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**Rosatom obtained patents for more than 140 inventions abroad in 2024**

*This is a one and a half times increase compared to the figure for 2023. All of the patents protect technologies associated with advanced energy systems.*

**In 2024, Rosatom filed over 280 patents for its inventions in more than 30 countries abroad. Of these, the corporation had more than 140 patents registered. The associated technologies are currently employed and equipment operates effectively. The patents protect the rights to the technologies of nuclear power plants (NPP) with flagship reactor units of Generation III+ (VVER-1200, VVER-TOI), fast reactors, the equipment for floating nuclear power plants, and SMR-based NPPs.**

Among the most promising and crucial technological advancements in the industry, which were patented abroad last year, experts distinguish the **device for monitoring passive heat removal system**, developed by Atomenergoproekt (belongs to Rosatom’s Engineering division). The device and the innovative monitoring approach have enabled the rapid evaluation of the operability of the NPP's passive heat removal system, thereby improving its operation safety.

Another innovation is a **device that produces monophasic powders of actinide salts**. It is used to synthesize salts of actinide elements, such as uranium and plutonium. These salts serve as precursors for producing nuclear fuel pellets. In addition to the device, researchers at the V.G. Khlopin Radium Institute, which is a part of Rosatom's Scientific division, have worked out a novel approach to producing powders, which enables the production of monophasic dry powders of actinide salts in a single stage, eliminating the need for multiple stages required before. This has enhanced the effectiveness, chemical and nuclear safety of the process, while also reduced the associated radioactive waste.

Another notable invention is a **new approach to fuel assembly production**. The concept was conceived by specialists from the Novosibirsk Chemical Concentrates Plant, a company of Rosatom's Fuel division. The objective of the invention is to enhance the effectiveness of the nuclear fuel production process.

“Rosatom is actively pursuing new markets. Currently, the corporation's backlog of foreign orders includes 39 units, both large and small, in 10 countries, including but not limited to China, Turkey, Egypt, Hungary, India, and Bangladesh. The corporation is committed to developing its technological collaborations while protecting the intellectual property of Russian scientists through patenting abroad. In the past three years, the growth rates in this field have skyrocketed. The internal resources are being reallocated to proceed with the work started in previous years. Pending are over 800 applications and patents belonging to more than 50 patent families. In addition, it is expected that the involvement of inventor companies in the process of patenting VVER project technologies will increase. Rosatom also intends to correlate inventions with specific products, form and introduce a mechanism for including the cost of patents in the prices of EPC contracts (Engineering, procurement and construction) for future foreign NPPs. This will be a major step in the development of Rosatom's foreign patenting practice. These initiatives are sure to contribute to a rise in the number of patents and enhance the standing of Russian scientists,” remarked **Artem Vernigora**, Deputy Director for Operations at Science and Innovations (Rosatom’s affiliate that assist industry companies in obtaining patents and managing intellectual property).

**For reference:**

The initiative for foreign patenting was resumed at Science and Innovations in 2022. Since then, the company has been maintaining a register and entering details of each application into its in-house database. They have also developed and streamlined internal business processes and those with agents, and introduced automated calculations. **Kuzma Snegov** who heads the foreign patenting project department, is in charge of this work.

**Science and Innovation** is responsible for scientific, analytical and informational development of the companies in the nuclear power network. They also operate the Industry Thematic Plan, under which more than a hundred research and development projects (R&D) are developed annually. Science and Innovations supports the nuclear industry companies by providing them with legal protection for intellectual property. They also actively support the industrial initiatives to foster the development of scientists and create a scientific talent pool, and supervise the involvement of Rosatom in the Decade of Science and Technology in Russia. <https://naukarosatom.ru>

Russia is actively developing its scientific and technological cooperation with all interested nations. Ongoing are major international initiatives, with Rosatom and its divisions being actively involved in these efforts.