We bring together the best things for a comfortable environment
For more than 60 years we have been involved in the design, manufacturing, implementation and maintenance of I&C for nuclear power plants of the Russian design, both in Russia and abroad. RASU is the single center for I&C design and integration of Rosatom State Corporation. It unites 16 R&D and manufacturing enterprises with unique capabilities in engineering and production of automation systems.

Today, together with our Russian and international partners, we are creating a safe and reliable future for our customers.
Rusatom Automated Control Systems Joint-Stock Company (RASU JSC) is a system integrator focusing on the following key areas:

- development of high-performance digital control systems for complex technological processes;
- design of power grid solutions and provision of power supply to various facilities;
- design, engineering and supply of electrical equipment.

Our capabilities are based on many years of successful experience in the development, design, commissioning and support of automated control systems for nuclear power plants.

We provide our clients with the full range of power automation and supply services – from conceptual design to implementation and support of the system throughout the lifecycle of the facility.

Every day, over 3,000 employees of enterprises of the Russian nuclear industry help the clients and partners of RASU JSC to achieve their goals, thus contributing to the efficient, safe and reliable operation of energy systems in Russia and in the world.

RASU JSC is a 100% subsidiary of Rosatom State Corporation.
The professionalism and experience of our team in implementing complex and large-scale projects enable us to solve the following tasks set by our clients in the best possible way:

- Increasing the efficiency of the main activities and the competitiveness of the main products;
- Improving the information security and cybersecurity.

At RASU JSC, the client receives an optimal solution with comprehensive automation and electrical equipment compliant with all requirements of the project on a turn-key basis, including a set of support services and subsequent modernization.
Safety is more than just a top priority. Safety is the fundamental value, which ensures sustainable development of the society and businesses.

Nuclear safety, information security, environmental safety, and occupational health and safety are aspects that cannot be compromised. This policy defines safety culture principles and rules strictly followed by all our employees.

The quality of our projects has an impact on the safety of NPP operation throughout the plant’s service life.

RASU JSC is committed to safety culture in all of its activities, both in Russian and international supply projects.

We ensure the safety of all interested parties, especially of those in close proximity to the industrial facilities where our equipment is installed.
We act responsibly when we develop solutions for our projects. Every day, the team of RASU JSC improves the supplied products, develops and applies innovative approaches to automation and electrical engineering. All this is essential for improving our clients’ and partners’ work all over the world.

All our solutions comply with the global quality standards.

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<th>Reliability is the key value of our offer</th>
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- 30 units in different parts of the world are equipped with our I&C
- 261 billion rubles portfolio of orders of RASU JSC by the end of 2018
- 80% share of international projects in the portfolio of RASU JSC

Advantages
EFFICIENCY

We offer time-tested solutions trusted by industry professionals

As an expert in automation and power supply, we offer the best technologies for continuous and efficient facility management all over the world.

Our activities are based on the experience and expertise proven by failure-free operation of critical nuclear facilities in Russia and abroad.
We offer optimal and reliable solutions based on advanced technologies, enabling our customers to achieve the best results.

**We apply stringent global standards in design, manufacturing and implementation of our projects for high reliability and efficiency of the provided solutions.**

We give our employees the opportunity to receive exceptional knowledge and skills for the development and safety of the industry as a whole.
Availability of the Russian nuclear industry’s resources and infrastructure

Using the best technologies and human resources available in the nuclear industry, we provide complete and balanced solutions to our clients.

All products are developed and manufactured at the facilities of our partnering factories, where production is supervised by highly professional specialists.
International expertise and cooperation are important for sustainable and continuous development

Throughout the years, we have established a strong partnership with the recognized leaders of the global automation and electrical engineering markets, which gives us access to the latest developments and technologies that are applied successfully in our solutions all over the world. The following companies are among the technology partners of RASU JSC:

**I&C and special systems:** Framatome, Doosan, Rolls-Royce, China Techenergy Co. (CTEC), Siemens, DEF, ZAT, Skoda

**Electrical engineering:** Siemens, ABB, Schneider Electric, Siyuan Electric

**Radiation monitoring systems:** Mirion Technologies

**Ergonomics, human-machine interface:** Tecatom

Collaboration and cooperation with partners from all parts of the world enable us to improve the quality of our solutions every day.
RASU JSC participates in Rosatom’s key projects related to the construction and start-up of nuclear power plants in Russia and abroad.

**Our portfolio includes more than 30 power units in 10 countries.**

Within such projects, we provide the full range of services, from design of instrumentation and control systems to post-warranty service in the course of operation.

Our solutions cover the full scope of I&C systems for nuclear facilities: normal operation instrumentation and control systems, safety systems, special systems, and upper level systems with an advanced human-machine interface.

We also design full-scope simulators for personnel training and the maintenance of the qualification of plant operators.

**RASU JSC has a strong lead and a significant share of the Russian and international I&C market:**

- **59%** of the share in the Russian NPP automation market
- **33%** of the share in the international automation market for the NPPs of the Russian design

We ensure the development and safety of nuclear power in the world.
In Russia
- Saratov Region (Balakovo) – Balakovo NPP Unit 4
- Tver Region (Udomya) – Kalinin NPP
- Murmansk Region – Kota NPP
- Voronezh Region – Novovoronezh NPP Units 6–7
- Rostov Region (Volgodonsk) – Rostov NPP Unit 4
- Sverdlovsk Region (Zarechny) – Beloyarsk NPP
- Leningrad Region (Gorki) – Leningrad NPP
- Leningrad Region (Sosnovy Bor) – Leningrad NPP
- Novovoronezh NPP Units 6–7
- Rostov Region (Volgodonsk) – Rostov NPP Unit 4
- Sverdlovsk Region (Zarechny) – Beloyarsk NPP
- Leningrad Region (Sosnovy Bor) – Leningrad NPP
- Leningrad Region (Sosnovy Bor) – Leningrad NPP–2 Units 1–2
- Kursk Region (Kurchatov) – Kursk NPP
- Kursk Region (Kurchatov) – Kursk NPP–2 Units 3–4

In other countries
1. Hungary (Paks) – Paks II NPP Units 5–6
2. India (Tamil Nadu) – Kudankulam NPP Units 3–4
3. China (Jiangsu) – Tianwan NPP
4. Turkey (Gülnar) – Akkuyu NPP Units 1–4
5. Bangladesh (Habka) – Rooppur NPP Units 1–2
6. Finland (Pyhäjoki) – Hanhikivi–1 NPP
7. Egypt (El Dabaa) – El Dabaa NPP Units 1–4
High quality products are our top priority

In terms of safety, we strictly follow internationally recognized standards: IAEA, IEC, WANO, ISO.

Compliance of our products and services with the highest quality standards has been proven by the audits of international supervisory and regulatory bodies.
Our competitive advantage is based on many years of successful experience in development, design, full-scope supply, commissioning and support of I&C for nuclear power plants.

RASU JSC, together with more than 3,000 specialists of the nuclear industry, is involved in the overall process of the development, commissioning and support of automation systems, ensuring the reliable, safe and controllable operation of power systems in Russia and other parts of the world.
I&C design in accordance with the world’s best quality standards is the key to our success.

RASU JSC provides its clients with the best solutions related to the development of instrumentation and control systems of various degrees of complexity, using highly reliable, efficient and functional equipment developed and manufactured by engineers of Rosatom enterprises.

All stages of the product development are done in strict compliance with national and international design standards. A V-model of lifecycle is applied as the main development model. Special attention is paid to verification, validation and qualification of all components of the system starting from the earliest stages. Such an approach, together with the use of our in-house information systems and CAD tools, enables us to reduce development time for and improve the quality of the end product.

We apply the following information systems:

- **ARIUS** – a tool for end-to-end I&C design at all stages of the lifecycle
- **AKURA** – information system for configuration, change, nonconformity management and operating experience accounting
- **ISATR** – requirements management system
When a new power plant is connected to the grid, it requires lots of tests to be done, and the final approval of a nuclear safety authority to be obtained.

RASU has broad experience in interacting with the authorized bodies responsible for qualification and certification of products, works and services in accordance with the Russian and international regulations.

An important principle in the work of RASU JSC is to impose stringent requirements about the quality of products received from external suppliers. We inspect factories on a regular basis and check all materials, parts and components.

Before the equipment is delivered to a facility, it undergoes functional tests at the test site of RASU JSC, which covers a total area of 3,000 square meters.

We have tested more than 17 sets of I&C equipment for six power units for four NPPs.

At the test site, we perform the final verification of the functions of I&C subsystems, remove defects and introduce changes into the algorithms to avoid major adjustment at the plant. Our specialists also perform installation and commissioning supervision after the I&C equipment is delivered to the plant.
RASU JSC provides I&C maintenance, modernization and life extension services in order to ensure the consistency of the solutions, on the one hand, and improved reliability and functionality, on the other hand.
We apply up-to-date project management techniques, ensuring the commissioning of I&C systems in compliance with project time frames, budget and design documentation.

RASU JSC is actively involved in the construction of various nuclear power plants in the world: in Finland (Hanhikivi-1, one power unit), Hungary (Paks II, two power units), Egypt (El Dabaa, four power units), Turkey (Akkuyu, four power units), China (Tianwan, two power units), India (Kudankulam, two power units), Bangladesh (Rooppur, two power units) and others.

For such large-scale projects, our team strictly follows the customers’ requirements during every step of the implementation process.
RASU JSC performs innovation and investment activities in the following areas:

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<th>I&amp;C</th>
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<tr>
<td>• Development of a unified NPP I&amp;C technical policy, development of advanced architectures</td>
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<td>• Unification of solutions, development of standard platforms qualified in accordance with international regulations</td>
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<td>• Development and implementation of activities for assurance of NPP I&amp;C information and computer security</td>
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<tr>
<td>• Development of standard NPP I&amp;C software and hardware tools for safety-related systems</td>
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<td>• Development of a concept for special I&amp;C systems</td>
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<th>Digital energy</th>
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<tbody>
<tr>
<td>• Cluster digital substation</td>
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<td>• SCADA platform based on Industry 4.0 technologies</td>
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<tr>
<td>• Intelligent switchgear</td>
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<tr>
<td>• Digital modular and mobile substations</td>
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The only way to remain at the hi-tech level is to continuously improve the products and processes.
We are open to new knowledge, experience and best practices.

RASU JSC offers a wide range of opportunities for professional development in engineering, interface and equipment design, project management and product development.

Our specialists have sufficient capabilities for the development of advanced software and innovative research, invention of new solutions in NPP I&C human-machine interface, optimization of operating modes of the facilities, implementation of special tools to improve the internal efficiency of business processes.
Over 500 engineers and experts ensure world-class quality and hi-tech solutions

Every year, the company hires over 150 new employees and invites dozens of trainees.

For compliance with the highest standards, the company applies personnel development, mentorship and certification programs. Technical expertise is transferred using the knowledge management system. Every year, more than a half of the company’s employees go through a qualification upgrade program.
Full-scope I&C supply for Leningrad NPP-2 Unit 1 – a power unit with VVER-1200 reactor of 3+ generation

A project with VVER-1200 reactor of 3+ generation, the main export product of Rosatom featuring digital design technologies. The power unit has four active independent and redundant safety trains, and a combination of passive safety systems which operate regardless of the human factor. I&C software and hardware applied at the Leningrad NPP-2 are compliant with the European requirements for redundancy, independence and reliability. They will be used as the reference for projects in Finland, Hungary and Turkey.
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