



GROUP



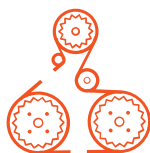
**MANAGEMENT
OF EPC AND EPCM
PROJECTS**





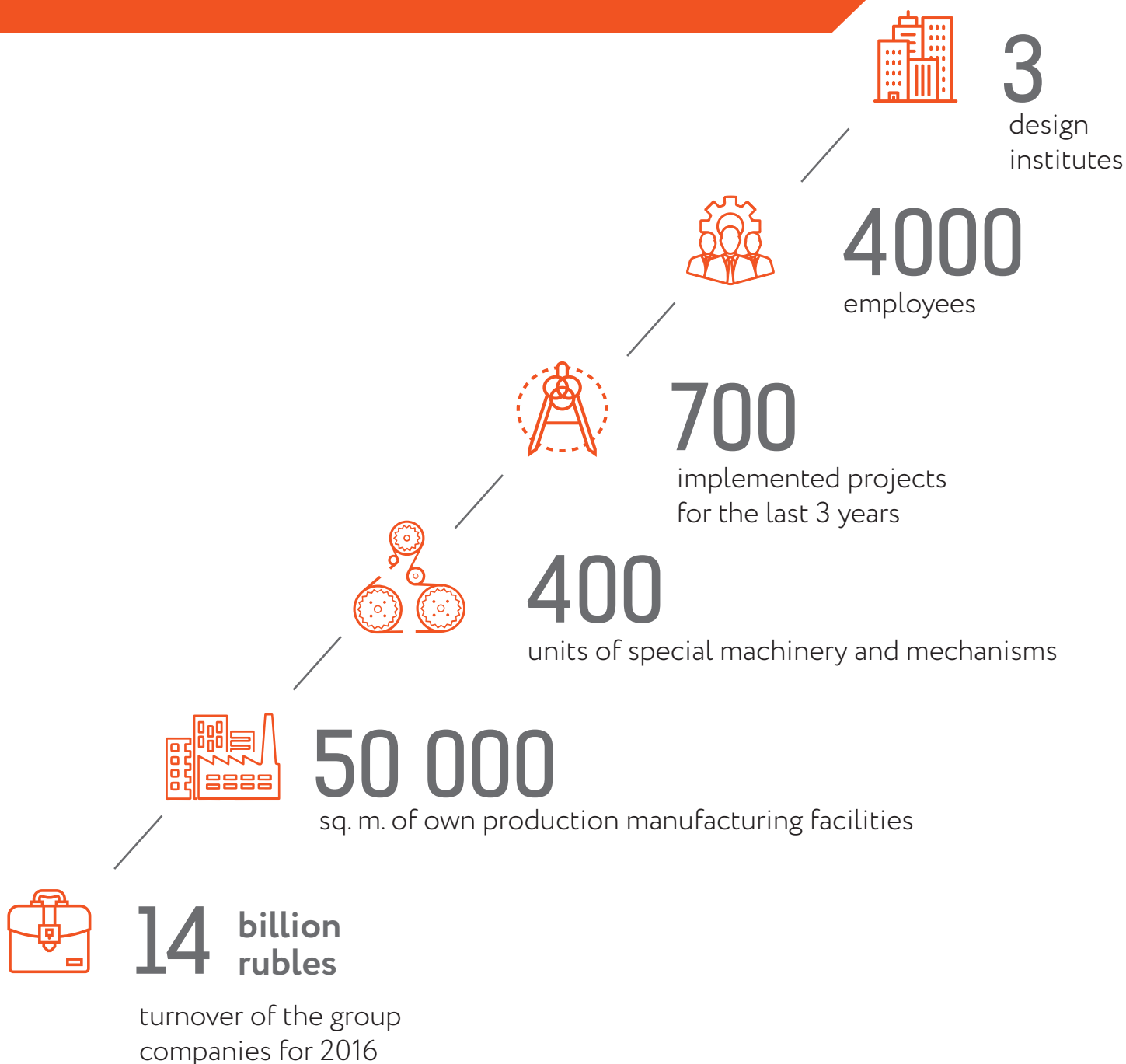
KR GROUP

- Engineering
- Design
- Construction and assembly
- Modernization and repair
- Electricity generation and power supply
- Manufacture of equipment and spare parts



KR group – group of companies with various activities, that combine their resources to solve engineering tasks

**KR group
is an international EPC(M) contractor**



GEOGRAPHY OF ACTIVITY



SINCE **1960**
KR GROUP

works

In Russia,
in the countries of Asia,
in Middle East
and in Latin America

During this time, many significant large construction projects of varying complexity and purposes were implemented: units of power and infrastructure, industrial and civil construction.

Currently KR group keeps actively developing its business, both in Russia and worldwide. Solid experience in management of remote projects allows the most ambitious plans of our customers to be implemented irrespective of the unit location.



KEY COMPETENCIES



ENGINEERING

- Pre-project survey in power generation and industry
- Complex designing
- Integrated automation of production
- Electric equipment reconstruction
- Equipment production
- Construction maintenance
- Complex energy technology audit of enterprises
- Electric engineering



Design institute



Reliable



Manufacturer



Simple

Process of interconnection of different ideas and concepts

Optimal solution



Effective



Construction company



Effective in operation and possession

DESIGN



ENERGY AND NETWORK FACILITIES

PRODUCTION BUILDINGS, CONSTRUCTIONS

ENGINEERING NETWORKS

- Design of industrial enterprises, buildings and structures
- Scientific research and design and experimental works
- Land use planning
- Engineering surveys and explorations
- Integrated design of energy, petrochemical, oil refining facilities
- Execution of non-phased works
- Author's supervision
- Bankable feasibility study with operating costs calculated up to 50 years

CONSTRUCTION AND INSTALLATION



ENERGY
AND INFRASTRUCTURE UNITS



ADMINISTRATIVE
AND RESIDENTIAL BUILDINGS



INDUSTRIAL
ENTERPRISES
AND FACILITIES



PETROCHEMICAL
AND OIL REFINING
FACILITIES

- Turnkey construction of industrial facilities
- General civil works
- Assembly of main and auxiliary equipment
- Electrical fitting works
- Installation of technological equipment and pipelines
- Works on installation of external and internal engineering networks and communications
- Commissioning and testing

MODERNIZATION AND REPAIR



REPAIR AND MODERNIZATION OF THERMAL MECHANICAL EQUIPMENT



REPAIR AND MODERNIZATION OF ELECTRIC EQUIPMENT



REPAIR AND MODERNIZATION OF AUXILIARY EQUIPMENT

- Reconstruction, modernization and repair of rotors
- Repair of parts and assemblies of rotating mechanisms (steam turbines, compressors, reduction gears, drives, pumps)
- Repair and modernization of steam and hot water boilers, pipelines of all categories
- Reconstruction of steam turbines
- Repair of generators, power transformers, auxiliary thermal mechanical equipment
- Overhaul of engines of all types, 10-2500 kVA transformers, welding transformers, generators, turbogenerators of all types, UTS

HEAT AND POWER GENERATION



ELABUGA
HEAT SUPPLY COMPANY

ZELENODOLSK
HEAT SUPPLY COMPANY

OPERATION OF ENERGY
SYSTEMS AT ENTERPRISES

- Design, construction and operation of Small Energy facilities
- Management of generating facilities
- Production, transportation and distribution of steam and hot water (heat energy)
- Hydraulic adjustment of heat networks
- Operation of hazardous industrial facility (HIF)

EQUIPMENT AND SPAREPARTS MANUFACTURING



**ELECTROTECHNICAL
EQUIPMENT**



**PACKAGED MODULAR
BOILERHOUSES**



**PROCESS CONTROL
SYSTEM**



**NON-STANDARD
EQUIPMENT
AND SPAREPARTS**



**ROBOT
PACKAGE**

KR-ENGINEERING

Manufacture of electrical equipment, systems of control, distribution and energy conversion; packaged pumping stations; pressure and absolute pressure sensors

SERVISMONTAZH- INTEGRATSIYA

Manufacture of low-voltage and medium-voltage switchboard equipment, automation systems

RU-ENGINEERING

Manufacture of frequency converters, soft starters, static vargenerators, software and hardware complexes, bench test equipment, robotic systems, power stations, block-modular buildings, industry robots integration

KR-ENERGY

Production of packaged-modular boiler houses, gas powered electrical generators in container version

KAMENERGOREMONT

Manufacture of non-standard equipment and metalworks, production of spare parts

EQUIPMENT SUPPLY

Qualified selection of required equipment and its timely delivery play one of the important roles in implementation of any investment and construction project. As a rule, the enterprise specialists do not see the need to involve outside companies. However, as practice shows, the batching services may reduce:

- time for equipment selection
- risks associated with raw materials supply
- time for installation, commissioning and trial operation
- procurement costs

Currently the services on engineering support and batching include:

- equipment selection at the design stage
- supply of equipment from leading world manufacturers, installation and commissioning
- training of the customer's personnel
- after-sales and post-warranty service

MAIN PROJECTS

THERMAL POWER ENGINEERING



MODERNIZATION OF NIZHNEKAMSK POWER PLANT

NIZHNEKAMSK, RUSSIA

SCOPE OF WORK:

- Construction of the main building
- Installation 2 steam turbines 110 MW each, 2 generators, auxiliaries
- Development and implementation of automation process control system
- Commissioning and adjustment works
- Electrical works

Construction period: 2013–2015



TURNKEY CONSTRUCTION OF COMBINED CYCLE POWER UNIT 220 MW AT KAZAN POWER PLANT-2

KAZAN, RUSSIA

SCOPE OF WORK:

- Development of design documentation
- Dismantling of the existing production facilities
- Main building construction
- Supply and installation steam turbines, waste heat boiler, booster compressor stations, auxiliaries
- Development and implementation of complete automation process control systems
- Commissioning and adjustment works

Construction period: 2011-2014



MODERNIZATION OF 500 MW AT EKIBASTUZ SDPP-1, SDPP-2

EKIBASTUZ, KAZAKHSTAN

SCOPE OF WORK:

- Modernization of control and operation systems of eight 500 MW units at Ekibastuz SDPP-1 with installation of full scale automation process control system based on Emerson hardware and software complex «Ovation»
- Installation of automatic process control system at 500 MW units № 1 and № 2 at Ekibastuz SDPP-2
- Installation of automatic control system at turbogenerator and two feed-pump turbines of unit № 2 based on Emerson hardware and software complex «Ovation»
- Regulating system of turbogenerator of unit № 5 based on Emerson hardware and software complex «Ovation»
- Automatic control system of Switchgear based on Emerson hardware and software complex «Ovation», «Aris», «Progsoft-Systems»
- Microprocessor systems of transformers, lines and electric engines protection

Construction period: 2004–2015



CONSTRUCTION AND INSTALLATION OF 386 MW GAS TURBINE UNIT AT KAZAN POWER PLANT-3

KAZAN, RUSSIA

SCOPE OF WORK:

- Erection of a waste heat boiler
- Erection of Gas Turbine Unit GE of 386 MW
- Installation of central line and plant auxiliary equipment

Construction period: 2015–2017



TURNKEY CONSTRUCTION OF 50 MW GAS TURBINE PLANT AT KAZAN POWER PLANT-1

KAZAN, RUSSIA

SCOPE OF WORK:

- Development of design documentation
- Dismantling of the existing production facilities
- Supply and installation gas turbine units power generators, compressor stations
- Installation of electrical equipment and instrumentation
- Development and implementation of automation process control system
- Commissioning and adjustment works

Construction period: 2003–2005



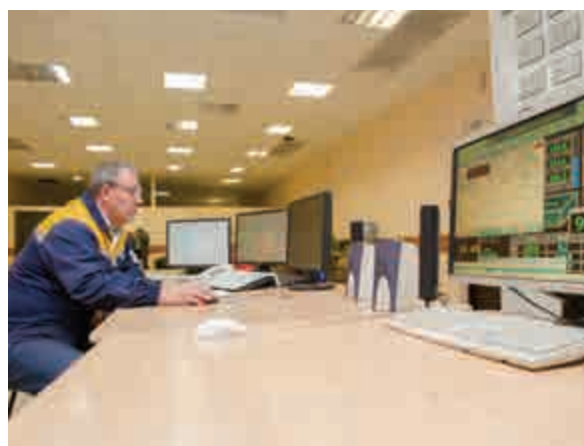
TURNKEY CONSTRUCTION OF AUTOMATIC PROCESS CONTROL SYSTEM AT ABAKANSKAYA THERMAL POWER PLANT

ABAKAN, RUSSIA

SCOPE OF WORK:

- Turnkey construction of the automatic process control system of unit № 5 based on «Metso» software
- Design of upper level of the automatic process control system
- Assembly of field I&C
- Adjustment and commissioning of electric equipment, automatic process control system and I&C complex, commissioning of main and auxiliary equipment of heat supply and water treatment system

Construction period: 2013–2014



CONSTRUCTION OF SIX MODULAR BLOCK-BOILER HOUSES WITH A TOTAL CAPACITY OF 89.8 MW

KOTOVSK, RUSSIA

SCOPE OF WORK:

- Engineering research
- Development of design documentation
- Construction of modular boiler houses, engineering networks
- Installation
- Commissioning and adjustment works
- Technical maintenance

Construction period: 2017



CONSTRUCTION OF 40 MW BOILER PLANT AT RESIDENTIAL COMPLEX M-14

KAZAN, RUSSIA

SCOPE OF WORK:

- Development of design documentation
- Construction of boiler facilities
- Supplies and erection of main equipment
- Development and installation of automation system
- Commissioning and adjustment works

Construction period: 2016



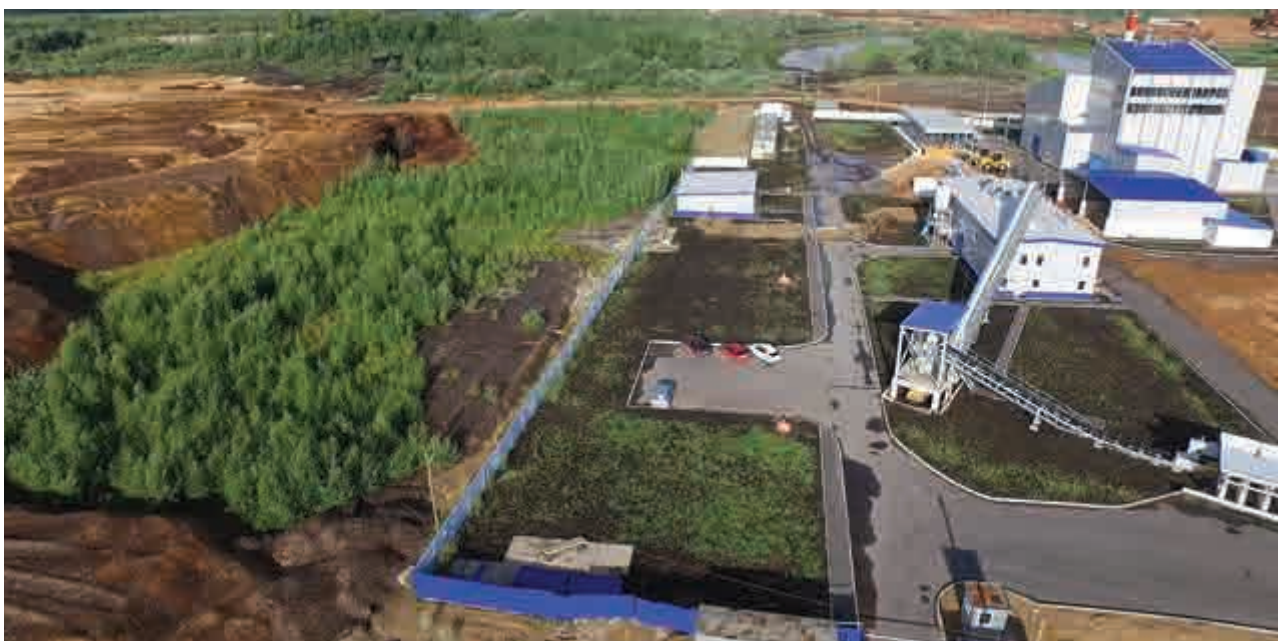
TURNKEY CONSTRUCTION OF 4,8 MW POWER PLANT ON WOOD WASTES

SYCTYVKAR, RUSSIA

SCOPE OF WORK:

- Civil construction works
- Assembly:
 - Boiler,
 - Turbine,
 - Generator,
 - Auxiliaries
- Commissioning and adjustment works

Construction period: 2014–2015



MAIN PROJECTS

POWER ENGINEERING



TURNKEY CONSTRUCTION OF 220 KV AT BEGISHEVO SUBSTATION

BEGISHEVO, RUSSIA

SCOPE OF WORK:

- Development of design documentation
- Supply of equipment and materials
- Civil construction works, installation of equipment
- Development and installation of secondary chains, relay protection and automatic equipment, high frequency protection and communication lines
- Installation of automation control systems of power supply, communication lines, fire-alarm and video control systems
- High voltage testing
- Commissioning and adjustment works

Construction period: 2015–2016



RECONSTRUCTION OF 500 KV OUTDOOR SWITCHGEAR AT BUGULMA SUBSTATION

BUGULMA, RUSSIA

SCOPE OF WORK:

- Dismantling of outdated electrical equipment and structures
- Planning of the territory, equipment installation
- Relay protection and automatics
- Development and implementation of automatic process control system
- Installation of automated information and measuring system of commercial energy metering

Construction period: 2014–2015



TURNKEY CONSTRUCTION OF AERIAL CABLE LINE 220 KV AT SCHELOKOV – CENTRAL

ELABUGA, RUSSIA

SCOPE OF WORK:

- Development of design documentation
- Supply of equipment and materials
- Civil construction works, assembly and erection of transmission lines

Construction period: 2016–2017



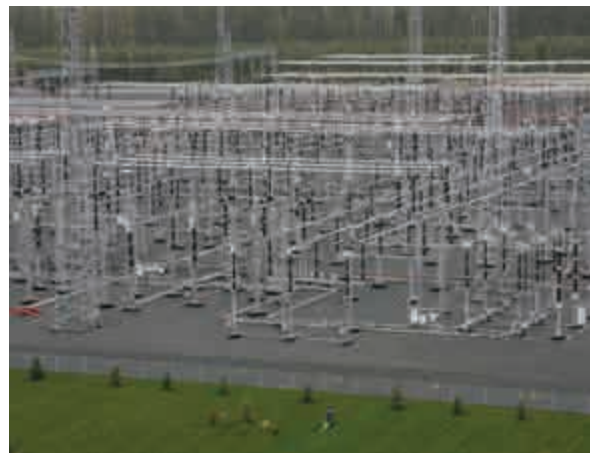
TURNKEY CONSTRUCTION OF 500 KV AT SCHELOKOV SUBSTATION

ELABUGA, RUSSIA

SCOPE OF WORK:

- Turnkey construction of 500 kV Schelokov substation
- Stages of the project:
 - 1 stage – 2 autotransformers 500/110 kV, 250 MVA each
 - 2 stage – 2 autotransformers 500/220 kV, 500 MVA each
- Overhead transmission lines:
 - 2 OHL – 500 kV;
 - 4 OHL – 220 kV

Construction period: 2011–2014



RECONSTRUCTION OF 500 KV OUTDOOR SWITCHGEAR AT BUGULMA SUBSTATION

BUGULMA, RUSSIA

SCOPE OF WORK:

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- Planning of the territory, equipment installation
- Relay protection and automatics
- Development and implementation of automatic process control system
- Installation of automated information and measuring system of commercial energy metering

Construction period: 2014–2016



MAIN PROJECTS

OIL AND GAS INDUSTRY



CONSTRUCTION OF COMPLEX OF PETROCHEMICAL AND OIL REFINERY PLANTS FOR JSC TANECO

NIZHNEKAMSK, RUSSIA

SCOPE OF WORK:

- Development and design of external electric power supply system and of power distribution scheme of its own power source
- Automated system of consumption and distribution of electricity
- Design of heat supply system
- Installation of technological and auxiliary equipment
- Erection of steel structures (buildings, constructions, reservoirs)
- Pipelining (technology, gas, steam and hot water pipelines)
- Installation of engineering systems and commissioning and adjustment works

Construction period: 2007–2009



CONSTRUCTION OF CATALYTIC CRACKING COMPLEX OF GAZPROM NEFTECHIM SALAVAT REFINERY

SALAVAT, RUSSIA

SCOPE OF WORK:

- Assembly of steel structures
- Erection of tanks and vessels, technological equipment (pump and compressor equipment) and pipelines of catalytic cracking complex

Construction period: 2015–2017



CONSTRUCTION OF CATALYTIC CRACKING COMPLEX-2 LUCKOIL-NIZHEGORODORGSINTEZ REFINERY

KSTOVO, RUSSIA

SCOPE OF WORK:

- Assembly of steel structures
- Erection of tanks and vessels, technological equipment (pump and compressor equipment of crane-beams) and pipelines

Construction period: 2013–2014



MODERNIZATION OF SYZRAN REFINERY

SYZRAN, RUSSIA

SCOPE OF WORK:

- Assembly of steel structures and pipeline at the catalytic reforming unit
- Hydro test of tanks and vessels

Construction period: 2014



ASSEMBLY OF 140 ATA STEAM PIPELINE AT NIZHNEKAMSKNEFTECHIM

NIZHNEKAMSK, RUSSIA

SCOPE OF WORK:

- Assembly of steam pipeline

Construction period: 2011–2013



OVERHAULING OF GAS TURBINE UNITS

KORPEJE ON SHORE, TURKMENISTAN

SCOPE OF WORK:

- Overhaul of 6 gas turbine units THM 1304-10 of Man Turbo with export from booster compressor station to the production base of IED-Holding in Nizhnekamsk

Construction period: 2014–2015



CONSTRUCTION OF GAS-LIFT COMPRESSOR STATION

KEYMIR ON SHORE, TURKMENISTAN

SCOPE OF WORK:

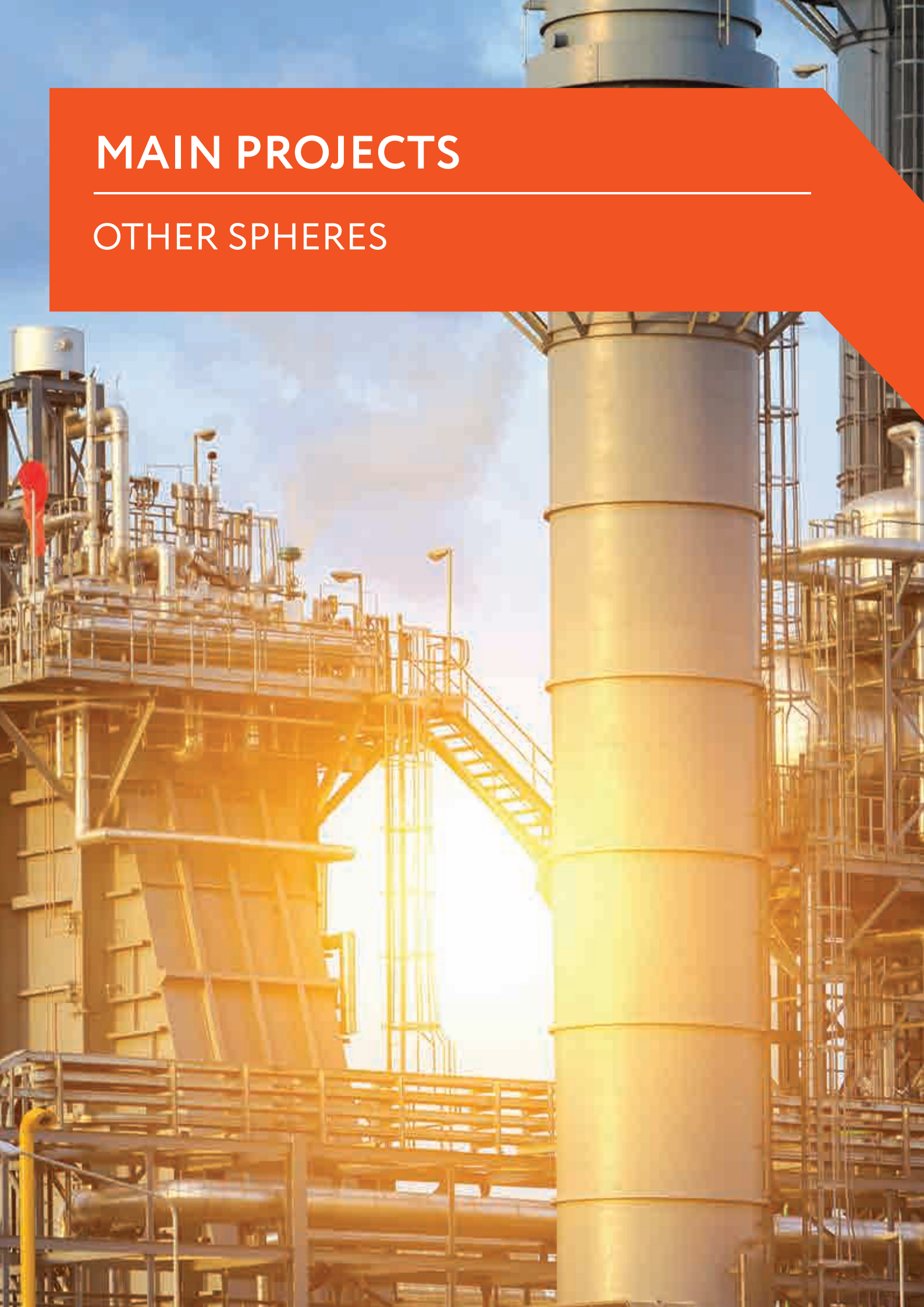
- Construction of compressor station
- Commissioning and adjustment works
- Integration of automation systems of turbines GE PGT-20
- Personnel training

Construction period: 2013–2015



MAIN PROJECTS

OTHER SPHERES



CONSTRUCTION OF AMMONIUM FERTILIZERS AT PLANT AMMONIUM

MENDELEEVS, RUSSIA

SCOPE OF WORK:

- Development of external power supply scheme
- Electrical and installation works
- Installation of technological pipelines

Construction period: 2014



OVERHAUL OF UNIT №1 TPP SIDDIRGANJ 210 MW UNDER KEY-TURN BASIS

BANGLADESH

SCOPE OF WORK:

- Supply and replacement of the existing Generator
- Generator Control Panel manufacture, supply and installation
- Water treatment plant equipment supply and replacement
- Supply, installation and commissioning of auxiliary equipment

Construction period: 2016–2017



REHABILITATION OF HYDROELECTRIC UNIT №1 OF THE HYDRO POWER PLANT NAGLU

ISLAMIC REPUBLIC OF AFGHANISTAN

SCOPE OF WORK:

- Works execution under key-turn basis

Construction period: 2016–2018



AGRICULTURAL PARK ZAMAN TURNKEY CONSTRUCTION OF AGRICULTURAL COMPLEX

ZAINSK, RUSSIA

SCOPE OF WORK:

- Development of design documentation
- Construction of the elevator
- Construction of engineering networks

Construction period: 2016–2017





INTERNATIONAL REFERENCE LIST

Country	Object	Scope of work	Period
Republic of Cuba	Electric power station	Supply and installation of power equipment, repair of existing equipment	1993
Republic of Bulgaria	Electric power station	Supply and installation of power equipment, repair of existing equipment	1994
Republic of Mongolia	Ulan Bator, Thermal Power Station (TPS) N° 4	Supply and installation of power equipment, repair of existing equipment	1994–1996
Syria	TPS Tishreen	Supply and installation of power equipment, repair of existing equipment	1995–1996
	Pump station, gas pipeline, dispensing station	Supply, installation of power equipment, repair and engineering	1996–1997
	TPS Nassiriyah	Turn-key Rehabilitation	1997–2001
	TPS Najibiyah	Supply and installation of power equipment, repair of existing equipment	1997
Iraq	TPS Hartha	Rotor repair	2001
	TPS Al-Musaib	Supply and installation of power equipment, repair of existing equipment	2001
	TPS Najibiyah	Supply and installation of power equipment, repair of existing equipment	2004–2005
	TPS Hartha	Supply and installation of power equipment, repair of existing equipment	2005
	TPS Metallurgical industrial complex in Karachi	Supply, installation of automation systems	2005–2006
Pakistan	TPS of Pakistan steel, Karachi	Technical examination of power equipment	2006–2007
	TPP Guddu	Overhauling works of the Unit 210 MW	2005–2006
Yemen	TPS Al-Hiswa of Aden refinery	Inspection of power equipment, feasibility and development of preconstruction documentation for a new power plant	2010
	TPS in Aksu	Full-scale automated process control system (APCS) for 300MW power units	2008–2010
Kazakhstan	TPS -1, TPS -2, TPS -3 in Aktau	Complete cycle of power units automation	2005–2013
	AES-Ekibastuz	Complete cycle of automation, units 500MW st. # 2, 3, 4, 5, 6, 7, 8	2014–2015
	Compressor station of Keymir field	Assembly of three units, commissioning, Process control system integration with GE PGT-20 turbines, personnel training	2013–2015
Turkmenistan	Compressor station of Korpeje field	Overhaul repair of 6 gas turbine units MAN THM 1304-10	2014–2016
Republic of Union of Myanmar	Heat recovery power plant	Installation of equipment and commissioning of two turbines and generators, electric equipment and instrumentation	since 2016
	Steel Plant (Pang Pet)	1. Installation, starting-up and commissioning of two turbines and two generators at Heat Recovery Power Plant	2017–2019
		2. Supply, installation and adjustment of ventilation and conditioning systems of the Steel Plant	2016–2017
		3. Supply, installation and adjustment of fire-alarm system of the Steel Plant	2016–2017
		4. Installation, starting-up and commissioning of Main Step-down Substation of the Steel Plant	2016–2017
Bangladesh	TPS Siddirganj	Overhaul of unit 1, replacement of equipment	since 2017
	TPP Gorashal	Forced Draft Fan engine replacement at the TPP Gorashal	2016–2017
Afganistan	HPP Naglu	Rehabilitation of hydroelectric unit N°1	2016–2018

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