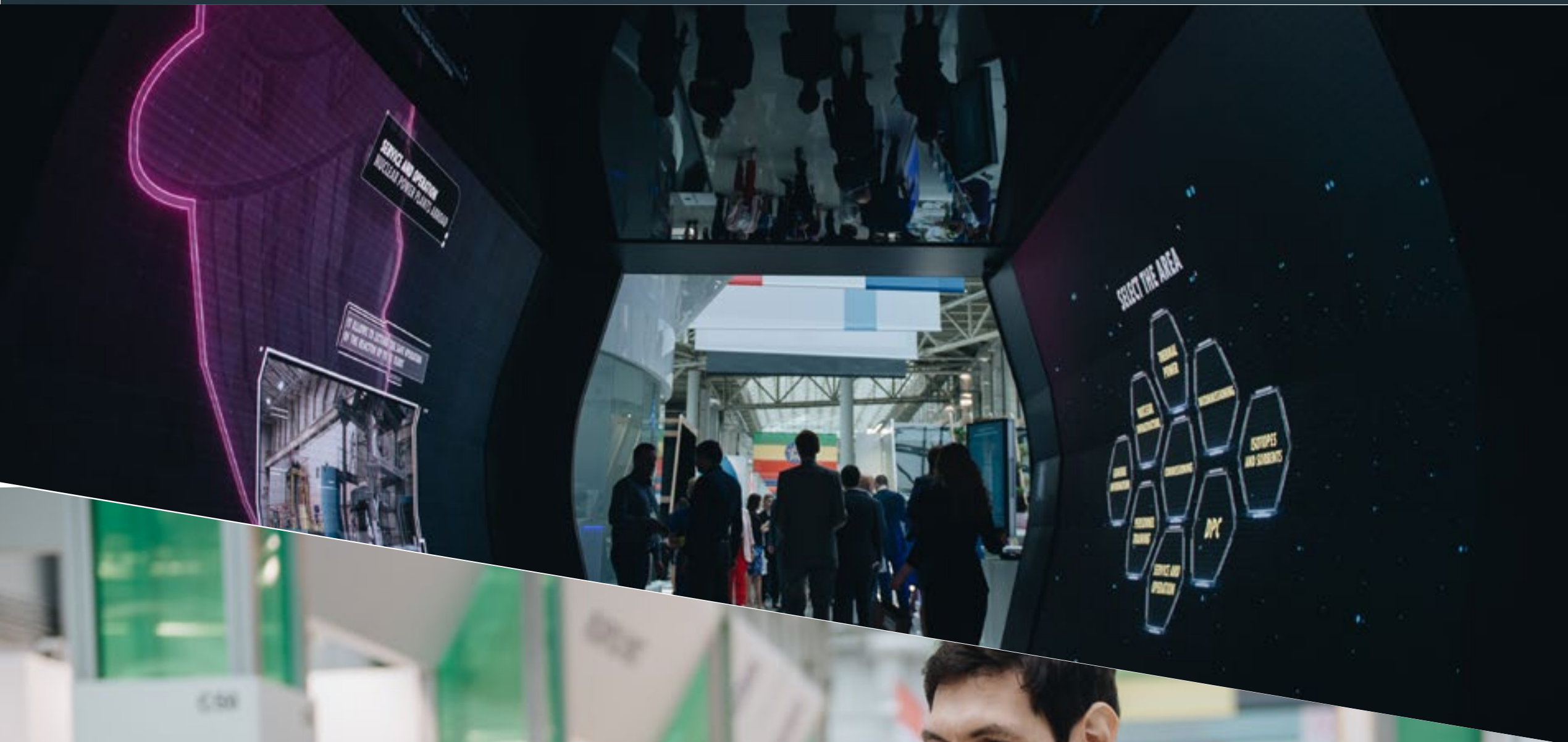
EXHIBITION IN PICTURES















PLENARY DISCUSSION



THE ATOMEXPO 2018 PLENARY DISCUSSION FOCUSED ON TRENDS IN THE DEVELOP- MENT OF ATOMIC ENERGY OVER THE NEXT 10 YEARS

The first day of the 10th International Forum ATOMEXPO 2018 featured the 'Global Partnership - Joint Success' plenary session.

The session was moderated by Charles Hendry, ex-Minister of State for Energy of Great Britain (2010–2012), President of the Board of the Russian-British Chamber of Commerce, and Honorary President of the British Institute of Energy Economics.

Charles Hendry, Alexey Likhachev, William D. Magwood IV, Vladimir Semashko, Mikhail Chudakov, Mohammed Shaker, Lyubov Glebova, Necati Yamaç, Hortensia Jiménez



While speaking at the event, Sergey Kiriyyenko, First Deputy Chief of the Administration of the Russian President and Chairman of the ROSATOM Supervisory Board, read out a message from Russian President Vladimir Putin to the participants of the forum and noted that: "Over the last ten years, in spite of various crises, 52 new NPP power units have been put into operation around the world. The world's fleet of nuclear power plants has been able to prevent the release of about 20 billion tonnes of carbon dioxide into the atmosphere over the last ten years. Nuclear technology can also be successfully applied in medicine, agriculture, and mechanical engineering. But the atom must remain international, apart from the political situation, outside of politics. Many problems can only be solved through cooperation, and that includes the development of alternative energy sources". ROSATOM Director General Alexey Likhachev said:



“Over the past 10 years of ATOMEXPO forums, the global agenda has changed. We see the environment playing an increasingly important role in the world political process. Without combining our efforts, we risk facing a global environmental catastrophe. We have witnessed the efforts of countries choosing green energy and following their chosen path forward. And there can be no doubt that nuclear energy has become an integral part of the new green energy balance”.



“Today, we are seeing nuclear power transition from developed to developing nations. New centres of growth want to provide themselves with access to nuclear energy in a quick, high-quality, and economic manner. And this ensures fertile grounds for cooperation. We need alliances to successfully develop. I call on all major nuclear players to consider cooperation with ROSATOM on nuclear technologies. Alliances aren’t just possible in commercial nuclear projects; they are essential to searching for solutions in applied and fundamental science. We are cooperating and are ready to cooperate both with governments of countries and global players as well as with small innovative companies.”



Federation Council member Lyubov Glebova noted: "The nuclear industry ranks first in the country in terms of the number of sustained humanitarian effects that have been generated". The plenary session was also attended by Director General of the OECD Nuclear Energy Agency William D. Magwood IV, IAEA Deputy Director General Mikhail Chudakov, Egyptian Minister of Energy Mohamed Shaker, Deputy Chairman of the Council of Ministers of the Republic of Belarus Vladimir Semashko, Turkish Deputy Minister of Energy and Natural Resources Necati Yamaç, and Bolivian Atomic Energy Agency Director General Hortensia Jiménez.



BUSINESS PROGRAMME



ROUNDTABLE: 'AN EFFECTIVE INTERNAL CONTROL SYSTEM AS A CONDITION FOR ACHIEVING GOALS'

The implementation of the major nuclear projects 'Right on Time!', 'Within the Budget!' and 'Safely, Reliably, and Conveniently!' are the goals that form the vision of peaceful nuclear development for the coming decades. The effective risk-oriented internal control systems of key players in the global nuclear energy industry must ensure reasonable confidence in achieving these goals in the face of rapidly changing economic conditions, expanding customer requirements and regulations of countries using nuclear power, the rapid development of digital technologies, and the growing demands of stakeholders, including for drastic improvements in the environmental compatibility of nuclear power.



ROUNDTABLE: 'NPP OPERATION'

One of the strategic goals for any operator is to efficiently supply the electricity generated at nuclear power plants, with the top priority being guaranteed safety. A plant's operational safety is inextricably linked to the plant's personnel training, maintenance and repairs, upgrades and lifetime extension. International cooperation and global partnerships to ensure a plant's safe operation and provide a plant with effective support and services are vital for the effective development of the nuclear power industry. Nowadays, with the sweeping development of new technologies and the digitalization of all areas of life, new challenges are emerging, and safety, environmental and cost efficiency standards are being enhanced for the operation of plants.



TPEK: PEOPLE OF THE NUCLEAR INDUSTRY

PANEL DISCUSSION: 'CHANGES IN HR MANAGEMENT IN THE ERA OF DIGITALIZATION'

The digitalization of the economy and business creates new challenges for human resource management. The needs of businesses and personnel for HR functions are rapidly changing. Today, personnel analysis relies on Big Data. The search for candidates is conducted electronically. More and more recruiting decisions are made by robots. Classroom education has become optional and is just a small part of the development plan. Businesses strive to communicate with their employees 24/7 and develop seamless HR processes.

The high-tech and knowledge-intensive nuclear industry needs such transformation just as much and perhaps even more than other industries.



What digital phenomena have already become a part of our life, and what interim and strategic tasks do nuclear HR face today? These issues were discussed at the panel discussion on 14 May.



ROUND TABLE: 'GREEN INVESTMENTS: CREATING OPPORTUNITIES AND EXPANDING HORIZONS'

Innovations and technological progress have significantly altered the world in the 21st century. The use of the latest technologies is the core driver of competitiveness in the energy sector. In an effort to ensure sustainable development, industry leaders have to understand and meet challenges in a timely manner. The need to develop unconventional financial solutions for capital-intensive projects is one of the key issues that must be resolved today.

If they want to further develop, companies working in the green energy sector must find modern approaches to fix their immediate problems: raising new investments by searching for unconventional approaches to finance structuring that minimize the recourse on the company's financial statements and developing project financing instruments in major



infrastructure projects whose total amount could reach billions of dollars.



ROUNDTABLE: 'GLOBALIZATION AS A KEY SUCCESS FACTOR: BUILDING NPPS IN A PARTNERSHIP ARRANGEMENT'

Today, dozens of energy units construction projects are being implemented in various countries. As nuclear power plants or other complex engineering facilities are built, a new partnership arrangement has been increasingly used – the creation of consortiums and alliances among various companies that place a premium on joint responsibility for the project's implementation and not just the distinct fulfilment of a specific task: supplying resources or a certain type of equipment. The placement of a major order is not only a matter of prestige, but carries a large amount of responsibility. A number of conditions must be met to stay on top of things, strictly observe a construction schedule, and remain within the budget.



TRACK: DIGITAL FUTURE AND INDUSTRY 4.0

'LIFE-CYCLE MANAGEMENT: WHAT DOES
THE CUSTOMER WANT – A PHYSICAL
OBJECT OR A MANAGEMENT PLATFORM?'

The track was devoted to trends in the development of the digital industry. The three-day programme featured a number of roundtables that focused on new approaches to the life-cycle management of an industrial enterprise: from project development to commercial operation and the application of standards (quality management, life-cycle management, and cost management).

Such approaches have become a crucial element in the successful development of the nuclear industry as well as key development projects. Today it has become difficult to build a power station or a factory without an information model.



Tomorrow the completion of such a task will be impossible without a digital twin. In the future, all objects will exist in two dimensions – in the dimension of a physical object and in the dimension of its real-time digital copy. The digital representation ensures the effective maintenance of infrastructure, risk assessment, and the creation of optimal processes. The necessary level of competitiveness could be achieved only through structural changes in the production process as well as personnel, financial, and communications management.

Digital transformations have made changes to the standards in many areas of project management: data rates and data storage volumes have changed, and new roles and functions have appeared. A task of this magnitude requires cooperation among many stakeholders: customers, engineering companies, regulators, investors, and vendors. Digital platforms are being created to provide the fullest possible integration of processes and stakeholders.



Nowadays all the world's biggest economies are obsessed with digital transformation, which has now become a serious prerequisite to productivity growth all over the world. ROSATOM, as one of the key actors on the market of digital technologies, suggests cooperating and using its vast expertise based on the highest demands for security and quality.



ROUNDTABLE: 'HARMONY IN PUBLIC ACCEPTANCE: CAN THE GLOBAL NUCLEAR INDUSTRY ACHIEVE IT BY 2050?'

The WNA has set ambitious goals: ensuring nuclear energy accounts for 25% of the energy mix by 2050. Achieving this milestone would only be possible if at least 1,000 GW of new capacity were to be commissioned by this time. These goals cannot be achieved without public support. How can we build a proper public dialogue and effectively utilize communication technologies to increase public acceptance and achieve the Harmony project goals? The discussion focused on the most effective solutions and best practices.



ROUNDTABLE: 'BUILDING CAPACITY IN COUNTRIES EMBARKING ON OR EXPANDING THEIR NUCLEAR POWER PROGRAMMES'

Global partnership is a key to building an efficient dialogue between stakeholders in implementing megaprojects, improving national nuclear power programmes, and developing competencies for newcomers and countries expanding their nuclear power programmes through an exchange of best practices and experience between the recipient countries of nuclear technologies, vendors, national regulators, and operators that are building and improving their nuclear industries.

The roundtable featured a discussion with the international expert community of the most topical and major issues in the development of the nuclear infrastructure in the countries embarking on and expanding nuclear power programme as a driver for global collaboration enhancement.



ROUNDTABLE: 'HOW CLEAN AND GREEN IS NUCLEAR ENERGY?'

The global energy market is changing rapidly and cannot be ignored: today most countries are committed to creating a decarbonized and sustainable energy mix that will contribute to their socio-economic development.

Of course, this process has been boosted by the rapid development of renewable energy sources. According to the International Energy Agency, low-carbon energy sources will account for a 40% share of global energy mix by 2040.

However, many experts note that only a few countries around the world will be able to achieve an energy balance based solely on renewable energy due to climatic and geographical conditions and high energy storage costs.



That said, the notion that a green and sustainable energy balance cannot be built without nuclear is becoming widespread. According to a number of energy experts, incorporating nuclear power into the energy mix not only results in greater environmental sustainability but also provides a boost in economic growth and social development.

It is extremely important to determine how feasible the synergy between atomic energy and renewables is and what role nuclear power plays in combating global climate change.

In an effort to find answers to these questions, Rusatom Overseas hosted debates featuring leading global experts from international nuclear, RES, and consulting companies.



ROUNDTABLE: 'TOTAL COST AND TIME MANAGEMENT OF NPP CONSTRUCTION PROJECTS: CONSTITUENTS OF SUCCESS IN INTERNATIONAL PROJECTS'

All projects of innovative development in the area of energy businesses will have better chances to succeed, if the owners were not only able to fulfil their obligations, but also continuously improve the system of management of projects and relationships (even in the context, where almost all NPP construction projects over the world do not fit within its deadlines and budgets).

Experts discussed the following topical issues during the roundtable:

- What methods exist to improve the value (attractiveness) of the constructed assets for foreign investors and shareholders?
- Is there a system that allows ensuring the transparency of cost and time management in NPP construction projects for foreign investors and stakeholders?



- Why does the application of international standards in cost engineering and project management demonstrate effective management in the implementation of large-scale international infrastructure projects?
- In what way does the priority of ROSATOM's TCM NC programme create added value for foreign investors?
- What are the benefits for a foreign investor (shareholder) from a partnership with ROSATOM in the integrated management of NPP projects thanks to: the proper allocation of resources and a global partnership with foreign suppliers and contractors?



TRACK: DIGITAL FUTURE AND INDUSTRY 4.0

PANEL DISCUSSION: 'WHAT IS THE DIGITAL FUTURE OF NPP CONTROL SYSTEMS?'

Digital transformations of today have made changes to the standards in many areas of project management: data rates and data storage volumes have changed, and new roles and functions have appeared. A task of this magnitude requires cooperation among many stakeholders: customers, engineering companies, regulators, investors, and vendors. Digital platforms are being created to provide the fullest possible integration of processes and stakeholders.



TRACK: PEOPLE OF THE NUCLEAR INDUSTRY

PANEL DISCUSSION: 'EDUCATION 4.0: HOW TO TRAIN ENGINEERS OF THE FUTURE'

The main purpose of the panel is to find answers to the current challenges in the education of nuclear engineers. The nuclear industry is high-tech and requires specific qualifications, profound knowledge, and a high level of responsibility from its workers. Each year nuclear companies and organizations worldwide recruit thousands of graduates and young professionals as they seek out the ones who are ready to deal with modern challenges and can help a company achieve its business goals.



ROUNDTABLE: 'THE LIFE CYCLE OF NUCLEAR FUEL. CHALLENGES AND FORWARD-LOOKING SOLUTIONS'

A key precondition for the development of global nuclear energy is the management of spent nuclear fuel (SNF) and radioactive waste (RAW) in the future nuclear fuel cycle, thereby making it possible to broaden the capabilities of raw material supply for nuclear generation in the long term and reducing the volume and danger of nuclear energy waste. The most efficient progress in individual technologies can be achieved through broad international cooperation at the state and business levels.



TRACK: NEW POWER ENGINEERING

ROUNDTABLE: 'RUSSIA AS A 'NEW ENERGY' MARKET PLAYER. IS THERE POTENTIAL FOR ENTERING THE INTERNATIONAL MARKET?'

The industrial revolution and the development of distributed generation and renewable energy not only dictate the need for new solutions in the energy sector, but also create new opportunities for Russian companies on the international market.

- How does 'traditional energy' differ from 'new energy'? What opportunities and threats exist for energy companies?
- How are energy companies responding to the new challenges? What can Russian companies offer and what are international players already offering the market?
- What are the best strategic model for Russian businesses – organic growth or partnerships?



TRACK: DIGITAL FUTURE AND INDUSTRY 4.0

ROUNDTABLE: 'ADDITIVE TECHNOLOGIES AS AN ESSENTIAL COMPONENT OF THE NEW INDUSTRIAL REVOLUTION'

Nowadays all the world's biggest economies are obsessed with digital transformation, which has now become a serious prerequisite to sharp productivity growth all over the world. ROSATOM, as one of the key actors on the market of digital technologies, suggests cooperating and using its vast expertise based on the highest demands for security and quality.



ROUNDTABLE: 'INTERNATIONAL SCIENTIFIC COOPERATION AND ADVANCED RESEARCH INFRASTRUCTURE— THE FOUNDATION FOR THE INNOVATIVE DEVELOPMENT OF NUCLEAR ENERGY'

Increasing competition on the energy market has resulted in the emergence of new solutions and the continuous development of technology. Future R&D tasks require the appropriate new research facilities, which are quite expensive. A global scientific partnership is the key to enhancing the effectiveness of financial investments in research infrastructure and optimizing R&D costs. Multilateral research programmes could be useful for distributing the costs and risks among several partners, so it is important to have a pre-agreed plan for the ownership and use of joint intellectual property.



ROUNDTABLE: 'FOUNDATION FOR THE FUTURE DEVELOPMENT OF NUCLEAR ENERGY: ECONOMIC EFFICIENCY, SAFE RADWASTE MANAGEMENT AND THE DECOMMISSIONING OF NUCLEAR AND RADIATION HAZARDOUS FACILITIES'

Economic efficiency, safe radwaste management and the decommissioning of nuclear facilities are indispensable for the development of nuclear energy in general: only by learning to work with radwaste and decommission nuclear facilities in a safe and cost-efficient manner will we be able to preserve the public's trust and the economic appeal of the "nuclear" kilowatt. The roundtable on radwaste management and the decommissioning of nuclear facilities aims to demonstrate the importance of a global partnership in this area: exchanging best practices and the joint search among experts for answers to universal questions is the easiest path to success for individual countries and companies and for nuclear power in general.



The roundtable was attended by heads and employees of government agencies and commercial companies that work in radwaste management and the decommissioning of nuclear and radiation hazardous facilities, industry experts and journalists from specialized publications.



ROUNDTABLE: 'NON-ENERGY USE OF NUCLEAR TECHNOLOGIES'

Nuclear technologies clearly have the potential to be used for non-energy purposes, and we can see how these technologies are broadly used today in such industries as healthcare and agriculture. A global partnership in this respect not only offers brand new business opportunities, but also allows for effectively combating challenges shared by all countries.



TRACK: NEW POWER ENGINEERING

ROUNDTABLE: 'USE OF ENERGY STORAGE DEVICES IN RENEWABLE POWER GENERATION AND ELECTRIC TRANSPORTATION'

A number of think-tanks have recently made optimistic forecasts regarding the development of the energy storage devices market. The long-term benefits and importance of developing this market are indisputable given the development of related technologies, such as renewable energy sources, power efficiency and electric vehicles.

At present, each EU member state is taking its own approach to the development of the power storage sector. In Germany, there has been rapid development in industrial energy storage projects. In the UK, energy storage devices have already become an integral part of the electric power industry, while new regulations aimed at liberalizing



and stimulating the market are expected to emerge in the near future.

The roundtable discussion has examined the world's best practices and approaches to the development of the energy storage industry. In addition, the speakers have talked about such topics as developing the energy storage devices market in Russia and the relevant regulations that need to be imposed to accelerate the development pace of this promising industry.



TRACK: PEOPLE OF THE NUCLEAR INDUSTRY

TRACK: NEW POWER ENGINEERING

PANEL DISCUSSION: 'KEY SKILLS FOR THE ECONOMY OF THE FUTURE: CHALLENGES AND GLOBAL PARTNERSHIP OPPORTUNITIES'

The digitalization of the economy will provide the foundation for creating fundamentally new types of business, trade, logistics and production, and for changing the format of education, healthcare, management and communications. Economic models are rapidly changing, which requires professionals to quickly adjust to new forms of interaction as well as partnerships. That's why it is critically important for high-tech companies to transition to a model involving the advanced development of technologies and competencies.



AGREEMENTS, CONTRACTS, AND MEMORANDUMS



STATEMENT ON THE PRINCIPLES OF RUSSIAN-SERBIAN COOPERATION IN INNOVATIONS AND TECHNOLOGI- CAL DEVELOPMENT FOR THE USE OF ATOMIC ENERGY FOR PEACEFUL OBJECTIVES



SIGNATORIES

On behalf of the ROSATOM State Atomic Energy Corporation — **ALEXEY LIKHACHEV**, Director General

On behalf of the Government of the Republic of Serbia — **NENAD POPOVICH**, Minister Without Portfolio of Serbia in Charge of Innovations and Technological Development

MEMORANDUM OF UNDERSTANDING

between ROSATOM State Atomic Energy Corporation and the Ministry of Water Resources, Irrigation and Electricity of the Republic of Sudan

on cooperation in training and skills development in the nuclear energy sector of the Republic of Sudan

Memorandum of Understanding

between the State Atomic Energy Corporation "ROSATOM" and the Ministry of Water Resources, Irrigation and Electricity of the Republic of Sudan on cooperation in training and skills development in the field of nuclear energy in the Republic of Sudan



SIGNATORIES

On behalf of ROSATOM State Atomic Energy Corporation — **NIKOLAY SPASSKY**, Deputy Director General / Director of the International Operations Unit

On behalf of the Ministry of Water Resources, Irrigation and Electricity of the Republic of Sudan — **YOUSIF HAMZA YOUSIF ABDULLA**, First Deputy Minister

MEMORANDUM OF UNDERSTANDING

between the State Atomic Energy Corporation ROSATOM and the Ministry of Water Resources, Irrigation and Electricity of the Republic of Sudan

on matters concerning the creation of a positive public opinion regarding nuclear energy in the Republic of Sudan



SIGNATORIES

On behalf of ROSATOM State Atomic Energy Corporation — **NIKOLAY SPASSKY**, Deputy Director General / Director of the International Operations Unit

On behalf of the Ministry of Water Resources, Irrigation and Electricity of the Republic of Sudan — **YOUSIF HAMZA YOUSIF ABDULLA**, First Deputy Minister

MEMORANDUM OF UNDERSTANDING

on a strategic partnership
for the development and application
of irradiation technologies



SIGNATORIES

On behalf of ROSATOM State Atomic Energy Corporation — **NIKOLAY SPASSKY**, Deputy Director General / Director of the International Operations Unit
On behalf of the Ministry of Science, Technology, and Environment of the Republic of Cuba — **DANILO ALONSO MEDEROS**, Deputy Minister

MEMORANDUM OF UNDERSTANDING
between ROSATOM State Atomic
Energy Corporation and the Chilean
Nuclear Energy Commission (CCEN)
on cooperation in training and skills
development in the nuclear energy
sector of the Republic of Chile



SIGNATORIES

On behalf of ROSATOM State Atomic Energy Corporation — **NIKOLAY SPASSKY**, Deputy Director General / Director of the International Operations Unit
On behalf of the Chilean Nuclear Energy Commission (CCEN) — **PATRICIO AGUILERA POBLETE**, Executive Director

MEMORANDUM OF UNDERSTANDING AND COOPERATION PROGRAMME



SIGNATORIES

On behalf of the ROSATOM State Atomic Energy Corporation — **KIRILL KOMAROV**, First Deputy Director General / Director of the Development and International Business Unit
On behalf of ENGIE — **DIDIER HOLLEAUX**, Executive Vice President

COOPERATION AGREEMENT



SIGNATORIES

On behalf of the ROSATOM State Atomic Energy Corporation — **KIRILL KOMAROV**, First Deputy Director General / Director of the Development and International Business Unit
On behalf of Galaktika Corporation — **ANTON MALKOV**, Deputy Director General for Strategic Development

FRAMEWORK AGREEMENT ON THE FINANCING OF CONCESSION PROJECTS

concession projects

between Joint Stock Company «Integrated Thermal Power Company» (JSC ITPC) and Joint Stock Company «Gazprombank»



SIGNATORIES

On behalf of Integrated Thermal Power Company — **KSENIA SUKHOTINA**, General Director

On behalf of Gazprombank — **VADIM DORMIDONTOV**, Vice President for Business Development with Companies in the Energy, Housing, and Utilities Sectors

FRAMEWORK AGREEMENT ON THE FINANCING OF CONCESSION PROJECTS

On behalf of Joint Stock Company «Integrated Thermal Power Company» (JSC ITPC) and Public
Joint-Stock Company «Sberbank»



SIGNATORIES

On behalf of Integrated Thermal Power Company — **KSENIA SUKHOTINA**, General Director

On behalf of Sberbank — **SERGEY BABAYAN**, Vice President and Director of the Department for Major Clients

FRAMEWORK AGREEMENT ON THE FINANCING OF CONCESSION PROJECTS



SIGNATORIES

On behalf of Integrated Thermal Power Company — **KSENIA SUKHOTINA**, General Director
On behalf of Sovcombank — **ANDREY OSNOS**, Managing Director

AGREEMENT ON THE DEVELOPMENT OF A PROJECT

for a floating NPP
in the Republic of Sudan



SIGNATORIES

On behalf of Rusatom Overseas — **YEVGENY PAKERMANOV**, President

On behalf of the Ministry of Water Resources, Irrigation, and Electricity of the Republic of Sudan — **MUSA OMER ABU EL-GASIM**, Deputy Minister

MEMORANDUM OF UNDERSTANDING



SIGNATORIES

On behalf of Rusatom Automated Control Systems — **ANDREY BUTKO**, Director General
On behalf of China Techenergy Co., Ltd. — **SUN YUNBING**, Deputy Director General

MEMORANDUM OF UNDERSTANDING



SIGNATORIES

On behalf of Rosatom Automated Control Systems — **ANDREY BUTKO**, Director General
On behalf of Sichuan Electric Power Corporation — **ZHANG XIANCHON**, Director General for International Business

AGREEMENT ON EDUCATIONAL, SCIENTIFIC, AND TECHNICAL COOPERATION



SIGNATORIES

On behalf of the ASE Group of Companies — **VALERY LIMARENKO**, President

On behalf of the Moscow Engineering Physics Institute National Research Nuclear University — **TATYANA LEONOVA**, Vice-Rector

On behalf of Alexeyev Nizhny Novgorod Technical State University — **SERGEY DMITRIEV**, Rector

COOPERATION AGREEMENT

ROAD MAP FOR THE DEVELOPMENT OF A MEMORANDUM ON COOPERATION



SIGNATORIES

On behalf of the ASE Group of Companies — **VALERY LIMARENKO**, President

On behalf of the SOVNET National Project Management Association — **ALEXANDER TOVB**, President

PROCEDURE FOR PRACTICAL COOPERATION IN THE TRANSFER OF NUCLEAR KNOWLEDGE AND EXPERIENCE

Practical Arrangements

between the International Union of Veterans of Nuclear Energy and Industry and the International Atomic Energy Agency In the area of transfer on nuclear knowledge and experience



SIGNATORIES

On behalf of the International Union of Veterans of Nuclear Energy and Industry — **PAVEL IPATOV**, President

On behalf of the International Atomic Energy Agency — **MIKHAIL CHUDAKOV**, Deputy Director General / Director of the Department of Nuclear Energy

MEMORANDUM OF UNDERSTANDING



SIGNATORIES

On behalf of ROSATOM Latin America — **IVAN DYBOV**, President of the ROSATOM Latin America Regional Centre
On behalf of the Chilean Nuclear Energy Commission (CCEN) — **PATRICIO AGUILERA POBLETE**, Executive Director

MEMORANDUM OF UNDERSTANDING



SIGNATORIES

On behalf of Rusatom – International Network — **ALEXANDER MERTEN**, President
On behalf of IDOM — **XABIER RUIZ MORÍN**, Director for Nuclear Business

AGREEMENT ON SCIENTIFIC AND TECHNICAL COOPERATION



SIGNATORIES

On behalf of Rosenergoatom Concern — **ANDREY PETROV**, Director General
On behalf of Belarusian Nuclear Power Plant — **MIKHAIL FILIMONOV**, Director General

MEMORANDUM ON SCIENTIFIC AND TECHNICAL COOPERATION



SIGNATORIES

On behalf of Science and Innovations — **PAVEL ZAYTSEV**, Director General

On behalf of the National Nuclear Centre of the Republic of Kazakhstan — **MAZHYN SKAKOV**, Deputy Director General

AGREEMENT ON COOPERATION



SIGNATORIES

On behalf of ROSATOM Technical Academy Autonomous Non-Profit Organization of Continuous Professional Education — **YURY SELEZNYOV**, Rector
On behalf of Alexeyev Nizhny Novgorod State Technical University — **SERGEY DMITRIEV**, Rector

MEMORANDUM OF UNDERSTANDING on interaction in matters concerning nuclear infrastructure and training

GLOBAL PARTNERSHIP — JOINT SUCCESS

Memorandum of understanding

between Rusatom Service JSC and VTT Technical Research Centre of Finland Ltd.
and Saanio and Riekkola Oy

ERVICES
Director



Timo
Saanio

SAANIO AND
RIEKKOLA OY
Chief Executive Office



Erja
Turunen

VTT TECHNICAL
RESEARCH CENTRE
OF FINLAND LTD.
Executive Vice President



2018
ATOME X PO

SIGNATORIES

On behalf of Rusatom Service — **YEVGENY SALKOV**, Director General

On behalf of Saanio & Riekkola Oy — **TIMO SAANIO**, CEO

On behalf of BVT Technical Research Centre of Finland — **ERJA TURUNEN**, Executive Vice President

Memorandum of understanding

between Rusatom Service JSC, Zarubezhatomenergostroy Production Association and
Joint-Stock Company and DEKRA Finland Oy

Sergey
Butskikh

Matti
Andersson

RUSATOM SERVICE JSC | ZARUBEZHATOMENERGOSTROY
Director | Director

DEKRA FINLAND OY
Managing Director

2018 V

MEMORANDUM OF UNDERSTANDING

on interaction in matters concerning
nuclear infrastructure and training

SIGNATORIES

On behalf of Rusatom Service — **YEVGENY SALKOV**, Director General

On behalf of Zarubezhatomenergostroy All-Russian Production Association — **SERGEY BUTSKIKH**, Director

On behalf of Dekra Industrial Oy — **MATTI ANDERSSON**, Managing Director

MEMORANDUM OF UNDERSTANDING

on cooperation to provide assistance
in the project to maintain the capacity
of Paks Nuclear Power Plant



SIGNATORIES

On behalf of ROSATOM Central Europe — **VADIM TITOV**, Director

On behalf of the Hungarian Atomic Forum Association — **ISTVÁN LENKEI**, Chairman

AGREEMENT

on scientific and technical cooperation in joint scientific, technical, and innovative activities

on scientific and technical cooperation in the field of joint scientific, technical and innovation activities



SIGNATORIES

On behalf of Rusatom — Additive Technologies — **ALEXEY DUB**, Director General
On behalf of Oerlikon AM GmbH — **IVAN MAKARIN**, President, Oerlikon Russia

MEMORANDUM OF UNDERSTANDING



SIGNATORIES

On behalf of Atomenergomash — **ALEXANDER RANTSEV**, First Deputy Director General for Atomic Energy and New Businesses
On behalf of Belleli Energy — **PAOLO FEDELI**, CEO

MEMORANDUM OF UNDERSTANDING



SIGNATORIES

On behalf of ROSATOM Middle East and North Africa — **ALEXANDER VORONKOV**, Director
On behalf of Sumou Holding Company — **SAEED SALEM AL NAHDI**, President

MEMORANDUM OF UNDERSTANDING



SIGNATORIES

On behalf of the European Nuclear Education Network — **PEDRO D. PORRAS**, General Secretary

On behalf of Tomsk Polytechnic National Research University — **ALEXANDER VAGNER**, Vice-Rector for Educational Activities

**ADDENDUM
TO THE FRAMEWORK AGREEMENT**
on the Provision of Consulting
Services for Remote Engineering
Support of Paks NPP, Units 1–4



SIGNATORIES

On behalf of Rusatom Service — **YEVGENY SALKOV**, Director General
On behalf of MVM Paks Nuclear Power Plant Ltd. — **ISTVÁN LÁSZLÓ HAMVAS**, CEO

AGREEMENT

on implementation of the project
for the construction of a radiation
processing centre in Malaysia



SIGNATORIES

On behalf of Rusatom Healthcare — **DENIS CHEREDNICHENKO**, Director General
On behalf of BGM Company — **ZULKAFLI GHAZALI**, President

AGREEMENT

on the project for the creation
of a network of radiation
processing centres



SIGNATORIES

On behalf of Rusatom Healthcare — **DENIS CHEREDNICHENKO**, Director General
On behalf of Shar Parto Iranian (SPI) — **SEYEDREZA RAFIEE**, CEO

AGREEMENT

on the project to build
a radiation treatment centre
in the Philippines



SIGNATORIES

On behalf of Rusatom Healthcare — **RUSTAM RAKHMATULIN**, Deputy Director General for Commerce
On behalf of A Brown Company, Inc. — **ROEL CASTRO**, President

MEMORANDUM

on strategic cooperation
and joint activities



SIGNATORIES

On behalf of Atomenergomash — **RANTSEV YURYEVIKH**, First Deputy Director General for Atomic Energy and New Business
On behalf of Motortech Consulting — **LIVIO BOLKOVIĆ**, General Director

MEMORANDUM OF MUTUAL UNDERSTANDING



SIGNATORIES

On behalf of Atomenergomash — **ANDREY NIKIPELOV**, Director General
On behalf of GE Digital — **MAHER CHEBBO**, Director of Innovation

MEMORANDUM OF UNDERSTANDING in the handling of SNF and RW and the decommissioning of nuclear and radioactive hazardous facilities



SIGNATORIES

On behalf of TECHSNABEXPORT — **ANDREY TOVSTENKO**, First Deputy General Director for Strategy and Marketing
On behalf of IDOM — **XABIER RUIZ MORÍN**, Director for Nuclear Business

AGREEMENT ON COOPERATION

between the State Atomic Energy Corporation "ROSATOM" (the Russian Federation)
and the Educational Fund "Talent and Success" (the Russian Federation)



SIGNATORIES

On behalf of the ROSATOM State Atomic Energy Corporation — **ALEXEY LIKHACHEV**, Director General
On behalf of the Talent and Success Educational Foundation — **YELENA SHMELEVA**, Director

CONTRACT

for the design, supply,
and construction of the Nuclear
Science and Technology Centre
in the Republic of Zambia



SIGNATORIES

On behalf of State Specialized Design Institute — **VYACHESLAV GALUSHKOV**, Director General

On behalf of the Ministry of Higher Education of the Republic of Zambia — **MABVUTO SAKALA**, Permanent Secretary

CONTRACT

for the supply of spare parts
and backup equipment
for Bushehr NPP Power Unit No. 1



SIGNATORIES

On behalf of Rusatom Service — **YEVGENY SALKOV**, Director General

On behalf of the Nuclear Power Production and Development Company of Iran (NPPD) — **MOHAMMAD AHMADIAN**, Managing Director

CONTRACT

for preventive maintenance
and training of the Customer's
personnel at Bushehr NPP
Power Unit No. 1



SIGNATORIES

On behalf of Rusatom Service — **YEVGENY SALKOV**, Director General

On behalf of the Nuclear Power Production and Development Company of Iran (NPPD) — **MOHAMMAD AHMADIAN**, Managing Director

ATOMEXPO AWARDS



The ATOMEXPO AWARDS ceremony was held for the first time as part of the 10th Anniversary International Forum ATOMEXPO 2018. The ATOMEXPO AWARD is a professional international award for a company's outstanding merit in the global industry and its significant contribution to the development of the nuclear industry and its use of nuclear power for the benefit of mankind.

TO DETERMINE ATOMEXPO AWARD WINNERS, A PROJECT COMPETITION WAS HELD AMONG COMPANIES PARTICIPATING IN ATOMEXPO FORUMS (2009-2018) IN FIVE CATEGORIES:

- **“Best Launch”** (for the most promising projects on the launch of nuclear programmes)
- **“Nuclear Technologies for better life”** (for the best project in the non-energy-related use of nuclear energy)
- **“Innovation for the future”** (for the most groundbreaking and innovative technological projects);



- **“Public Communication”** (for best PR projects);
- **“Human Capital Development”** (for the best projects in human capital management).

51 COMPANIES FROM 22 COUNTRIES SUBMITTED COMPETITION APPLICATIONS:

Austria / Belarus / Belgium / Bolivia / Brazil / Great Britain / Hungary / Ghana / Germany / Egypt / Zambia / India / Iran / Spain / Kenya / Mongolia / the Netherlands / Russia / Turkey / Finland / France / South Africa

JURY

An independent international jury of global nuclear industry experts evaluated each project from a professional point of view and identified three nominees in each category.

Awards were presented to the winners by the jury chairs for each nomination:

Henry Proglia, member of the Board of Directors of JSC AKKUYU NÜKLEER and Fennovoima Ltd;



Fernando Naredo, General Secretary of European Nuclear Society (ENS);

Takuya Hattori, Senior Advisor of the Japan Atomic Industrial Forum, Inc. (JAIF);

Pedro Porras, General Secretary of European Nuclear Education Network (ENEN);

Luis Echávarri, consultant with Ingeniero Industrial.

WINNERS

- The prize for the best project in the category **“Nuclear Technologies for better life”** was awarded to “Conversion of NTP’s 99Mo Process from HEU to LEU” submitted by NTP Radioisotopes (SOC) Ltd (South Africa).
- The prize winner in the category **“Innovation for the Future”** was Dassault Systems with their project “Innovative Information Management System based on 3DEXPERIENCE platform”.
- The prize in the category **“Human Capital Development”** was awarded to Tecnatom (Spain) for their project “Learning with



Soul Tecnatom”, which introduced a new educational process concept employing advantages from digital transformation, expert knowledge, and social and collective learning.

- In the “**Best Launch**” category, first prize went to the project “The Belarussian Nuclear Power Plant Construction”.
- The winning project in the category “**Public Communication**” was “Atom on Wheels India” created by the Nuclear Power Corporation of India to raise awareness of nuclear energy among the population by holding mobile exhibitions in villages and on the outskirts of different states across the whole of India.



ROSATOM STATE ATOMIC ENERGY CORPORATION AND IAEA JOINT SCHOOL



The school opened on May 14 in Sochi, on the side-lines of the 10th International Forum ATOMEXPO 2018. The opening ceremony was attended by IAEA Director General Yukiya Amano and Director General of the ROSATOM State Corporation Alexey Likhachev. "It is a special honour for us that the IAEA chose to partner with our system for training IAEA staff and that the IAEA chose to hold their third joint school with us," Likhachev said in his welcome speech. Participants of the School visited the Forum and took part in its business programme.

The school focussed on developing nuclear infrastructure, managing a safety culture, making advances in reactor technology, and managing nuclear knowledge. Training was aimed at developing the managerial and technical competencies necessary for developing or implementing national programmes in nuclear energy and included both theoretical classes and technical tours.



REGATTA



On 13 May, the 10th International Forum ATOMEXPO 2018 unofficially kicked off at the Imeretinskiy marina with a main event that included the ROSATOM Sailing Cup business regatta. Ten teams represented by ROSATOM State Corporation employees and their foreign partners took part in the regatta. On the eve of the Forum, specialists, top managers, and industry experts were given the opportunity to interact in an informal setting and, of course, learn how to sail a yacht.

All three stages of the regatta were hard fought. The participants of the regatta, who hailed from Russia, France, Japan, Germany, Hungary, Spain, and South Africa handled their yachts with great skill and daring, and it was difficult to know for sure who were professional yachtsmen, and who were atomic scientists. Back on shore, the participants of the regatta shared their impressions and stories about how they managed to keep their balance on deck and manage their sails.















TEN YEARS OF FORUMS



> 41 914

FORUM
PARTICIPANTS



85

COUNTRIES
PARTICIPATING



>6 000

COMPANIES
PARTICIPATING



1 321

SPEAKERS



166

BUSINESS
EVENTS



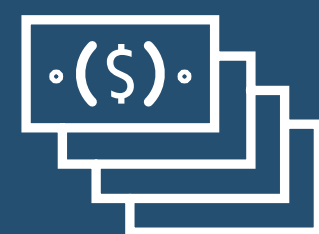
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MEDIA
REPRESENTATIVES



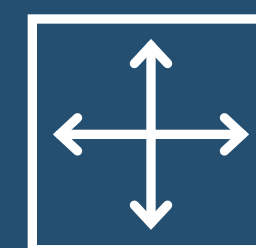
>500

AGREEMENTS
SIGNED



51 BILLION \$

ESTIMATED VALUE OF AGREEMENTS
SIGNED AT ATOMEXPO



>100 000 M²

EXHIBITION
SPACE

FORUM PARTICIPANTS SPEAK OUT



ALEXEY LIKHACHEV

Director General of ROSATOM

”

Over the ten years of its existence, the International Forum ATOMEXPO has grown into a truly significant event in the world nuclear industry; a platform for engaged, constructive communication between the leaders of key global nuclear industry companies, government agencies, international organizations, and leading experts.

”



SERGEY KIRIYENKO

First Deputy Chief of Staff of the Presidential Administration of Russia, Chairman of ROSATOM Supervisory Board

“

Over the past 10 years, the forum has not only made real friends but has also become the world's largest exhibition and business platform in the nuclear industry, a place where development trends are set.

”



CHARLES HENDRY

Minister of State for Energy and Climate Change,
United Kingdom of Great Britain and Northern Ireland
(2010-2012)

“

...We are now looking to the future, and we expect a serious increase in the production of electricity at nuclear facilities on the horizon for the next 20 years, so we consider the opportunity to hold ATOMEXPO here in Sochi an opportunity to foster international dialogue, an opportunity to look back at our achievements, and an opportunity to look towards the future...

”



WILLIAM D. MAGWOOD IV

Director General of Nuclear Energy Agency (NEA)

”

...It was an impressive exhibition. We had the opportunity to meet people from all over the world and discuss the future of nuclear technology with them. It was interesting to note during the discussion how different people ask the same questions and find the same answers. For me, the visit was a success.

”



JACQUES REGALDO

Chairman of World Association of Nuclear Operators (WANO)

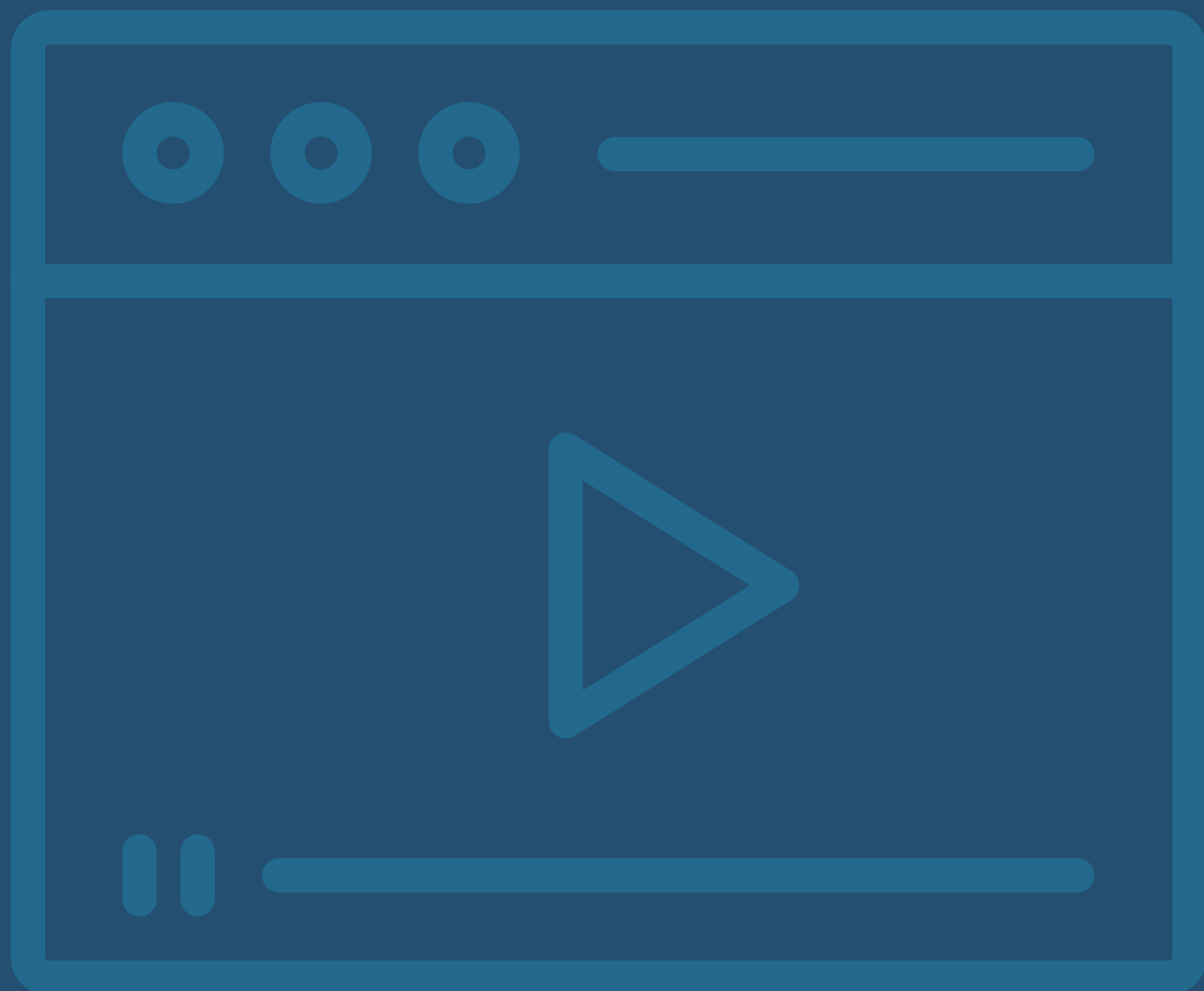
“

...I would like to emphasize the importance of the Forum ATOMEXPO, which is held every year, and is an important event for the industry. The support of WANO for this event reaffirms our commitment to strengthen international cooperation in nuclear energy with a view to continuously improving nuclear safety.

”



VIDEO REPORT



**WE LOOK FORWARD TO SEEING YOU
AT THE 11TH INTERNATIONAL FORUM
ATOMEXPO IN 2019!**