ROSATOM NEWSLETTER

MBIR Attracts Global Interest

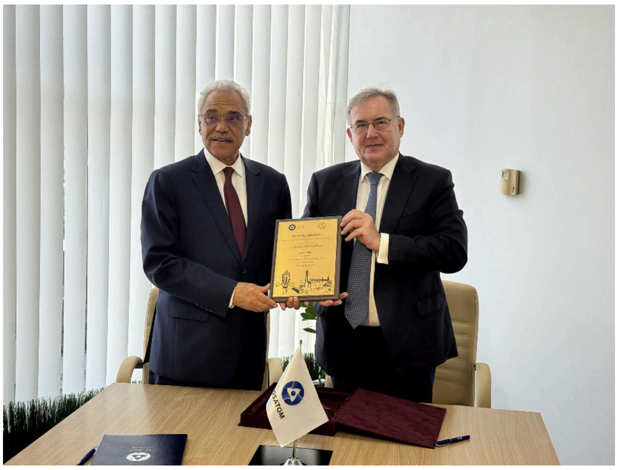
MBIR, a multipurpose sodium-cooled fast neutron research reactor, is drawing increasing interest from the international scientific community. This comes as little surprise: the reactor will have unparalleled specifications and enable never-done-before experiments.

MBIR will be one of the most powerful research reactors in the world, with a thermal capacity of 150 MW. It is currently under construction at the site of a Rosatom research institute in Dimitrovgrad, Ulyanovsk Region. In 2025, cold trap filters were installed in the emergency heat removal system circuit; hot pipeline adapters were welded to the reactor pressure vessel and the first pipeline sections; and the main pieces of equipment were installed in the sodium storage building. A fuel handling machine, and steam and water flushing stands for spent fuel assemblies arrived at the site. In 2026, two emergency heat exchangers — each weighing 7.3 tonnes, standing 5 meters high, and measuring 1.5 meters in diameter — were installed in their design position, while the installation of primary circuit equipment is continuing.

Unrivaled opportunities

Experiments planned for MBIR aim to develop and improve technologies for two-component nuclear energy systems, build safe Generation IV facilities, and close the nuclear fuel cycle. Specifically, research plans include studies on structural materials and fuel compositions for liquid metal cooled reactors, molten salt reactors, high-temperature gas-cooled reactors, and other innovative designs. The reactor will also be used for isotope production.

MBIR is the core facility of the International Research Center (IRC) consortium. Members of this consortium will receive priority access to the reactor's capacity for conducting research. In July 2025, the Nuclear Physics Institute of the Uzbekistan Academy of Sciences joined the consortium, followed by the Chinese company Shanghai ZDAN International Co. in December. In February 2026, the Arab Atomic Energy Agency (AAEA) joined the project.



"This is an important step for us towards delivering on the Arab Strategy for the Peaceful Use of Atomic Energy. Signing the cooperation agreement provides us with an effective tool for implementing our key projects," said AAEA Director General Dr. Salem Hamdi. The focus extends beyond applied or fundamental science to direct contributions to the economy and quality of life in Arab countries. "For example, our cooperation with the MBIR IRC will advance our project to establish a regional radioactive waste management system, which is critically important for environmental safety. Joint research at the MBIR reactor will provide us with new opportunities in developing and producing radiopharmaceuticals for the diagnosis and treatment of oncological diseases in healthcare," said Salem Hamdi. Access to this research infrastructure will also enhance the expertise of instructors at the future Specialized Arab Training Center and provide technological support to countries implementing their first nuclear power plant projects. The members of the AAEA are 14 Arab countries: Bahrain, Egypt, Jordan, Iraq, Yemen, Kuwait, Lebanon, Libya, Mauritania, Palestine, Saudi Arabia, Sudan, Syria, and Tunisia.

The development of future research programs is already underway. In September 2025, the MBIR IRC Advisory Board held its regular meeting. Representatives of research centers and specialized organizations from 15 countries discussed joint research areas, experimental programs, and personnel training for the nuclear industry.

According to IAEA data, most of the research reactors worldwide were built in the 1960s and 1970s. Currently, over two hundred of them are in operation. Half of the world's operating research reactors are over 40 years old, and about 70% are older than 30 years. It is evident that MBIR, a powerful new reactor, is best positioned to meet the growing demands of nuclear science in Russia and its partner countries.

Photo by: JSC SSC RIAR , Leader of the MTSI MBIR Consortium

First Woman at the Helm of a Nuclear Icebreaker

Rosatom is systematically developing Arctic shipping as part of establishing the Trans-Arctic Transport Corridor. This initiative has the potential to significantly increase cargo traffic on the Northern Sea Route. In this context, the nuclear icebreaker fleet takes on the key role. Becoming the captain of such a vessel is no easy feat. It is traditionally considered a male profession. But Rosatom is breaking stereotypes: last year, Marina Starovoytova became the first female captain of a nuclear icebreaker in the world. Here is her story.

By her first education, Marina Starovoytova was a teacher of Russian language and literature. But one day, friends told the young teacher that the Murmansk Shipping Company was hiring women for work at sea, and she decided to give it a try. She says her spirit of adventure and romance of travel took over.

At first, she worked as a mess attendant: she maintained order, washed dishes, and served food. But she realized fairly quickly that she loved the sea and wanted to steer the ship herself.

To make her dream come true, Marina Starovoytova enrolled in the correspondence department of the Admiral Makarov State Maritime Academy to study navigation. At that time, women were not accepted into the full-time department. She continued working as a mess attendant in parallel. The most difficult part for her was meeting an eligibility criterion of working as a sailor or cadet on a ship for 12 months. This sea time is mandatory to obtain a certificate of competency.

To get hired as a sailor, Marina approached the Association of Sea Captains in Murmansk. They supported her, and she got a job as a second-class sailor on a merchant vessel. She learned from senior colleagues, and participated in mooring operations and deck work. Later, she passed her exams, received the qualification certificate of an able seaman, and stood at the helm, steering the ship.

Having received her academic diploma and a certificate of competency, Marina Starovoytova took a job as a Third Officer. She went through mooring and complex self-unloading operations in the Arctic, earning authority among sailors through hard work. “The transport fleet hardened me and gave me invaluable experience. I recall those years and the people with whom maritime fate brought me together with warmth and deep respect. I still stay in close contact with many of them,” recalls Marina Starovoytova.

The dream: a nuclear icebreaker

Later, Marina wanted to pilot nuclear icebreakers. “I was fascinated by how professional icebreaker crews carved transport vessels out of ice with jeweler's precision. And the power of the icebreakers was impressive. I asked myself: could I do it like them? I decided to have a try," says Marina Starovoytova.

She was accepted onto the nuclear icebreaker Yamal, though with a demotion in rank as nuclear icebreakers require special skills and abilities. However, mentors helped her and offered guidance, so the learning process went smoothly. She passed her exams, became a Second Officer, and then a Chief Officer. There are three Chief Officers on an icebreaker: one is responsible for the operations department, the second for the domestic service, and the third for ship drills and firefighting equipment.

Marina Starovoytova did not specifically strive to become a captain. She said it was more important for her to feel that she was in the right place, doing what she loved, and that every successful escort operation she conducted was part of a greater effort.

Marina Starovoytova was appointed captain in August of last year, during a festive ceremony dedicated to the 80th anniversary of the Russian nuclear industry. "The Arctic is not just ice and snow; it is also the sea — harsh, majestic, and incredibly beautiful. All seas are different. The Kara Sea, where we have to work most often, is cold, with frequent fogs and storms, and covered with ice for most of the year. The Barents Sea is aquamarine, crystal with turquoise, but stern. Each sea has its own character, just like an icebreaker, just like a person," says Marina Starovoytova.

The new captain took command on September 30. Marina Starovoytova oversaw the docking of the Yamal, its scheduled repair, and its exit from the dock. Then came the first voyage and the escorting of vessels in the western sector of the Arctic.

The main task the new captain of the Yamal sets for herself is to do her work safely and efficiently. "It is never easy at sea. You are responsible for the entire crew and the icebreaker. This requires utmost composure and constant concentration," notes Marina Starovoytova.

Another task is to maintain a good working atmosphere. "As a teacher, I use different motivation methods, but it is very important to hear people. My crew is experienced and competent; their opinion is important to me, and we discuss many things because trust within the team is the foundation of safety," says the Yamal captain. Moreover, Marina Starovoytova wants everyone to see her not as the "first female captain," but simply as a captain.

Marina Starovoytova views her new position as a height conquered — not a finish line, but rather a beginning. There is much to learn: guiding cargo ships through the ice and leading a team in a new status. "A captain is an administrator, a judge, a diplomat, a psychologist, and a rescuer. They are the official representative of the flag state. A captain must foresee everything, be ready for anything, and be responsible for everything that happens on the ship," says Marina.

Photo by: Rosatom State Corporation, Nikita Boev

Additive Tech Quiz

Rosatom holds a leading position in the Russian additive manufacturing market and is developing this sector together with international partners, offering 3D printing solutions, materials, and methodologies for integrating additive technologies into production practices. We have frequently written about how the Russian nuclear corporation is advancing additive technologies. Today, we invite you to test your knowledge in this field.

1. What does the term “additive technologies” mean?

a) Technologies for removing material to make parts
b) Technologies for the layer-by-layer building and synthesis of objects
c) Metal forming technologies
d) Mass casting technologies
e) Chemical surface treatment technologies

2. Which additive manufacturing method is primarily used by Rosatom to produce metal parts for the nuclear industry?

a) Fused deposition modeling (FDM)
b) Stereolithography (SLA)
c) Selective laser melting (SLM)
d) Material jetting
e) Binder jetting

3. Which advantage of additive technologies is particularly important for the nuclear industry?

a) The possibility of using household 3D printers
b) Manufacturing parts with optimized geometry (lattice structures, internal cooling channels)
c) No need for design
d) Minimal material costs
e) Speed of printing any part in a matter of minutes

4. Which material is NOT used in additive manufacturing by Rosatom?

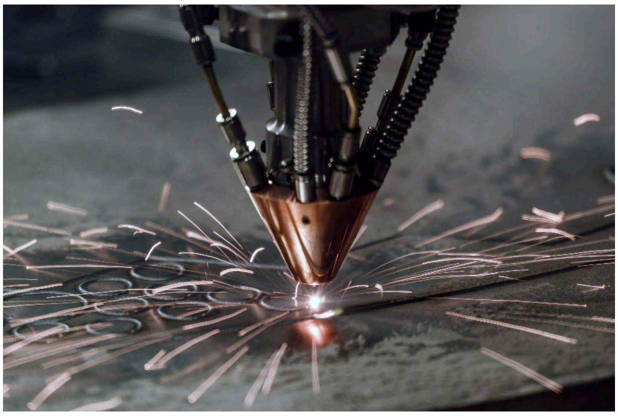
a) Stainless steel
b) Nickel alloy
c) Titanium alloy
d) Sand polymer composites
e) Heat-resistant alloy

5. **Which non-destructive testing (NDT) methods are used to verify the quality of Rosatom's SLM products?**

a) Visual inspection
b) Magnetic particle inspection
c) Computed tomography (CT)
d) Dye penetrant inspection
e) Eddy current testing
f) All of the above

6. **What does the term "digital twin" mean in the context of Rosatom's additive manufacturing?**

a) A graphic copy of a physical object in virtual reality
b) A virtual model of the product with a full set of parameters used to simulate and optimize the printing process
c) A digital certificate of equipment
d) A database of defects
e) A 3D printer control program



7. **What principle underlies the certification of parts manufactured by additive technologies at Rosatom?**

a) Trust in the manufacturer without testing
b) Visual inspection without measurements
c) Comprehensive testing (mechanical tests, NDT, microstructural analysis) to confirm compliance with safety standards
d) Reliance on computer modeling only
e) Use of methodologies from the 1970s

8. **Where was the first Rosatom-supported Additive Technologies Center opened outside Russia?**

a) In Türkiye
b) In Egypt
c) In Belarus
d) In Uzbekistan
e) In Kyrgyzstan

9. **What is the social impact of developing additive technologies at Rosatom?**

a) Reduction of industrial jobs
b) Creation of high-tech jobs and staff upskilling
c) Lowering educational requirements for engineers
d) Transition to remote work
e) Elimination of engineering professions

10. **In which organizations does Rosatom establish Additive Technologies Centers?**

a) Kindergartens
b) Schools
c) Higher education institutions
d) Enterprises
e) All of the above

Correct answers:

1. Additive technologies are technologies for the layer-by-layer creation and synthesis of objects. The term comes from the Latin *additivus*, meaning "added" and cognate with the English *add*.

2. For manufacturing high-load metal parts for nuclear power equipment, Rosatom uses the Selective Laser Melting (SLM) method. SLM technology allows for the production of dense metal products with specified mechanical properties, which is critical for the nuclear industry.

3. The manufacturing of parts with optimized geometry (lattice structures, internal cooling channels) is particularly important for the nuclear industry. It allows for improved thermal characteristics and reduced weight of components without loss of strength.

4. Rosatom does not use sand polymer composites in additive manufacturing. Sand polymer composites are used to make molds for foundry production.

5. To verify the quality of SLM products, Rosatom uses the full range of non-destructive testing methods.

6. A "digital twin" in the context of Rosatom's additive manufacturing is a virtual model of the product with a full set of parameters used to simulate and optimize the printing process. A digital twin allows for predicting material behavior and preventing defects prior to physical manufacturing.

7. The parts manufactured by additive technologies at Rosatom are certified based on comprehensive testing (mechanical tests, non-destructive testing, microstructural analysis). Products used in the nuclear industry must comply with safety standards established by the regulator (Rostechnadzor).

8. The first Rosatom-supported Additive Technologies Center outside Russia was opened in Belarus.

9. The development of additive technologies at Rosatom leads to the creation of high-tech jobs and staff upskilling. Introduction of 3D printing solutions requires training professionals in digital engineering and materials science.

10. Rosatom establishes Additive Technologies Centers in kindergartens, schools, universities, and enterprises. Their primary purpose is to introduce aspiring and seasoned professionals to additive technologies as early, fully, and deeply as possible.

Photo by: TVEL JSC (Fuel Company), the newspaper "Strana Rosatom"

The Power of Electricity

In February 2026, the International Energy Agency (IEA) released its report Electricity 2026: Analysis and Forecast to 2030. According to expert forecasts, electricity demand will grow faster than before. Nuclear power reactors are among the low-carbon electricity sources that will meet this demand.

Between 2026 and 2030, electricity demand is forecast to grow at an average annual rate of 3.6%, according to IEA experts. This is roughly 50% higher than the average for the preceding decade. The trend emerged at least two years earlier. In 2024, electricity consumption rose by an average of 4.4% worldwide, driven by cooling needs during heatwaves and growing industrial demand. In 2025, global electricity demand growth stood at 3%.

The second trend observed by IEA experts since 2024 is that electricity demand growth is outpacing economic growth. Previously, these indicators correlated. Furthermore, it is expected that until 2030, electricity demand will grow at least 2.5 times faster than demand for other types of energy.

The third important trend noted in the report is the resumption of electricity demand growth in the so-called advanced economies. "In 2025, advanced economies accounted for almost 20% of global electricity demand growth, up from 17% in 2024. We expect this share to remain near the 20% level on average over the forecast period, driven by expanding industrial activity and the continued growth of data centers, electric vehicles and other end-uses of electricity," the report notes. Specifically, electricity consumption in the US is expected to increase by an average of nearly 2% annually over the next five years. Roughly half of this amount will be driven by new data centers. IEA experts anticipate similar growth rates in the European Union. However, this is largely a recovery rather than growth: "Consumption is not expected to return to 2021 levels before 2028," the report states. In Australia, Canada, Japan, and Korea, accelerated electricity demand growth compared to previous decades is also expected through 2030.

Nevertheless, developing countries remain the primary driver of demand. China, for instance, is expected to increase electricity consumption between 2026 and 2030 by an amount comparable to the current demand of the European Union. The average annual growth in electricity demand in China is 4.9%. "This is close to its 2025 pace of 5% but slower than its 6.5% average over the past decade," the report says. Growth is also expected in India and Southeast Asian countries, driven by economic development and intensive use of air conditioning.

The fourth important trend is the understanding that power grids urgently need to be developed. Today, investment in this sector is lower than in power generation, and the underdevelopment of grid infrastructure is a problem. To cope with growing electricity demand, investment in power grids must increase by approximately 50% annually from the current USD 400 billion. A significant expansion of supply chains related to power grids will also be required. Deploying technologies that enhance grid efficiency will increase the availability of 450 to 700 GW of generating capacity. Specifically, the report mentions dynamic line rating, advanced power flow control, and reconductoring to increase grid capacity and voltage levels. "As grids and flexibility rise up the policy agenda, making more efficient use of existing systems can help relieve congestion and accelerate integration while grid expansion efforts continue," the report notes.

Between 2026 and 2030, the IEA forecasts global electricity demand to grow at an average annual rate of 3.6%.

Another way to improve power system parameters is the deployment of high-capacity battery storage facilities. The need for such facilities is particularly high in regions with a large share of renewable generation, such as Germany, California, South Australia, Texas, and the UK. The capacity of deployed batteries in these regions has grown significantly in recent years.

Nuclear on the rise

"Half of the world's electricity is forecast to come from renewables and nuclear by 2030," the report states. Generation at nuclear power plants will continue to grow. In 2025, output at French nuclear plants increased, and reactors in Japan were restarted. New reactors were also commissioned, including Kursk II Unit 1 in Russia, which was connected to the grid on December 31, 2025. "Nuclear energy is also regaining strategic importance in many advanced economies, underpinned by supportive policy frameworks to extend the lifetime of reactors and add new capacity," the report says.

Half of the world's electricity is forecast to come from renewables and nuclear by 2030.

Rosatom contributes to the development of nuclear energy worldwide. The Russian nuclear corporation's overseas project pipeline includes 41 projects in 11 countries. Rosatom is also working on construction projects at home: currently, 20 large and small-scale power units are under development within Russia.

According to IEA experts, electricity generation from renewable energy sources (RES) will grow by an average of 8% per year over the next five years. Solar power plants will account for the largest share of annual growth (over 600 TWh).

The changes in coal-fired generation vary by country. In India and China, coal generation declined due to slower demand growth and the rapid expansion of renewables. Conversely, in the US, coal consumption rose in 2025 due to rising natural gas prices and slower-than-planned retirement of coal power plants. As a result, the power sector increased its coal consumption. In the European Union, record solar output was accompanied by a reduction in hydro and wind generation, so coal consumption decreased only slightly.

IEA experts believe that output at coal-fired power plants in China will decrease over the next five years. Europe and both Americas will also show a decline in coal generation. In contrast, this indicator will rise in

India and Southeast Asia.

Electricity generation at gas-fired power plants is expected to grow globally by an average of 2.6% per year through 2030. For comparison, the average annual growth rate over the previous five years was about 1.4%. IEA analysts link the growth in gas generation demand to the general rise in electricity demand in the US and the transition from oil to gas in the Middle East.

“Over the 2026-2030 period, renewables, natural gas and nuclear together are expected to meet all additional global electricity demand in aggregate,” the authors of the report conclude.

In Russia

The report authors cited difficulties in obtaining data on Russia for 2025. We fill this gap and present the data here. According to the Russian statistics agency, Rosstat, electricity generation in Russia amounted to 1,194 billion kWh in 2025. This is 1.5% lower than a year earlier. Imports amounted to 2.3 billion kWh, and exports to 7.44 billion kWh. Electricity generation by nuclear power plants in 2025 stood at 219 billion kWh, which is 1.3% higher than in 2024.

In January 2026, Russia’s power system returned to growth, according to Rosstat. Electricity generation in January amounted to 119 billion kWh, which is 4.4% more than a year earlier and 2.9% more than in December 2025. Electricity generation by nuclear power plants for the same period was 20.6 billion kWh, which is 9.4% more than a year earlier and 4% more than in December 2025.

Rosatom’s overseas project pipeline includes 41 projects in 11 countries.

In January 2026, Russian Energy Minister Sergey Tsivilev held a meeting where one of the central topics was the implementation of development programs for the electric power industry in the country, taking into account projected demand growth and the need for accelerated development of energy infrastructure. “In the near future, we will adjust all our programs and strategies and make the necessary changes,” said Sergey Tsivilev, referring, among other things, to issues of power supply for data centers.

Thus, Russia is in line with major global energy trends in the electric power industry, which comprise growing consumption, including due to the increasing number of data centers, and the growth of nuclear generation.

Photo by: Unsplash, Freepik, Akkuyu Nuclear JSC

Egypt Chooses Rosatom Technologies

Construction work is going full tilt at all four power units of Egypt's El Dabaa. However, the nuclear power plant construction is not the only focus of Russian-Egyptian cooperation in the nuclear sector. In February, a delegation from the Executive Authority for Supervision of Nuclear Construction Projects in Egypt visited Moscow to explore Rosatom's advanced developments in energy storage and additive manufacturing. The parties discussed cooperation in these areas to build a green economy and strengthen Egypt's technological sovereignty.

At El Dabaa Unit 2, workers have finished installing the dry shield for the reactor pit. This cylinder-shaped structure, weighing 120 tonnes (comparable to the weight of a large passenger aircraft), was installed by a heavy-duty crawler crane in four hours. The dry shield provides reliable protection against ionizing radiation, ensuring the safety of personnel and equipment throughout the entire service life of the reactor. An additional function of the structure is heat removal, which reduces the thermal load on the concrete of the reactor pit and extends its service life.

Concurrently, the concreting of the fourth tier of the inner containment shell for the reactor building began at the same power unit. The volume of concrete to be poured exceeds 1,100 cubic meters.

The reactor building of Unit 2 maintains its status as the tallest structure on the construction site.

Storing green energy

Egyptian and Russian nuclear professionals maintain a constant dialogue, and their cooperation is not limited to the El Dabaa NPP construction project alone. In late February, a delegation from the Executive Authority for Supervision of Nuclear Construction Projects visited Parus Electro in Moscow (part of Rosatom's Automated Control Systems and Electrical Engineering Division). The parties discussed prospects for technological cooperation in electrical engineering, including the development of charging infrastructure for electric vehicles (EVs). This sector is state-supported in Egypt and has been showing impressive growth.

The guests were also shown the full value chain for battery production, from research and design to the assembly of finished products. Vladimir Khlebnikov, Deputy CEO of Parus Electro, said: "We presented solutions for Egypt's developing sectors — solar energy, energy storage systems, EV charging infrastructure — and other areas where there is potential to expand cooperation and exchange technological competencies."

Ahmed Farghal, Chairman of the Executive Authority for Supervision of Nuclear Construction Projects, emphasized that the development of cooperation in advanced technologies aligns with the goals of the Egypt Vision 2030 strategy, which aims to build an innovation-based green economy: “These contacts reflect the depth of Egyptian-Russian relations and the expanding strategic partnership between our countries across various sectors. They facilitate the transfer of knowledge and technologies, the development of energy infrastructure, and the receipt of long-term economic and social benefit based on mutual benefit,” Ahmed Farghal noted.

Following the meeting, the parties agreed on an action plan for further steps toward practical implementation.

Additive manufacturing for technological sovereignty

Today, Rosatom has established an end-to-end additive manufacturing supply chain: from the development of 3D printers and components to special metal powders, software, printing materials, and training. The company provides Russian manufacturing companies with reliable equipment, materials, and professional services to deploy additive manufacturing solutions.

In mid-February, Ahmed Farghal visited Rosatom’s Additive Technologies Center in Moscow. The guest was shown the key stages of making additive products, from 3D scanning and reverse engineering to the production of metal and plastic parts. He was also presented with the entire line of equipment manufactured there.

Ahmed Farghal showed particular interest in selective laser melting (SLM) systems designed to create complex parts from metal powders, as well as direct metal deposition (DMD) technologies. The guest highlighted the capabilities of Rosatom’s additive systems in restoring and repairing complex parts for the energy and industrial sectors, which significantly extends the lifecycle of critical equipment and reduces dependence on imported spare parts.

Ahmed Farghal praised the outcomes of the visit, noting that cooperation with Rosatom in the non-energy sector is reaching a whole new level. “The scale of competencies and the maturity of additive manufacturing solutions seen here convincingly confirm that these technologies are the driving force of modern industrial transformation. The development and implementation of additive technologies is a fundamental step for Egypt toward strengthening national technological sovereignty. We hope that Rosatom’s unparalleled experience in creating a full cycle — from equipment development to building industry ecosystems — will become an important benchmark for our joint projects,” Ahmed Farghal pointed out.

Ilya Kavelashvili, Director for Additive Technologies at Rosatom’s Fuel Division, noted that developing indigenous competencies in additive technologies is a strategic choice for any country striving for technological sovereignty. “Rosatom has unparalleled experience in creating an end-to-end additive manufacturing supply chain: from developing and producing our own equipment to establishing additive technology centers, both in Russia and abroad. We are ready to share this experience with our Egyptian colleagues,” Ilya Kavelashvili said.

The parties reaffirmed their mutual interest in developing bilateral cooperation and outlined steps to specify joint initiatives for integrating additive technologies into Egypt’s industrial sector.

Also in February, the Arab Atomic Energy Agency and the Leader of the MBIR International Research Center Consortium signed a strategic cooperation agreement on peaceful uses of nuclear energy. For more details read the main news section of this issue.

Photo by: ASE JSC, TVEL JSC (Fuel Company), Company Parus electro LLC

Laying the Groundwork for the Next Half-Century

Active construction is underway at the Akkuyu NPP. Experts from TESPAM describe the plant's upcoming commissioning as a historic milestone that will lay the technological and energy groundwork for the next half-century. Meanwhile, Akkuyu Nuclear is stepping up its career guidance efforts, with university and school students from the region visiting the construction site.

The water chemistry laboratory of the Akkuyu NPP chemical department has confirmed its high qualifications and the quality of its measurements. Following an independent audit, it was internationally recognized as a "Laboratory of Excellence." The laboratory technicians conduct high-precision analysis of the water to be used during the operation of the nuclear power plant, as well as for flushing equipment during the preparation for the reactor launch.

"For a nuclear power plant, water is as strategically important an element as technology. The independent assessment of measurements at our water chemistry laboratory confirms that we are building a quality control system in line with the best global practices," said Sergey Butskikh, CEO of Akkuyu Nuclear JSC.

The audit is a vital step in preparing for accreditation under the international standard for industrial environmental monitoring. In the next stage, the laboratory will undergo accreditation by the authorized national body of the Republic of Türkiye, TÜRKAK.

From theory to practice

One of the objectives of Akkuyu Nuclear is to promote engineering professions and raise the prestige of higher engineering and technical education. To this end, regular meetings are held with the student community.

In February, students from the Civil Engineering Department of Dicle University (Diyarbakır) and the Engineering Faculty of Ege University (Izmir) visited the site to see the construction of Türkiye's first nuclear power plant with their own eyes and learn about career opportunities within the project. Specialists briefed the students on the plant's technological features and operating principles. The young people learned about opportunities to study in master's programs at leading Russian technical universities under the specialized personnel training program for the Akkuyu NPP. Program graduates — Turkish engineers currently working at the plant — shared their personal experiences with the students. "The Akkuyu NPP is a multifaceted project that has a noticeable impact on many areas of economic and social life. For future engineers, the nuclear plant site is also an effective educational platform that helps them form an understanding of current nuclear technologies and advanced engineering solutions," Sergey Butskikh said.

During the tour, the students had a chance to see the scale of the construction from a viewing platform 200 meters above sea level. They also visited the Akkuyu NPP training center, an educational facility for the professional training of nuclear power plant operators. Its heart is the full-scale simulator, which is an exact replica of the main control room.

Another educational initiative by Akkuyu Nuclear is quest tours for schoolchildren at the nuclear plant site. A new season kicked off this year: the first educational tour in February was held for students of the İlker Eren Çevik Anatolian High School (Silifke). At each stage of the quest, participants completed creative tasks requiring agility, general knowledge, and teamwork. At the end of the tour, each student received a commemorative souvenir.

"It is important for us that schoolchildren understand that working at a nuclear power plant means a prestigious profession, stable employment for decades, and the opportunity to continuously develop and build a future in their homeland, without having to leave their home region," Sergey Butskikh explains.

Insurance against energy shocks

The construction of the Akkuyu Nuclear Power Plant is in an active phase. Commissioning work is underway at Unit 1. The plant's entry into service is a critical milestone in the history of Türkiye's energy sector, according to Oğuzhan Akyener, President of the Turkish Energy Strategies & Politics Research Center (TESPAM). In an interview with KANAL 33, the expert emphasized that the Akkuyu NPP is a strategic investment that will shape not only today but the next half-century. "The process that began with Akkuyu signifies a long-term transformation that goes beyond Türkiye's status as an energy-importing country and supports its goal of becoming a state with a voice in the production of high-tech, high-value-added products. This step is one of the major structural reforms capable of reducing the foreign trade deficit in the energy sector," Oğuzhan Akyener emphasized.

Professor Dr. Uğur Çevik, Chairman of the Board of TESPAM Teknoloji A.Ş., assessed the strategic importance of Akkuyu in terms of the security of energy supply: "Upon reaching full capacity, the Akkuyu NPP will cover about 10% of Türkiye's electricity needs. The plant's service life is 60 years, with the potential for a 20-year extension. This means long-term, uninterrupted generation, as well as an insurance policy that will protect Türkiye from energy shocks over the coming century."

The economic impact of the Akkuyu project is not limited to electricity generation. Oğuzhan Akyener highlighted that local content in the project has reached 50%, which fosters the rapid development of the Turkish nuclear industry and turns Turkish companies into exporters.

Professor Uğur Çevik provided the following assessment: "During the plant's construction period, thanks to its direct and indirect effects, jobs were provided for tens of thousands of people, and billions of dollars' worth of contracts was tendered out. During the operation period, a stable economic structure will be formed in areas such as maintenance, engineering, nuclear fuel management, and technical services. The total contribution of the project is expected to be around USD 50 billion." Uğur Çevik also stressed the contribution of nuclear energy to achieving Türkiye's carbon neutrality goals.

Photo by: Photo by: Akkuyu Nuclear JSC