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ON DUTY

DIXI GROUP ALERT

5 FACTS ABOUT ROSATOM

THREATS OF
FURTHER
COOPERATION
WITH THE RUSSIAN
CORPORATION

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Summary

Sanctions on Rosatom [remain on](#) the agenda. In the absence of tangible sanctions pressure, the Russian nuclear corporation is actively working to increase its presence in Africa and Asia, offering its own nuclear technologies in promising markets. Rosatom also plays a significant role in the fulfilling the Russian state order for weapons production, as evidenced by numerous statements of officials. At the same time, the corporation is constantly expanding its scope of activities by developing non-core fields.

The imposition of sanctions on all companies and organizations that are a part of Rosatom and are not directly involved in the maintenance of existing nuclear power plants or the supply of nuclear fuel should be an important step to stop active expansion of the nuclear giant.

Sanctions on scientific and research organizations should be imposed as a matter of priority to deprive Rosatom's subsidiaries of access to modern technologies and prevent them from participating in the international projects. Russian research institutes traditionally have a powerful manufacturing infrastructure that allows not only to conduct experimental research but also to manufacture equipment, in particular for the Russian military-industrial complex.

Another restrictive measure should be the automatic inclusion of all new assets acquired by Rosatom, both inside and outside Russia, in the sanctions lists. This will limit the corporation's "expansion" into related industries, which it develops to provide the Russian public sector with high-tech products.

In terms of strategic prospects, it is important to limit the influence of the Russian Federation in the global nuclear energy sector. One of the tools is to create a coalition in the IAEA to remove Russian representatives from leadership positions. Also, all programs of cooperation between Rosatom and the IAEA that are not related to monitoring the condition of operating nuclear power plants should be curtailed.

Cooperation in terms of new technologies with an aggressor country legitimizes crimes committed by employees of the Russian corporation in the territory of sovereign Ukraine. The expulsion of Russians from the Department of Nuclear Energy and the reduction of Russia's role and influence

in the IAEA are essential. The IAEA Statute clearly states that membership entails not only rights and privileges, but also obligations and responsibilities, which Russia is violating with its war and nuclear terrorism.

Another important step is to diversify the supply of enriched uranium and nuclear fuel to the countries of the sanctions coalition. Dependence on Rosatom is used as a weapon to promote pro-Russian narratives. The decisions of [Slovakia](#), [Bulgaria](#), [Czechia](#), and [Finland](#) to refuse from Russian nuclear fuel are politically correct and should be implemented as soon as possible. This is also an example for Hungary, which has the greatest dependence on Russia and continues to increase it by pursuing the Paks II project.

It is important to prevent further spread of Russian influence in the nuclear sphere. It is necessary to stop the supply of Western technologies and equipment from the EU, the U.S., the UK, Japan, Canada, Australia and other countries that support sanctions on Russia to new nuclear power facilities being built by the aggressor.

Unfortunately, European companies continue to do business with the Russian public sector. E.g., Framatome [plans](#) to export enriched uranium dioxide to Russia, and the French-German consortium Framatome-Siemens [continues](#) to participate in the Russian project in Hungary. Also, a representative of the aggressor country [continues](#) to actively participate in the ITER project.

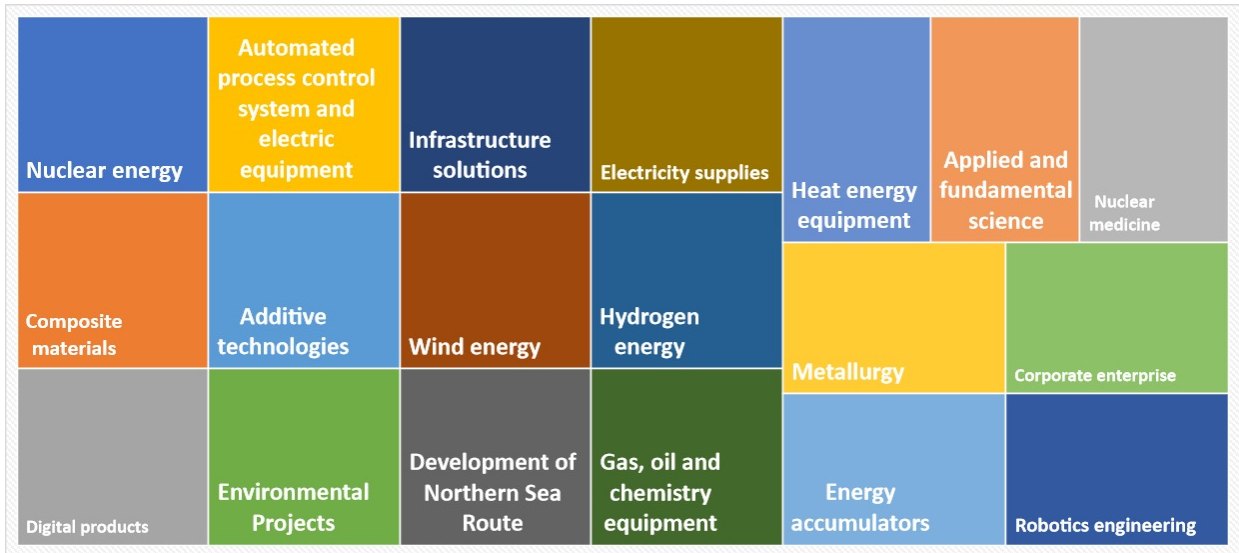
It is important to understand there is no clear boundary between Rosatom's activities in civil nuclear energy and support of the Kremlin's military-industrial machine. Therefore, all types of cooperation give the aggressor not only tools to continue energy and nuclear blackmail, but also money to wage the war.

Introduction

The Russian state corporation Rosatom is a very large structure, and scope of its activities is not limited to nuclear energy and nuclear weapons. The main difference between the “nuclear giant” and other state corporations of the Russian Federation is its powerful expansion into other sectors of the economy, which is not limited to nuclear technologies.

The official strategy of the corporation is to diversify its business and increase production of other non-nuclear products. Rosatom’s goal is to reach 40% of total revenues from new businesses by 2030.

Rosatom has technologies in all segments of the nuclear fuel cycle, construction and operation of



Source: [Rosatom's official website](#)

nuclear power plants, uranium enrichment, and nuclear fuel disposal. The company’s active foreign operations create preconditions for strengthening its political influence in the countries of its presence. And while the EU countries are taking measures to diversify nuclear fuel supplies, although they have not imposed sanctions against Russian nuclear power, in Africa and Asia, Russia has all the conditions to increase its project portfolio.

However, the fact that Russia is a global leader in the nuclear power industry without understanding the scale of expansion in other industries distorts the “portrait” of this state structure. The company is actively expanding, buying up assets both inside and outside the country. Rosatom closely

cooperates with Russian government agencies, providing the public sector with electronics and developments in the military-industrial complex.

Even after February 24, 2022, Rosatom continues many joint international projects and participates in technical and training events of the International Atomic Energy Agency. Russians continue to hold strong positions in the IAEA, including leadership in the organization’s structure.

The gradual closure of data on Russian official Internet resources makes it difficult to analyze the corporation’s activities objectively. However, even the information published in the Russian media and on specialized resources shows that Rosatom plays a crucial role in the Kremlin’s political and military machine.

Fact 1: Rosatom works for the Russian military-industrial complex

In early May 2023, information about Rosatom’s involvement in the production of ammunition for the Russian army [appeared again](#) in the Russian online media. We are talking about armor-piercing discarding sabots with a high-density core made from depleted uranium. Such sabots are developed by the order of Uralvagonzavod, which is a part of Rostec state corporation and is the developer of the T-14 tank on the Armata platform. However, the specific enterprises involved in the production are not named.

Information about the start of cooperation between Rosatom and Uralvagonzavod began [to appear](#) in 2017. At the same time, news outlets point out that previously the task of manufacturing ammunition for the Russian army was traditionally handled by the Tekhmash production association, which means that this is a relatively new competence for Rosatom.

It is important that this competence is not limited to the production of projectiles for armored vehicles on the Armata platform. In the same year 2017, [it was reported](#) that M.V. Protsenko Production Association “Start” (PA “Start”), which is a part of Rosatom, is developing a serial production of 57-millimeter projectiles for anti-aircraft artillery systems. These anti-aircraft systems are [developed](#) by the Burevestnik Research Institute, which is a part of the Russian military-industrial complex. According to publicly available [data](#), during the Soviet period, PA “Start” specialized, in particular, in the production of nuclear ammunition components and assemblies, and since the late 1990s has

been actively working in the conventional weapons segment:

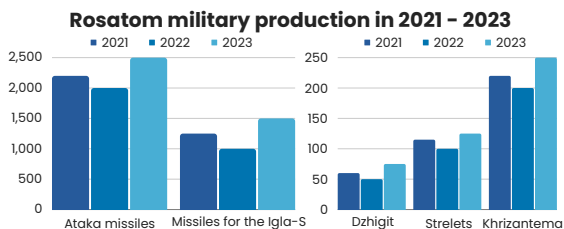
- components of Ataka missiles;
- missiles for the Igla-S anti-aircraft system;
- Dzhigit launcher;
- Strelets launch module;
- Khrizantema anti-tank missile system.

It is impossible to confirm this information from open sources, but there is indirect evidence that it is reliable. For example, the portal of closed administrative-territorial entities [contains information](#) that PA “Start” is the main manufacturer of the Khrizantema anti-tank missile system. The NACP database of sanctions [indicates](#) that the company “develops and produces complex technologies for nuclear facilities”.

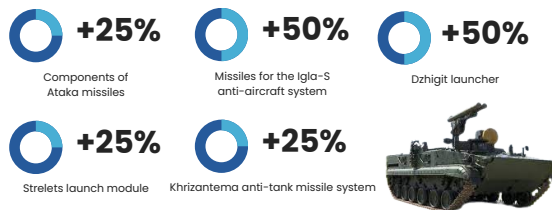
The All-Russian Research Institute of Experimental Physics “Russian Federal Nuclear Center” is also “in the case”: since the early 1990s, the institution has been developing anti-tank ammunitions with monoblock and tandem charges, including the design of parts of the Ataka missile and Khrizantema-S anti-tank missile system. Information about such developments used to be open and posted on the Institute’s official website, but is now available only as an [archive page](#). It is noteworthy that after February 24, 2022, the Russian Federation has been increasingly closing down information about the work of not only the military-industrial complex, but also the activities of enterprises within the Rosatom structure.

ROSATOM

THE PRODUCTION OF AMMUNITION COMPONENTS



An increase in the production of weapons in 2023 relative to 2022



ROSATOM CONTROLS ABOUT **30%** OF THE GLOBAL MARKET FOR **URANIUM ENRICHMENT**

and **17%** of the market for **reactor fuel**, and out of the approximately 450 nuclear power plants around the world, about **20%** of them are **Russian-designed**.

Rosatom is currently working on **23 nuclear power units** across the globe, including in India, Turkey and Egypt, with its foreign order book standing at **\$200 billion**.

As of mid-November 2023, sanctions against PA “Start” [were imposed](#) by Ukraine, Canada, and the United States. The United States, the United Kingdom, Canada, Australia, and Ukraine [have imposed](#) sanctions against the Russian Federal Nuclear Center. In other words, Rosatom’s structures look like scientific institutes or production enterprises of the nuclear industry, but are involved in the production of conventional weapons, and yet they are not on the EU sanctions lists.

Russian government officials also [talk](#) about successful cooperation of the Russian army and Rosatom, pointing to the significant role of the state corporation in modernizing weapons.

In January 2023, The Washington Post [published](#) information on the possible involvement of Rosatom in the procurement of components, equipment and raw materials to support weapons production in Russia in 2022. Essentially, taking advantage of the absence of sanctions, the companies within Rosatom’s structure can circumvent sanctions and help in the war against Ukraine. The article contains a link to a letter from the head of one of Rosatom’s departments, to which Ukrainian intelligence gained access. It is reported that representatives of Almaz-Antey corporation, Tekhmash Research and Production Complex, High-Precision Complexes enterprise, Alloy Research and Production Association, the state aviation conglomerate, and several other manufacturers of armored vehicles and tanks were invited to the meeting.

The letter also provides a detailed description of the proposed products for the Russian army: aluminum oxide, which is an important component of missile fuel, chemical compounds used in the aviation and missile industries, lithium-ion batteries for tanks, air defense systems and other weapons, as well as 3D printing technology.

In recent years, cooperation between the Russian military machine and Rosatom structures has been actively expanding:

- Rosatom [is developing](#) a standardized ammunition for the T-14 Armata tank, which was supposed to be commissioned at the end of 2021;
- Specialists of the Troitsk Institute of Innovative and Thermonuclear Research, which is a part of Rosatom, [were involved](#) in the development of technology to increase the service life of artillery barrels. The procurement documents name the Russian Ministry of Defense as a potential customer of new technology;
- At the Army-2023 military-technical forum, the Scientific Research Institute of Instruments,

which is a part of Rosatom, [demonstrated](#) its own development – the Obnaruzhitel system for searching for unmanned aerial vehicles (UAVs);

- The Burevestnik nuclear-powered cruise missile [was developed](#) jointly with the Novator design bureau and the All-Russian Research Institute of Experimental Physics, a subsidiary of Rosatom.

In September 2023, the Russian media [reported](#) that Rosatom was flawlessly fulfilling the state defense order, which has increased many times over recent years. The corporation’s “scope of interest” also [includes](#) the development of hypersonic weapons, which Rosatom is working on jointly with Roscosmos.

All this information, available in open sources, creates a clear picture of Rosatom’s role in the development of weapons for the Russian army. The scientific and production base of the companies and organizations within the structure of concern allows them to actively participate in the implementation of the state defense order. At the same time, only a few research and development enterprises are still under US and EU sanctions, in particular:

- Troitsk Institute of Innovative and Thermonuclear Research State Scientific Center of the Russian Federation JSC (under sanctions of the EU, the USA, Switzerland, the UK, Canada, Australia and Ukraine);
- M.L. Dukhov All-Russian Research Institute of Automatics Federal State Unitary Enterprise (under sanctions of the EU, the USA, Switzerland, Japan, the UK, New Zealand, Canada, Australia and Ukraine);
- A.P. Aleksandrov Research Technological Institute Federal State Unitary Enterprise (under sanctions of the EU, the USA, Switzerland, the UK, Canada, Japan, New Zealand and Ukraine);
- M.A. Dollezhal Research and Development Institute of Power Engineering JSC (under sanctions of the EU, the USA, Switzerland, the UK, Canada, Japan, Australia and Ukraine);
- A.I. Leipunsky Institute of Physics and Power Engineering State Scientific Center of the Russian Federation JSC (under sanctions of the EU, the USA, Switzerland, Japan and Ukraine).

Companies subject to US sanctions and no EU sanctions:

- Ye.I. Zababakhin All-Russian Research Institute of Industrial Physics Russian Federal Nuclear Center Federal State Unitary Enterprise (under sanctions of the USA, the UK and Ukraine);

- Russian Federal Nuclear Center All-Russian Research Institute of Experimental Physics Federal State Unitary Enterprise (under sanctions of the USA, the UK, Canada, Australia and Ukraine);
- NGIgrafit Research Institute of Structural Materials Based on Graphite JSC (under sanctions of the USA, the UK and Ukraine);
- Atomstroy Research and Design Institute of Assembly Technology JSC (under sanctions of the USA, Canada and Ukraine);
- Start Production Association named after M.V. Protsenko Federal Research and Production Center (under sanctions of the USA, Canada and Ukraine).

It should be understood that there is constant interaction and cooperation between Rosatom's structures, forums and conferences are held, and experience is exchanged. That is why the sanctions imposed by the anti-Russian coalition must be synchronous and complete. The sanctions lists should include all subsidiaries of Rosatom engaged in scientific research in order to remove these enterprises from modern technologies and deprive them of the possibility of mutual substitution in supporting the Russian military machine and circumventing sanctions. Research organizations that are part of the Rosatom structure and are not mentioned above are listed in [Annex 1](#).

Fact 2: Rosatom is a “friend” in the IAEA

In March 2022, Greenpeace International [sent](#) an appeal to the IAEA to immediately remove Mikhail Chudakov from the post of Deputy Director General. In April of the same year, this demand [was supported](#) by Switzerland. Many public organizations, government officials at various levels, and experts call for reducing the influence of Russians in the international organization that controls nuclear safety around the world.

The reason for those calls is Chudakov's many years of work in the structure of Rosatom and the successful international activities of the Russian corporation. The connection between these two facts may lie in Rosatom's access to information received by the IAEA's Department of Nuclear Energy, headed by Chudakov. Also, Russian representatives can have a significant impact on the IAEA's decisions, including those concerning the Ukrainian nuclear energy facilities.

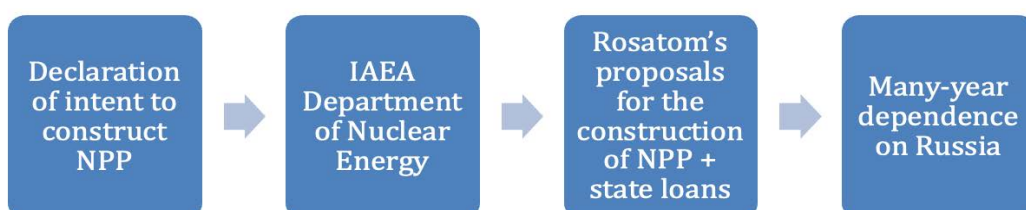
To grasp the full impact of Mikhail Chudakov, who also serves as Deputy Director General and Head of the IAEA's Department of Nuclear Energy, one needs to simply familiarize oneself with the main direction of his work. He describes it in the most accessible way in [an interview with NS Energy](#), recorded in 2016. Talking about the work of his department, he separately emphasizes the work with “newcomers” – countries that are at the stage of making a decision on the feasibility of building a nuclear power plant. The department, headed by Mr. Chudakov, develops recommendations for

providing the necessary infrastructure, assists in nuclear energy planning and solving technical issues related to all stages of the nuclear fuel cycle.

Thus, Mr. Chudakov concentrates all information on the intentions to build new nuclear power plants, interest in the latest developments, and improving the efficiency of technological processes. He is the first to know about countries' plans to develop nuclear energy programs. What happens next? And then potential customers receive stunning offers from the Russian Rosatom, backed by Russian government loans.

The construction of the Akkuyu NPP in Turkey can be considered the apogee of expansion – the facility is being implemented under the BOO (build-own-operate) model, which implies that the Russian side will not only carry the design and construction of the NPP, its maintenance and operation, but will also be the owner of the facility itself. It is worth noting that Turkey, which is a NATO member state, [continues to move](#) the project towards completion, despite the fact that the NATO Parliamentary Assembly [has recognized](#) Russia as a terrorist state.

There is every reason to believe that Chudakov's position is a reliable and operational source of information on the direction of the industry's development. Based on the data of his department, Rosatom forms its expansion plans and gains a competitive advantage.



Stopping the increase of Russian influence in the global nuclear energy sector is one of the top priorities. Of course, it is possible to cut off the threatening “tentacles” one by one, persuading countries to cancel individual contracts with Rosatom. However, the most reliable and effective way is to neutralize the think tank.

The civilized world should remove Russia’s access to information and the latest technologies, and eliminate Russia’s competitive advantage in the form of data on plans to build new nuclear power plants or expand nuclear energy programs. The removal of representatives of the Russian Federation from leadership positions in the IAEA should be one of the first steps towards reducing Russia’s influence in such a strategically important industry as nuclear energy.

It is also worth noting the continuation of active cooperation between the IAEA and Rosatom subsidiaries, the foundations for which were laid by Mikhail Chudakov. Thus, on March 2, 2023, an agreement was signed that establishes the status of MEPhI National Research Nuclear University as a center of the IAEA cooperation. [According to Rosatom’s official website](#), the agreement was signed by Vladimir Shevchenko, rector of MEPhI, and Mikhail Chudakov, Deputy General Director and Head of the IAEA Department of Nuclear Energy.

Russian media actively publish other news about the cooperation between Rosatom and the IAEA:

- IAEA experts [visited](#) the Blokhin Cancer Research Center to learn about the latest developments in radiotherapy;

Fact 3: Rosatom is an integral part of Russian foreign policy

Russian state-owned corporations work not only to provide money to the state machine and control the country’s resources, but also to strengthen political influence in the international arena. After the failed gas blackmail, Russia resorted to nuclear threats: the next step after [occupation of Zaporizhzhia NPP](#) was [abolition](#) of ratification and withdrawal from the Comprehensive Nuclear-Test-Ban Treaty.

In attempts to further geopolitical expansion, Rosatom is given a special place. In addition to playing a leading role in the military nuclear program, Rosatom is actively persuading an international expansion. Currently, the corporation [reports](#) that at the end of 2021, Rosatom’s representative offices operated at Russian embassies and trade missions in 10 countries of the world, as well as at the

- Rosatom [will continue](#) to finance technical cooperation programs, the Physical Nuclear Safety Fund, cancer programs, and the international project on innovative nuclear reactors and fuel cycles INPRO;
- The Moscow branch of the Rosatom Technical Academy [held](#) an interregional training course on the design features of cogeneration projects using small modular reactors and microreactors. The course was organized within the framework of the Russian Federation’s extra-budgetary contribution to the implementation of IAEA technical cooperation projects on the development of nuclear infrastructure in the newcomer countries;
- Rosatom and the IAEA [discussed](#) the prospects for cooperation between the MEPhI and the IAEA in training foreign students. The event was attended by the Head of the Section of the Department of Technical Cooperation and other IAEA experts.

Thus, the IAEA’s cooperation with representatives of the Russian nuclear industry is very active even despite Russia’s aggressive war against Ukraine, in which nuclear energy facilities are used by Russia to blackmail Ukraine and its allies. This is what ensures a powerful “voice” of Russians in this international organization.

Efforts to reduce Russian influence on the global nuclear industry should begin with the refusal to cooperate with a country that poses a nuclear threat to the entire world and disregards international law (including the IAEA statute) to achieve its aggressive goals.

permanent mission of the Russian Federation to international organizations in Vienna.

In mid-2023, Rosatom and one of the world’s largest port operators, DP World (Dubai Port World) [signed an agreement](#) on strategic cooperation in the global market. The purpose of cooperation is to create a global logistics operator to ensure the availability of transport and logistics services primarily for developing countries in Eurasia, the Middle East, Africa and South America.

Rosatom is actively establishing cooperation with countries that intend to develop nuclear energy. In 2023 alone, nearly 20 agreements and memorandums of cooperation were signed (see Annex 2). The geography of the new expansion is aimed at Asian and African countries that are interested

in affordable nuclear technologies. The advantage of the Russian proposal is the all-inclusive service: Rosatom designs, builds, maintains, provides fuel for the NPPs, disposes of spent fuel, and trains personnel. At the same time, even the construction is often financed by government loans:

- Astravets NPP (Belarus) – the Russian Federation [allocated](#) a loan of USD 10 billion for the construction of the plant;
- Rooppur NPP (Bangladesh) – the Russian party [allocated](#) a state export loan of USD 11.38 billion;
- El-Dabaa NPP (Egypt) – 85% of the project construction cost [is financed](#) by a state loan of USD 25 billion from the Russian Federation;
- Paks II NPP (Hungary) – EUR 10 billion out of EUR 12.5 billion for the construction of new power units [are covered](#) by a Russian state loan.

A nuclear power plant maintained by Russians and using Russian nuclear fuel is an excellent tool for political influence. A striking example is Hungary, which is one of the countries most [dependent](#) on imports of natural gas and oil into the EU, especially from Russia. The country's energy dependence is also significant in the nuclear power sector, as 100% of fuel used at the country's only nuclear facility, Paks NPP, comes from Russia. The share of nuclear energy in electricity generation was 44% in 2021.

Continuing the construction of a new stage of the NPP increases Hungary's dependence on the aggressor country. The consequences are obvious – Hungarian Prime Minister Viktor Orbán [has blocked](#) the supply or transit of weapons to Ukraine through the country and repeatedly called for “peaceful negotiations”. Although Orbán has signed previous EU sanctions packages, he has often criticized them as counterproductive and continues to block restrictions on Russia's energy sector, particularly nuclear power.

By 2022, the Russian Federation was actively preparing the ground for strengthening its influence in the European Union. In addition to the construction of gas pipelines bypassing Ukraine and Paks II NPP, Russia had a contract for the construction of [Hanhikivi-1 NPP](#) in Finland. A [contract](#) for the supply of nuclear fuel worth EUR 450 million was also signed for this facility. However, after 2022, EU countries (except Hungary) radically changed their energy policy to reduce dependence on the Russian Federation.

Almost immediately after the start of the full-scale invasion, the Swedish company Vattenfall [announced its refusal](#) to buy Russian fuel for the Ringhals NPP (the plant was testing the operation of TVS-K assemblies), and the CEZ conglomerate (the Czech Republic) signed a contract with Westinghouse Electric Company (USA) and Framatome (France) to supply fuel to the Temelin NPP. Also, in early April 2023, [it was reported](#) that CEZ and Westinghouse had signed an agreement to supply fuel for VVER-440 power units at Dukovany NPP.

Bulgaria and Finland have taken similar steps to diversify nuclear fuel supplies. The latter [suspended](#) the construction of the Hanhikivi-1 NPP project after Russia's full-scale invasion of Ukraine. Bulgaria, in its turn, has signed a contract with Framatome to [replace](#) Russian fuel in the VVER-1000 reactor at Kozloduy NPP unit 5 in the period 2025-2034 and a 10-year contract with Westinghouse Electric Sweden to [switch](#) unit 6 to American fuel.

Slovakia has announced its intention to get rid of dependence on a single supplier. The country [has already signed](#) an agreement with the Swiss branch of the American company Westinghouse to supply nuclear fuel for NPPs. Another source of supply is France. The media [reports](#) that even the odious Hungarian Prime Minister Viktor Orbán, during his private speech to supporters in September 2023, announced his intention to replace Russian nuclear fuel with French fuel.

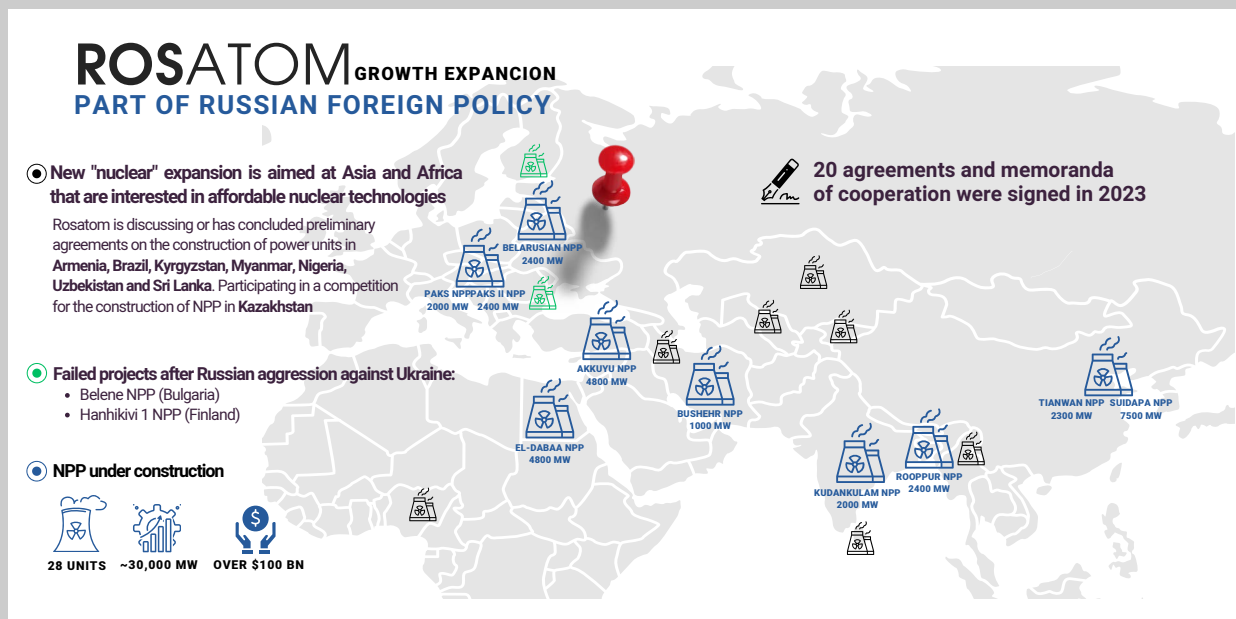
The decline in influence on the European continent and unpredictable sanctions for the Kremlin are forcing Russians to look not only for new markets but also for opportunities to demonstrate that the country is not in isolation. Now Moscow's “view” is beginning to focus on the African continent, and Rosatom is playing a significant role in the new Russian policy. This year alone, Russia has signed memoranda of cooperation with Burkina Faso, Mali, Algeria, Zimbabwe, Morocco, and the Republic of Burundi (see Annex 2). Notably, most of these documents are signed not by Russian top officials, but by representatives of Rosatom, which confirms that the nuclear corporation implements Russian policy on the same level as the Ministry of Foreign Affairs or other government officials.

The threat posed by the Russian Federation with its nuclear programs may not be obvious right now. Russia's “peaceful” atom, which it is trying to spread to as many countries as possible, could turn into a terrible weapon. Construction of a nuclear power plant in Iran began in 1975, but was “frozen” after sanctions were imposed in 1980. As a result, the first reactor at the Bushehr NPP was

[put into operation](#) 36 years after the start of construction, thanks to the powerful Russian lobby. In 2014, a new agreement was signed between Tehran and Moscow, which provides for the construction of 2 more power units at the Bushehr NPP. It is expected that these facilities will be commissioned in 2025 and 2027, respectively.

In 2022, [it was announced](#) that construction of a new plant, the 300MW Darkhovin NPP would be intensified and that it should be commissioned in 8 years using Iran's own technologies. In the same year, [information began to emerge](#) that Iran was seeking Russia's assistance in acquiring additional nuclear materials and producing nuclear fuel. In view of the fact that Russia is the only country that cooperates with Iran in the nuclear sphere, receives significant shipments of military products, and since the beginning of 2023 the IAEA reports [have been recording](#) signs of undeclared nuclear development, Russia's role in Iran's nuclear program is raising more and more questions, and the intentions of the Iranian regime are becoming more and more obvious.

In February 2023, Bloomberg [reported](#) that the level of uranium enrichment detected by the IAEA observers twice in a month was only 6% lower than that required for the production of nuclear weapons. A month earlier, the US representative for Iran [had suggested](#) that it might take Tehran only a few weeks to produce "weapons grade" uranium. In June 2023, it was [reported](#) that Iran was rapidly increasing its stockpile of enriched uranium: in 3 months, Tehran was able to increase its stockpile of 60% U-235 by 25%, and now it exceeds 100 kg. In November 2023, it became known that Iran had enough uranium enriched to 60% purity, close to weapons grade, for three nuclear bombs. The IAEA also [reports](#) on Iran's sudden cancellation of the appointment of several experienced inspectors and problems with implementation of the agreement to reinstall monitoring equipment, including surveillance cameras that were removed last year at Iran's request.



Fact 4: Rosatom conducts large-scale activities in the occupied territories of Ukraine

Rosatom has been directly involved in the occupation of Zaporizhzhia NPP: the corporation's employees [have been exercising](#) effective control over the nuclear facility since March 11, 2022. In October 2022, [it was reported](#) that a separate company, Zaporizhzhia NPP Operating Organization JSC had been established within Rosatom, to which Zaporizhzhia NPP employees were transferred to continue fulfilling their obligations. The IAEA mission at the plant [repeatedly noted](#) an extremely difficult the situation faced by the

plant's personnel and their families, and the Truth Hounds [study](#) cites the facts of abductions, torture and murder of plant's employees and the involvement of representatives of the Russian nuclear giant.

Despite all these facts, the Russian Federation was not severely punished for nuclear blackmail, which created a sense of impunity for the aggressor. The actions of the occupiers in the territory of Ukraine confirm that the aggressor does not take into

account the humanitarian and environmental consequences of its actions. For example, on June 6, 2023, Russian troops blew up the Kakhovka HPP. In addition to the enormous humanitarian, environmental and economic consequences, the destruction of the dam [created potential risks](#) of lowering the water level in the cooling reservoirs of Zaporizhzhia NPP.

On July 23, 2023, the IAEA experts [detected](#) anti-personnel landmines on the periphery of Zaporizhzhia NPP. The IAEA team saw several mines located in the buffer zone between the inner and outer perimeter barriers of the site. Russian actions at Europe's largest nuclear power plant are becoming increasingly irresponsible. Russian media [reported](#) that the Russian Federation, despite threats to IAEA safety standards (General Safety Standards) and the Seven Indispensable Pillars of Nuclear Safety and Security, is looking for opportunities to bring Zaporizhzhia NPP back to the network: the head of Rosatom predicts that the plant will be operational again in 2024.

However, direct involvement in the occupation and nuclear blackmail is not the only area of Rosatom's work in the occupied territories. [It is reported](#) that Rosatom is involved in providing electricity to the population and enterprises of the so-called LPR, DPR and the occupied parts of Zaporizhzhia

and Kherson regions. In July 2023, the Russian state register of legal entities published information appeared on the registration of a number of enterprises: Energosbyt Zaporozhye LLC (INN 9725129181), Energosbyt Kherson (INN 9725129343), Energosbyt Lugansk (INN 9725129223) and Energosbyt Donetsk (INN 9725129199), whose main activity is electricity trading. The founders of the newly created companies are Atomenergoby JSC and Atomenergoby Business LLC, which are a part of Rosatom concern. The head of all energy supply companies is Piotr Konyushenko (INN 490100235526), who runs Atomenergoby JSC, and was included in the sanctions list on February 12, 2023 by Presidential Decree No. 75/2023.

According to [information](#) published by Russian media, Rosatom buys electricity generated in the occupied territories. It covers approximately 70% of consumption, so the additional 30% is purchased from Russian regions adjacent to the occupied regions at market prices. The operator that will sell this electric to suppliers in the occupied territories is also a Rosatom entity, Yediny Zakupshchik LLC.

Thus, Rosatom controls not only Zaporizhzhia NPP, but also the supply of electricity in the territories of Donetsk, Luhansk, Kherson and Zaporizhzhia regions, which are temporarily under Russian occupation.

Fact 5: Rosatom is actively buying up new assets

After the commencement of the full-scale invasion, Rosatom has continued to expand its structure, which can be seen as continued expansion in the absence of sanctions. Recently, Rosatom has been actively acquiring high-tech companies, including foreign ones.

In the last 12 months alone, several facts about Rosatom's M&A operations have appeared in open sources:

In **December** 2022, Rosatom [acquired](#) 50% of one of the largest Russian developers of certified software and hardware information security products, Kod Bezopasnosti LLC. The company's products are certified by FSTEC, FSB, and the Russian Ministry of Defense. Despite its cooperation with the Russian Ministry of Defense, Kod Bezopasnosti LLC is not subject to sanctions.

In **May** 2023, Rosatom's share in the South Korean lithium-ion batteries manufacturer Enertech [increased](#) from 49.16% to 98.32%. The first share purchase was made by RENERA (a part of Rosatom) and was completed in 2021. Enertech is not on the sanctions lists, but RENERA is on the sanctions lists of the UK and Australia.

In **May** 2023, [it is reported](#) that Rosatom has become a new owner of Ilmenit Tougan Mining and Processing Plant, one of the largest producers of titanium and zirconium in Russia. The transaction was completed by United uranium enterprises LLC, which is a part of the management scheme of the uranium holding ARMZ (Atomredmetzoloto JSC, a part of mining division of Rosatom). Now Rosatom is a sole shareholder of Ilmenit Tougan Mining and Processing Plant, having acquired 75% of shares.

In **June** 2023, Rosatom [acquired](#) Kirov-Energomash OJSC, a large Russian manufacturer of equipment for various energy sectors. OKBM named after Afrikantov (Nizhny Novgorod, a part of Atomenergomash) and the group of companies Kirov Plant concluded an agreement according to which 100% of shares of Kirov-Energomash OJSC were acquired by OKBM named after Afrikantov.

In **July** 2023, RENERA, a subsidiary of Rosatom, [invested](#) RUB 6.2 billion in Kama JSC, the creator of the Atom electric car. RENERA's share in the company may be about 23%. RENERA is on the sanctions lists of United Kingdom and Australia.

In **August** 2023, it became known that in 2022, Rosatom [acquired](#) the Budenovskoye uranium deposit in Kazakhstan and thus became the owner of the second largest reserve in the world. Having become a [co-owner](#) (49% in blocks 6-7) of one of the largest uranium deposits in the world, Rosatom has covered its raw material needs for many years.

In **December** 2023, Rosatom concluded an [agreement](#) to acquire a share in Kraftway, a Russian manufacturer of electronics and computer equipment. The transaction was closed on December 22, and sources estimate the transaction to be worth RUB 3.5-5 billion. The general director and owner of the company Aleksey Kravtsov retained 50%. According to media reports, Rosatom will allocate about RUB 2-3 billion to Kraftway in 2024. The funds are intended to modernize the

company's production facilities, as well as conduct research and development work.

Rosatom's expansion in uranium mining is obviously aimed at increasing the U.S. and EU's dependence on this segment of the nuclear fuel cycle. Given Russia's share of the enrichment services market ([46% of capacity](#) in 2022), the intentions to make the nuclear industry, including Rosatom, "sanctions resistant" is understandable. [According to estimates](#), American companies pay Rosatom about USD 1 billion a year for fuel purchases. In addition, the coup d'état in Niger [has jeopardized](#) uranium supplies to the EU, as mines around Arlit accounted for 25% of the EU imports in 2022. If Russia takes advantage of the situation, the world will become even more dependent on its supplies.



Rosatom's consolidation of IT solutions developers, critical raw materials companies, and manufacturers of modern equipment clearly illustrates the company's course of expansion into non-nuclear technological areas. The goal of this expansion is to provide the sanctioned public sector with high-tech equipment and software.

Using the example of South Korea's Enertech, Russian media point out that the purchase of a company with a technological package is justified, since it would take years to develop comparable battery technologies on its own. By acquiring Enertech and its technologies, Rosatom will be able to produce batteries at a plant in Kaliningrad, which will be commissioned in 2025.

At the same time, Rosatom and Norilsk Nickel [are planning](#) to develop a lithium deposit in the north-west of the Murmansk region. All this shows that Rosatom expects to launch a full battery production cycle. In this context, the purchase of the Korean company is essentially a purchase of technology. Lithium-ion batteries are also assembled in Russia by Uralelement (a part of Tactical Missile Arms Corporation), the Krasnodar-based Saturn enterprise, and the Energia electrical engineering company. However, Enertech has previously worked with BMW, Samsung and LG and supplied batteries for Norwegian electric cars Think, meaning that its technology has been recognized by major market players. Therefore, Rosatom will be able not only to supply products to the domestic market, but also to make money on exports.

The batteries that Rosatom intends to produce are used, among other things, in the military sphere. Currently, lithium-ion batteries are mainly used in the army for portable communications equipment, automatic weapons, and GPS. The Russian media point out that the preferential treatment to support the localization of production will also help pay off the Rosatom and Enertech project: for example, starting in 2023, at least 60% of lithium batteries in public procurement [must be](#) Russian.

Thus, it is clearly seen that Rosatom is fulfilling the state's "order" by taking on more and more new production units whose products the Russian state is interested in. Therefore, all new Rosatom assets should be controlled and automatically subject to sanctions. This will make it more difficult to maintain the Russian state and military machine and prevent Rosatom from earning additional export revenues.

The first steps of limiting the influence of the Russian nuclear giant in the world

Increasing close cooperation between Rosatom and the military-industrial sector of the Russian Federation, expansion into new countries, and attempts to increase influence in the global nuclear energy require quick response and timely steps to limit such intentions.

Given the current dependence on Rosatom's products and services by certain EU and US countries, sanctions against the state-owned corporation can be introduced gradually:

Step 1: Imposition of sanctions on all organizations that are a part of Rosatom's structure and are engaged in scientific and research activities.

Step 2: Campaign to remove Russians from leadership positions in the IAEA and limit Russia's participation in the IAEA training and technological projects. Also, if possible, all programs of cooperation between Rosatom and the IAEA that are not related to monitoring the condition of operating NPPs should be terminated. The implementation of such programs not only gives Russians access to innovative solutions and technologies and the opportunity to develop their nuclear sector, but also partially legitimizes Rosatom's actions in the occupied territories of Ukraine.

Step 3: Automatic addition to the sanctions lists of new assets acquired by Rosatom, including those acquired after February 24, 2022.

Step 4. Imposing a ban on Western companies to cooperate in new nuclear projects with Russian enterprises that are a part of Rosatom. Examples of such cooperation include Framatome's [plans](#) to export enriched uranium dioxide to Russia, and Framatome-Siemens' [participation](#) in a Russian project in Hungary.

At the same time, Western companies involved in the construction and maintenance of nuclear power plants should strengthen mutual cooperation to deprive Rosatom of its leadership positions in the construction of plants abroad. The formation of alternative commercial proposals from such industrial alliances that will guarantee reliability and

nuclear safety, with possible involvement of loans from Western financial institutions, will hinder Russian expansion.

It is also important that the EU countries that have announced intention to phase out Russian nuclear fuel put their plans in practice. To this end, diversification of nuclear fuel supplies can be included as part of the enhanced REPowerEU plan, as its main goal is to reduce dependence on Russia in the energy sector.

Additional important steps towards isolation of Russia as a terrorist country should include strict export controls with the expansion of the list of dual-use goods to block the supply of Western equipment and modern technologies to facilities already being built and/or operated by Rosatom in Russia and abroad.

Also on the agenda of the coalition countries should be the issue of disconnecting Gazprom-bank, through which Russian state loans for the construction of nuclear power plants are provided, from the international payment systems. This will be the next powerful step relevant to the actions of the aggressor country in the territory of Ukraine.

The uncertainty in imposing sanctions restrictions plays to the aggressor's advantage: it has time to conclude new agreements, find loopholes to circumvent the sanctions, and actively expand into industries that can provide the Russian Federation with everything it needs to continue manufacturing weapons and financing its army.

Annex 1. Scientific and research organizations in the structure of Rosatom

№	Company	Individual taxpayer number (INN)	Single Taxpayers Registry (EGRN) number	Research and design activities
1	Atombezopasnost Coordinating Center JSC	7726447835	1197746114554	Design of electrical production facilities, manufacturing of devices and measuring equipment, creation of automated systems for detecting radioactive materials (cooperation with the defense industry)
2	Atomzashchytainform Center JSC	7706469319	1197746219747	Information security services, research and development in the field of integrated technological protection of information, research of weapons and military equipment samples for the possibility of their unauthorized use, construction, reconstruction and re-equipment of buildings of nuclear weapons organizations
3	A.A. Bochvar High Technology Research Institute of Inorganic Materials JSC	7734598490	5087746697198	Center for Nanotechnology and Nanomaterials, Rosatom's lead organization for materials science and nuclear fuel cycle technologies
4	Design Prospecting and Scientific research Institute of Industrial Technology JSC (VNIPIPromtekhnologii)	7724683379	5087746493600	Integrated design of uranium mining and ore processing facilities, design of nuclear facilities, nuclear waste storage facilities
5	All-Russia Research Institute of Chemical Technology JSC (VNIKhT)	7724675770	5087746165910	Creation and development of chemical technologies for processing uranium and ores of rare, scattered and radioactive metals
6	Experimental and Design Organization Hidropress JSC	5036092340	1085074009503	Development of equipment for reactor plants
7	Federal State Research and Design Institute of Rare Metal Industry Giredmet JSC	7706699062	5087746203353	Development of new materials based on liquid metals, their compounds and alloys, semiconductors, and nanomaterials
8	State Specialized Design Institute JSC (GSPI)	7708697977	1097746129447	Integrated design of industrial and civil construction facilities
9	Dedal Scientific and Production Complex JSC	5010036460	1085010000151	Development of integrated security systems, physical protection systems and complexes, technical security equipment
10	Inject Research and Production Enterprise LLC	6453142068	1156451017436	Production of semiconductor quantum photonics products, research of laser technologies

№	Company	Individual taxpayer number (INN)	Single Taxpayers Registry (EGRN) number	Research and design activities
11	Institute of Reactor Materials JSC (IRM)	6639019655	1096639000952	Production of isotopes, experimental and mechanical workshop, scientific activities related to fundamental research in the field of nuclear energy
12	Consortium Leader – Multipurpose Fast Neutron Experimental Reactor International Research Center LLC	7726447190	1197746081763	Center for coordination of the creation of the International Research Center on the Basis of Multipurpose Experimental Reactor
13	Luch Research Institute – Research and Production Complex JSC	5074070474	1215000075971	Development and production of nuclear power plants and fuel for them
14	Science and Innovations JSC	7706760091	1117746621211	Management company of Rosatom’s scientific division. The management circuit includes: A.I. Leipunsky Institute of Physics and Power Engineering, State Scientific Center of the Russian Federation, JSC; Troitsk Institute of Innovative and Thermonuclear Research, State Scientific Center of the Russian Federation, JSC; Luch, Research Institute – Research and Production Complex, JSC; Scientific Research Institute for Instrumentation Engineering, JSC (NIIP); State Research Center – Research Institute of Atomic Reactors, JSC (SRC NIIAR); Institute of Reactor Materials, JSC (IRM); All-Russia Research Institute of Chemical Technology, JSC (VNIICHT); Federal State Research and Design Institute of Rare Metal Industry – Giredmet, JSC; State Research Institute of Graphite-Based Structural Materials, JSC (NIIGRAFIT); V.G. Khlopin Radium Institute, Research and Production Complex, JSC
15	State Research Center – Research Institute of Atomic Reactors JSC (SRC NIIAR)	7302040242	1087302001797	Research on the problems of reactor materials science, closed fuel cycle of nuclear reactors, extension of nuclear reactor lifetime, improvement of the efficiency of operating NPPs, participation in the implementation of the Multipurpose Fast Neutron Reactor project
16	Scientific Research Institute for Instrumentation Engineering JSC (NIIP)	5027241394	1165027055258	Conducting research and development activities in the field of radiation resistance of electronic equipment and radioelectronic equipment, operation of facilities (products) that use nuclear energy, nuclear materials, radioactive substances, diagnostics of the technical condition of electrical equipment and cables and management of the service life of these elements at NPPs
17	National Technical Physics and Automation Research Institute JSC (NIITFA)	7726606316	5087746235825	Development of instruments and equipment for the nuclear industry and power engineering, metallurgy, geology, chemical and oil and gas industry, medicine and agriculture
18	D.V. Efremov Research Institute of Electrophysical Instrumentation JSC (NIIIEFA)	7817331468	1137847503067	Creation of electrophysical installations and complexes for solving scientific and applied problems in the field of plasma physics, atomic and nuclear physics, elementary particle physics, health care, radiation and energy technologies, introscopy

№	Company	Individual taxpayer number (INN)	Single Taxpayers Registry (EGRN) number	Research and design activities
19	L.Ya. Karpov Physical-Chemical Research Institute JSC (NIFKhl)	7709944065	5137746240979	Investigation of the mechanism of interaction of ionizing radiation with matter; study of the structure of condensed media using neutronography, X-ray structural analysis, electronography; development of scientific principles of radiation and space materials science of organic and inorganic compounds. Development of technologies for radiation synthesis and modification of chemical compounds, including polymer and composite systems, filtering ion exchange and adsorption materials, including special purpose materials, using electron accelerators and gamma facilities. Development of technologies for the production of alloyed semiconductors, ferroelectrics, colored semiprecious minerals, and nuclear-chemical technologies for the production of radiopharmaceuticals for diagnostic and therapeutic purposes using a nuclear reactor.
20	Nuclear Power Plant Equipment Research and Testing Center JSC (NPP NIC)	5019021966	1095019001220	Testing of special valves, safety system elements, equipment and components for NPPs and other industries; development and examination of regulatory technical documentation; design, assembly, adjustment, acceptance testing of valves for NPPs and other industries
21	Afrikantov Experimental Design Bureau for Mechanical Engineering JSC (OKBM Afrikantov)	5259077666	1085259006117	A range of works on the creation of various types of reactor units and equipment for them. The enterprise solves the problem of adapting its traditional products to the needs of various sectors of the national economy, including oil and gas and chemical complexes. It carries out joint work with foreign companies, cooperates with the IAEA, and actively participates in thematic international events
22	International Thermonuclear Experimental Reactor Project Center Private Institution (ITER)	7734269417	1107799034617	Participation in the International Thermonuclear Experimental Reactor project
23	V.G. Khlopin Radium Institute –Research and Production Complex JSC	7802846922	1137847503100	The main scientific organization for the design and development of technologies for spent fuel management and involvement of reprocessing products in the nuclear fuel cycle. It conducts research on nuclear-physical, radio-, geochemical and ecological profiles, mainly on the problems of nuclear energy, radioecology and isotope production
24	RADON Federal State Unitary Enterprise	7704009700	1037739303612	Development and improvement of modern methods and technologies for radioactive waste management, environmental control and protection systems; participation in the development of general principles and practical models for ensuring radiation and environmental safety in large cities. It carries out the entire range of radioactive waste management activities, including collection, transportation, processing and storage. Conducting radiation emergency operations, radioecological and mercury monitoring, radiation control of construction sites, radiation hazardous facilities and the environment
25	Sverdlovsk Research Institute of Chemical Engineering JSC (SverdNIIkhimmash)	6664003909	1026605756100	Development and manufacture of high-tech non-standardized technological equipment with control systems for the nuclear industry, development and creation of radioactive waste management systems for NPPs and spent nuclear fuel for nuclear fuel cycle enterprises

№	Company	Individual taxpayer number (INN)	Single Taxpayers Registry (EGRN) number	Research and design activities
26	Specialized Scientific Research Institute for Instrumentation Engineering JSC (SNIIP)	7734592593	5087746165821	Solves the tasks of improving nuclear and radiation safety of nuclear facilities and radiation hazardous facilities, ensuring radiation safety and preserving the environment
27	Central Research Institute of Machine Building Technology Scientific and Production Association JSC (TsNIITMASH)	7723564851	1067746376070	Developer of basic materials, technologies, manufacturer of specialized technological equipment and products of power and heavy engineering, including the most important equipment elements of nuclear power units with VVER-1000 reactors, nuclear power plants of new project "NPP-2006", hydraulic and gas turbines, power units, powerful presses and metallurgical aggregates
28	Nuclear Physical Research Scientific and Technical Center JSC	7802441926	1089847294261	Development and production of modern radiation control instruments and detectors, high-tech devices for accounting and control of radioactive substances and nuclear materials, including spectrometers and spectrometric units for detecting gamma-neutron radiation, specialized analyzers and other related electronics. The center's most popular products include more than 15 modifications of portal radiation monitors and 5 modifications of manual radiation monitors

Annex 2. Agreements and memoranda signed by Rosatom in January-November 2023

- On February 6, in Yangon (Myanmar), the Russian Federation and the Republic of the Union of Myanmar [signed](#) an intergovernmental agreement on cooperation in the peaceful use of nuclear energy.
- In March, Izotop All-Regional Association JSC (a part of Rosatom Healthcare Division) [signed](#) new contracts for the supply of GT-5K technetium-99m generators to the Republic of Armenia and germanium-68/gallium-68 generators to the Republic of Kazakhstan.
- On March 21, Rosatom and the Atomic Energy Agency of China [signed](#) a cooperation program in the field of fast neutron reactors.
- In June, [at the St. Petersburg International Economic Forum-2023](#), Rosatom agreed with Sri Lanka to build a nuclear power plant with a capacity of up to 300 MW, and signed a memorandum with Myanmar to begin pre-project activities on the construction of wind farms in the country with a total capacity of 172 MW.
- On June 15, in St. Petersburg, Rosatom and DP World [signed](#) an agreement on joint development of Eurasian transport logistics and container transportations via the Northern Sea Route.
- On June 15, within the framework of the 26th St. Petersburg International Economic Forum, a Memorandum [was signed](#) in St. Petersburg between NovaWind JSC (Rosatom's wind energy division) and the Ministry of Electrification of Myanmar to commence technical and economic pre-project research in the field of construction of wind power stations. A similar document [was signed](#) between NovaWind JSC, the Ministry of Electrification of Myanmar and Myanmar company Zeya & Associates, and a separate agreement with Primus Advanced Technologies Ltd.
- On June 15, a Memorandum of Understanding [was signed](#) in St. Petersburg between Rusatom Healthcare JSC (a company of Rosatom State Corporation) and Zeya & Associates Co., Ltd (Myanmar).
- On June 29, Uranium One Group JSC (a company of Rosatom State Corporation) [signed](#) a framework agreement with the Bolivian state-owned company Yacimientos de Litio Bolivianos (YLB, Lithium Deposits of Bolivia) on the construction of an industrial complex for the extraction and production of carbonate.
- On July 27, in St. Petersburg, at the Russia-Africa Economic and Humanitarian Forum, the Government of the Russian Federation and the Government of the Republic of Zimbabwe [signed](#) an agreement on cooperation in the peaceful use of nuclear energy.
- On July 27, at the Russia-Africa Summit, the Government of the Russian Federation and the Government of the Republic of Burundi [signed](#) an agreement on cooperation in the peaceful use of nuclear energy. A Memorandum on personnel training in the field of nuclear energy [was signed](#) as well.
- Rusatom Infrastructure Solutions JSC (a company of Rosatom State Corporation) and WATER AND ENERGY SOLUTIONS (Morocco) [signed](#) a memorandum of understanding within the framework of the 2nd Russia-Africa Summit, Economic and Humanitarian Forum.
- In August, Rosatom's fuel company TVEL and the South African Atomic Energy Corporation (Necsa) [signed](#) a memorandum of understanding for cooperation in the field of manufacturing nuclear fuel and its components.
- On September 25, in Vienna (Austria) at the 67th General Conference of the IAEA, Rosatom State Corporation and the Algerian Atomic Energy Commissariat (COMENA) [signed](#) a Memorandum of Understanding.
- In October, Rosatom and the Ministry of Energy, Mines and Quarries of Burkina Faso [signed](#) a Memorandum of Understanding on cooperation in the peaceful use of nuclear energy. A similar document [was signed](#) with Mali.
- During the Russian Energy Week in October, Rosatom and the Ministry of Science and Technology of the Republic of the Union of Myanmar [signed](#) a Memorandum of Understanding in the field of assessment and development of the nuclear infrastructure of the Republic of the Union of Myanmar.
- In October, NovaWind JSC (Rosatom's wind energy division) and the Russian-Kyrgyz Development Fund [signed](#) an agreement on the development and implementation of an investment project to build a wind power plant in the Issyk-Kul region of Kyrgyzstan.