
www.mammoet.com
MAMMOET

Engineering solutions

in power and industrial engineering.

We design civil and industrial objects of any complexity including renovation and modernization.

Our approaches to designing sites.

Site visits.

It allows to estimate a real situation on the spot.

We use the approach of ‘a builder’ and ‘a fitter’ when we work on elaborating design and budget documentation.

It allows to reduce the number of inaccuracies in the process of building and provide exact evaluation of the object being built.

Rapid decision-making and a modern approach to implementing a project.

It allows to take into account any customer’s wishes including all the issues arising at any stage of the project implementation.

Project support.

We support our projects and make any alterations in the documentation regardless of the date of the last design and budget documentation.

We work on the sections of project design documentation in accordance with the Resolution of the RF Government dated 16.02.2008 №87 and other technical regulations and legislations.

Services

Power engineering

We design the projects that are aimed at building and reconstructing, modernization and major repairs to the sites of power engineering.

Key purviews

- Building machinery halls of power stations.
- Building and construction of an industrial platform.
- Designing separate systems and units of power stations.

Power grid sector

We work on designing projects for building the power grid objects.

Key purviews

- Development of electricity supply schemes of industrial consumers.
- Designing electro grid objects including reconstruction and modernization of substations and power lines up to 750 Volt inclusively.
- Designing systems of operative supervisory management of electric grids, means of telemechanics and telecommunication.
- Designing systems of relay protection and automatics in electric grids.
- Development and analysis of schemes of power capacity.

Hydropower

We work on developing mechanical equipment and special steel constructions for hydropower buildings of any type of power plants and navigation channels.

Key purviews

- Hydraulic valves which consist of mobile and immobile parts and serve as a tool to opening and closing water supplies of hydropower buildings.
- Gates of navigation channels
- Garbage-holding bars and floating barriers for protecting the turbine paths of Hydroelectric Power Station from polluting.
- Load-lifting equipment
- Crane runways

Nuclear power

We specialize in upgrading, technical re-equipment and reconstructing existing nuclear power sites in Russian Federation.

Key purviews

- Auxiliary equipment and pipelines on the territory of machinery hall of Nuclear Power Plant.
- Designing Nuclear Power plant industrial buildings.

Radio-electronic industry.

Key competences

- Creation of crystal industry and assembling of VLSI and SSI, RF- and MV-transistors, power thyristors and diodes, IGBT-modules, infrared range devices, RFID-labels, smartcards, semiconductor oscillators, delay lines,
- resonators and filters on surface acoustic waves and bulk acoustic waves, resonators,
- micro relays,
- micro transformers,
- sensing elements,
- micro assemblies, to create the industries of silicon and germanium epitaxial structures and complex heterostructures for discrete semiconductor items and integrating circuits, to create industries of growth and crystallization,
- mechanochemical processing of ingots, briquets, substrates.
- Industrial clean room 3/4/5/6/7/8 ISO.
- Calculation and release of specifications, detailed designs to manufacture module clean rooms.

Instrumentation manufacturing industry.

Key competences

- Manufacturing and engineering solutions to create the industries of radio-electronic, electronic-optical and optical-electronic devices, laser optical control and measuring apparatus,
- computer vision equipment,
- sensors, detectors,
- laser and fiber-optic gyroscopes,
- micro electro-mechanical and piezoelectric gyroscopes,
- accelerometers, micromirrors, navigation and position control system, micro bolometers for nonrefrigerated thermal imagers and thermal imagers, hydroacoustic transcribing antennas based on piezocomposite materials,
- creation of industries of special fiber optic outlets,
- communication facilities of special and civilian designation,
- optical distribution frames,
- multiplex equipment,
- modulating equipment,
- fiber lasers and amplifiers,
- sensors, interferometers and filters,
- production of one-mode, multi-mode and nano-structural fiber optic based on photonic crystals,
- production of laser and photodiode heterostructures to create high-speed active optical components of fiber-optic lines,
- creation of centers to collect, store, handle, transfer, analyze and estimate information with computer technologies
- Clean rooms 5/6/7/8/9 ISO. Calculation and release of specifications, detailed designs to manufacture module clean rooms.

Space-rocket and aircraft industry

Key competences

- Design and construction of assembly facilities for spacecrafts, transfer orbit stages, space nose cones, space solar arrays, space and aviation instrument manufacture,
- optimal solutions to create clean rooms in space-rocket and aircraft industry,
- production of photoelectric transducers and solar modules of space application,
- production of electron-optical and optical-electronic aircraft instruments,
- production of collection systems and devices,
- information processing and recording,
- management and navigation systems.
- Clean rooms 3/5/6/7/8/9 ISO.
- Calculation and release of specifications, detailed designs to manufacture module clean rooms.

Medicine, biology, pharmaceuticals

Key competences

- Creation, reconstruction, re-equipment of medical centers,
- prevention and treatment facilities with surgery units, intensive-care wards,
- perinatal rooms,
- post-operation departments,
- biological laboratories and material storages,
- pharmaceutical production of injectable preparations and infusion solutions, hybrid protein substances,
- production of finished dosage forms,
- products of fine organic synthesis and active pharmaceutical substances,
- production of medical devices for diagnosis and management.
- Clean rooms A/B/C/D GMP. A/B/C/D SanPiN.
- Calculation and release of specifications, detailed designs to manufacture MARs (Module Aseptic Rooms).

Main projects

We have been accomplishing them since 2014.

151 projects.

The drainpipe mending

Customer – PJSC
«GusGidro» - «Zeiskaya Hydroelectric Power Station».

Type of work
Elaboration of the designing documentation.

Timeframe of work
November 2016 – February 2018

PURPOSE

Elaboration of the designing documentation for the replacement of existing closures whose usage time-period expired.

DESCRIPTION

It is important to develop design and budget documentation to repair 8 closures and 1 emergency closure of the drainpipe which was designed by SKB «Lengidrostal» in 1984. The works are done in Zeiskaya Hydroelectric Power Station located in Amurskaya region in Zeisky neighborhood. The work site is on the concrete dam crest (323m) отм

THE AMOUNT OF WORK PERFOMED

- Elaboration of the designing documentation.
  - The project of work organization
  - The project of work production
  - The project of assembly and welding work production
- Elaboration of the designing documentation.

The building of the gas boiler

Customer

Ltd. “United service company”, MAS of Sevastopol

Type of work

Design and survey works

Timeframe of work

2018 – in execution

PURPOSE

To do design and survey works of the object “ The building of a new gas modular boiler instead of the existing one” and present the outcome of the work to the State customer

DESCRIPTION

Designing new block-modular boilers instead of the existing ones inbuilt in an apartment block.
The power of the boiler in Odesskaya str.3: 3,5 MW (3,01 kcal/h)
The power of the boiler in Rozy Luksemburg str., 52: 4,4 MW (3,78 kcal/h)
Boilers: Thermotechnik TT100 (Entroros), **gas burners** WM-G 30/1-A,2 (Weishaupt).
Boiler equipment: Raziona RAZ, fuel – natural gas.

THE AMOUNT OF WORK PERFOMED

- The search of the territory in order to detect explosive objects.
- Seismic microzoning;
- Historical and cultural investigation of the territory;
- Engineering-geodesic, engineering-geological, engineering-ecological research;
- Elaboration of the designing documentation;
- Receiving the positive resolution of the State expertise of design documentation and results of engineering research;
- Elaboration of the designing documentation.

Elaboration of the designing documentation for modernization of automated process control system of radioactive waste release in Leningradskaya Neclear Power Station

Customer	Type of work	Timeframe of work
Interkon (for Leningradskaya NPS)	Elaboration of the designing documentation	2016 – November 2017

DESCRIPTION

Elaboration of the designing documentation for modernization of automated process control system of radioactive waste release with regard to the established list of normed amount of radionuclides for Leningradskaya NPS including:

- The replacement of radiometric installations of gas-aerosol release control PKC – 07 with modern radiometric installations taking into acoount the amount of circulated air.;
- Designing the project of implementing the automated spectrometric installation system of activity concentration radionuclide control of inert gases in vent pipe waste release, build. 601 2nd line of Leningradskaya NPS;
- The elaboration of the project implementing airflow control in vent pipe waste release bld.460, 660 with sending the airflow rate to the remote control АСРК зд.672р.

THE AMOUNT OF WORK PERFORMED

- The elaboration of the designing documentation including the task of the plant to prepare a billboard.;

The elaboration of the designing documentation for placing the equipment for producing powders of metal alloys using the approach of gas atomization on the area № 118 in the building 70 Ldt « Research-and-production association «Zentrotech» in the amounts appropriate for the scenario options.

Customer	Type of work	Timeframe of work
Interkon (for RPA Zentrotech)	The elaboration of the designing documentation	September 2017 – August 2018.

DESCRIPTION

The following technological processes are considered producing powders of metal alloys by gas atomization:

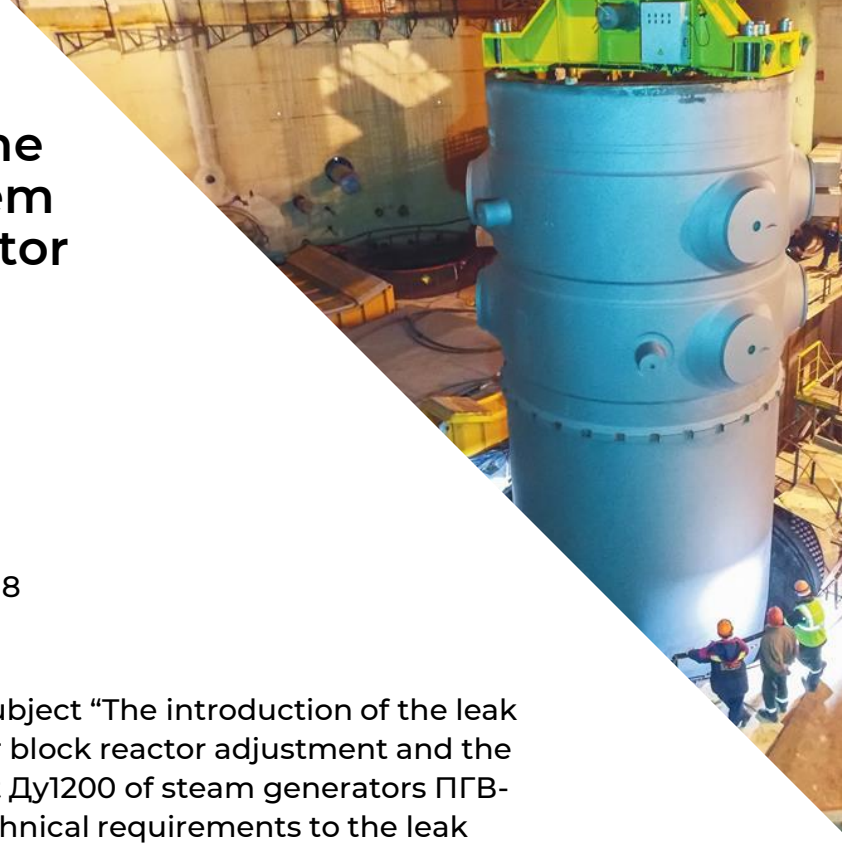
- The technological process of producing powders of Nickel-based superalloys ХН50ВМТЮБ-ВИ (ЭП 648-ВИ);
- The technological process of producing powders of Cobalt-Chrome- Molybdenum alloys
- The technological process of producing powders of aluminum- silicium- magnesium alloys.
- The technological process of producing powders of tin-zinc bronze Cu87Sn10Zn3;
- The technological process of producing powders of high-alloy, corrosion-proof, heatproof steel (12Х25Н16Г7АР).

THE AMOUNT OF WORK PERFORMED

The elaboration of the designing documentation including the following sections:

- Architecture and construction; technology; automatization; gas service; metal constructions; fire signal system; electricity service; electrical lighting; the elaboration of budget documentation; the examination of industrial safety.

Elaboration of the designing documentation on the subject “The introduction of the leak control system of the heat-transfer agent of the upper block reactor adjustment and the welding seam of the heat-transfer agent to the socket Ду1200 of steam generators ПГВ-1000.



Customer	Type of work	Timeframe of work
Interkon (for Rostovskaya NPS)	Elaboration of the designing documentation	March 2017 — October 2018

DESCRIPTION

Elaboration of the designing documentation on the subject “The introduction of the leak control system of the heat-transfer agent of the upper block reactor adjustment and the welding seam of the heat-transfer agent to the socket Ду1200 of steam generators ПГВ-1000 of power unit №1, №2 in accordance with the technical requirements to the leak control system for reactor adjustment ВВЭР-400/1000 № ТТ 1.5.4.01.002.0050-2011 with changes №1 от 12.02.2015.

In Rostovskaya NPS the leak control systems САКТ and СКТВ as parts СКУД РУ (systems equipment class - 3Н) are implemented.

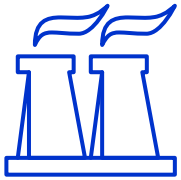
For meeting the requirements to leak control of heat-transfer agent in elements of VB reactor and welding seams №111 it is necessary to complement САКТ and СКТВ systems with the following control installation functions of additional censors:

- Acoustic sensors GT400 (2 censors on VB and 4 on clamps ДУ-1200 close to welding seams №111);
- Remote probes СКТВ-3В (only 10 probes on VB).

THE AMOUNT OF WORK PERFORMED

- Elaboration of technical specification for the system supply SKT;
- Elaboration of the designing documentation
- Elaboration of the budget documentation

Out team



Heat-Mechanical Department

10 people

Key competences

- Nitrogen-oxygen stations, process gas supply;
- Heat exchange equipment and appliances;
- Oil-fill equipment;
- Industrial ventilation and air conditioning systems;
- Compressor and pumping stations;
- Shutoff and shutoff-controlling armature, pipeline durability calculations, self-compensation and seismic resistance, and the support-suspension piping system and equipment load calculations;
- Vibration support calculations;
- The elaboration of designing documentation for equipment;
- The elaboration of designing documentation for reservoirs and tanks;
- The elaboration of designing documentation for technological equipment and pipelines;
- The elaboration of designing documentation for nonstandard equipment;
- Installation and Assembly drawings;
- Installation equipment drawings;
- Task to the plant to produce pipelines.

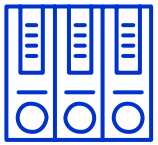
Department of the automated system management and electrotechnical Department.

7 people

Key competences

- Site power supply;
- Power output schemes and substations, electric power equipment;
- Automatic fire alarm systems;
- CCTV system;
- Communication and alarm networks;
- Control-measuring instruments and automatic machinery;
- Diagnostic system;
- External cable connection schemes of control-measuring instruments.
- Cable journals;
- Custom specifications;
- Installation and trace drawings of impulse piping, a task to the plant to produce cabinets and panels of local control boards, formalized algorithms of protecting and blocking, alarm system;
- Database (the list of input and output signals);
- Equipment placement plans;
- "Metrological characteristics of measuring channels;
- Element-by-element installation schemes;
- "External cable connections;
- Secondary switching scheme (the scheme of controlling shutoff-controlling armature and mechanisms for own needs, alarm system and power supply schemes).

Out team



Architecture and construction Department

3 people

Key competences

- The projects of building and premise renovation;
- Anticorrosion protection projects;
- Insulation protection projects;
- Repairment and premise finishings, self-leveling floor system;
- Construction solutions to civil and industrial buildings
- Construction solutions to support and load-bearing structures, footings for the main and auxiliary equipment.

Budget working group

2 people

Key competences

- The elaboration of the budget documentation for accomplishing construction and construction, installation and start-up works.

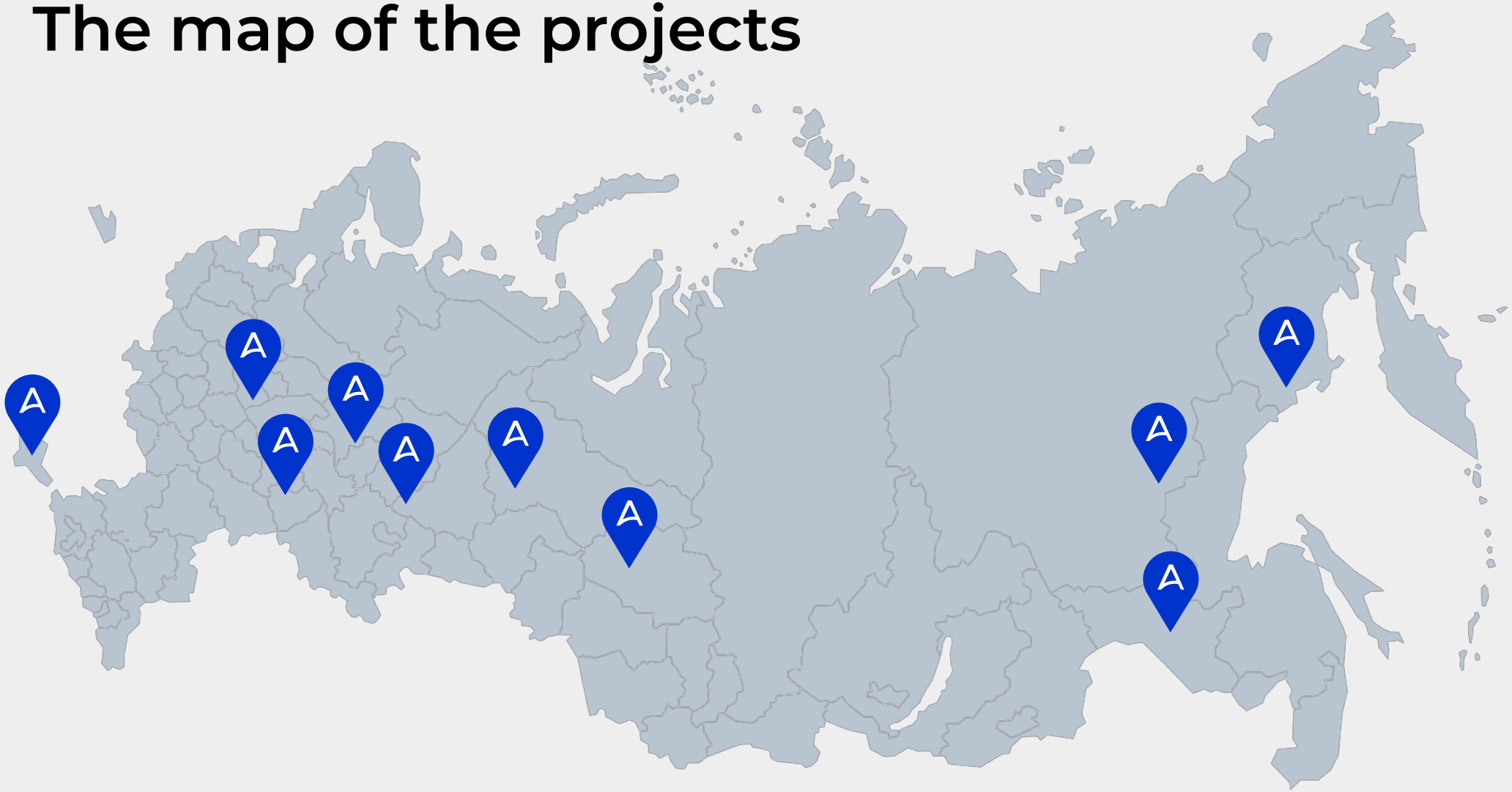
Technical Department

3 people

Key competences

- The elaboration of the sections – Security Regulations, Environmental Protection, Construction Management Project, General plan and transport.

The map of the projects



Crimea
Vladimir region
Samara region
Kirov region
Sverdlovsk region
Khanty-Mansi Autonomous District
Tomsk region
Amur region
Saha (Yakutia)
Magadan region

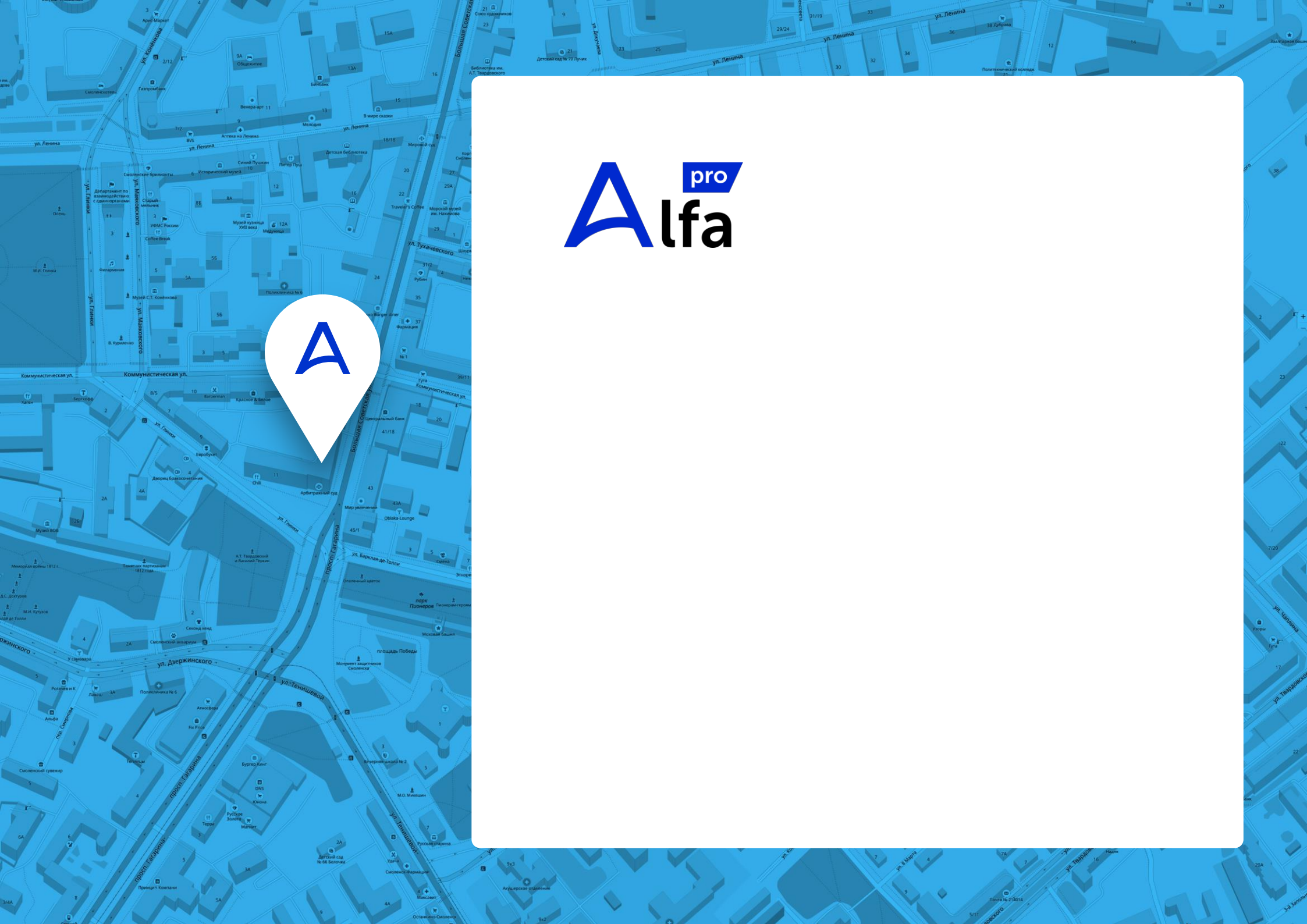
Our clients

РусГидро

РОСЭНЕРГОАТОМ
РОСТОВСКАЯ
АЭС

ЛАЭС
ЛЕНИНГРАДСКАЯ АТОМНАЯ ЭЛЕКТРОСТАНЦИЯ
LENINGRAD NUCLEAR POWER PLANT

БЭМО
БОГУЧАНСКАЯ ГЭС


Alfa pro