Company Introduction

Moscow 2022

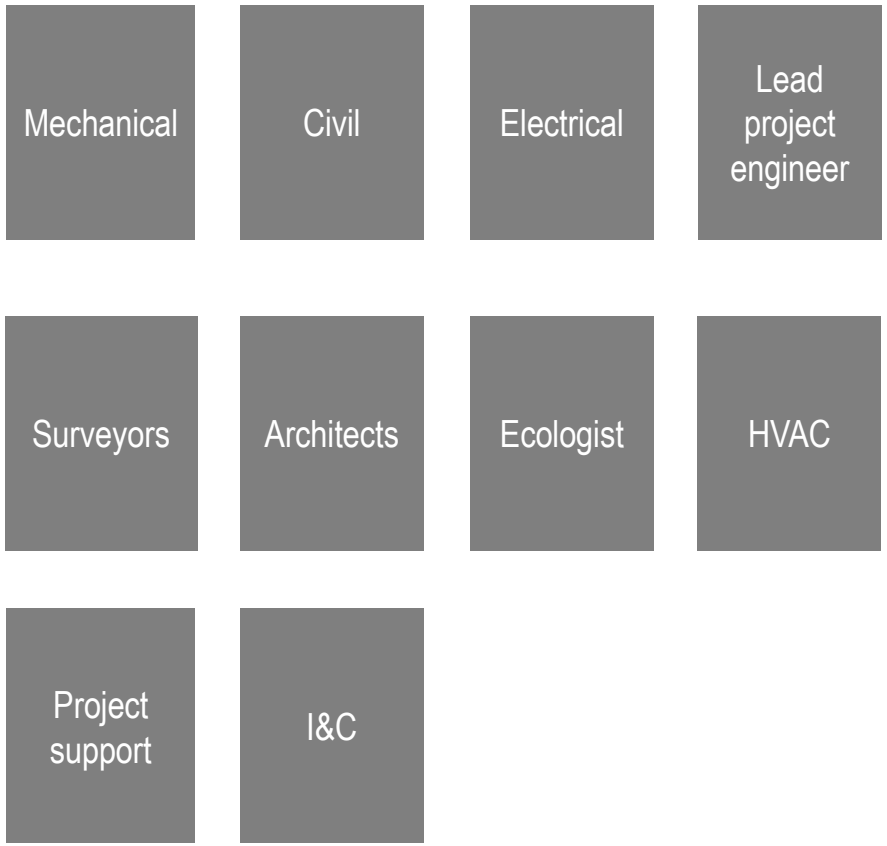
SSE Engineering

COMPANY OVERVIEW: SSE ENGINEERING

General description

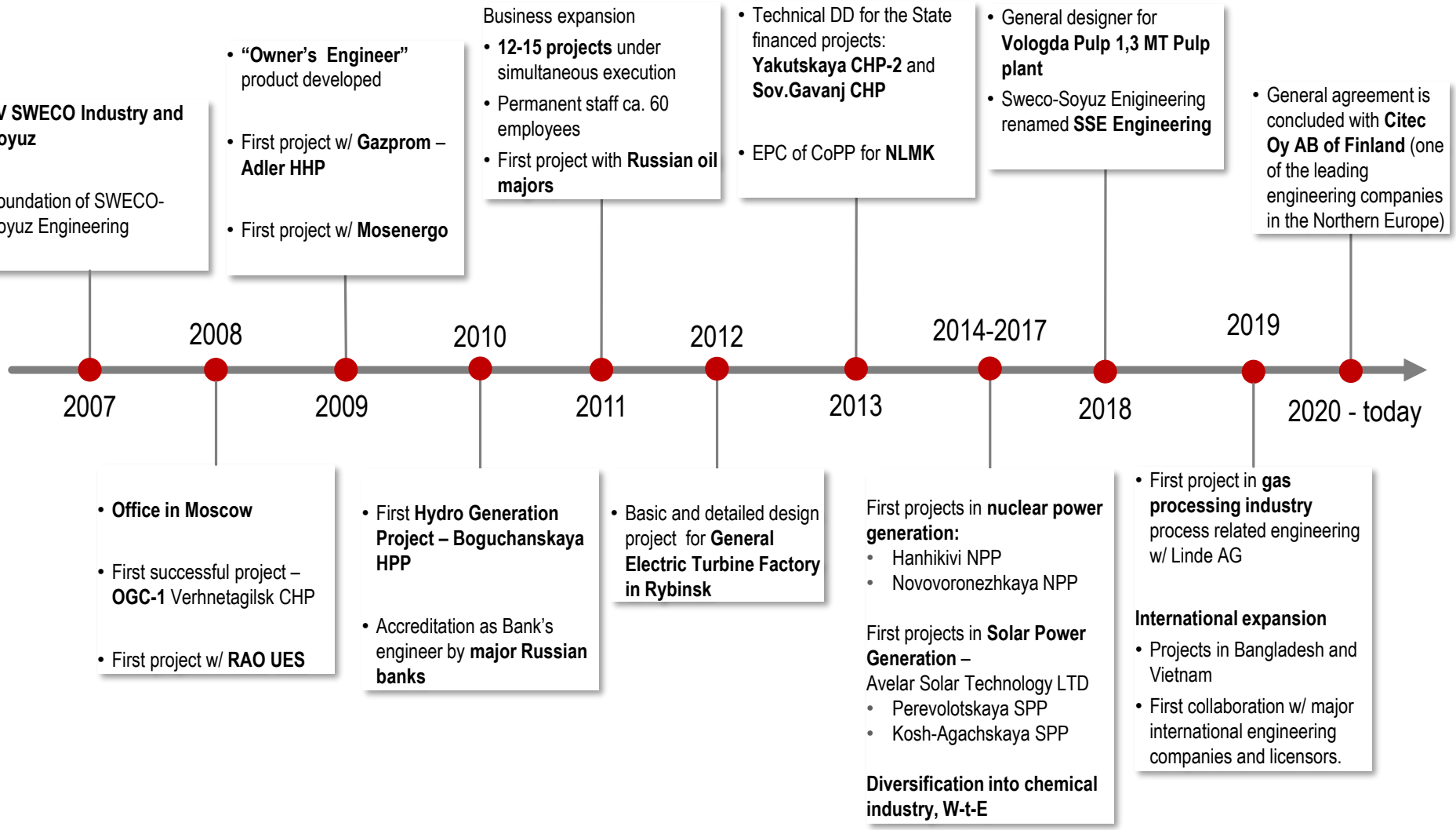
- **SSE Engineering** is an **engineering company** specializing in **power and industrial projects** providing engineering consultancy, feasibility studies, basic and detailed design, construction supervision and project management services..
- Established in 2007 as a **JV** between **Sweco Industry** and **Soyuz**
- **Key specialization**:
  - Thermal, hydro, nuclear and renewables power generation;
  - Infrastructure and industry;
  - Chemical and oil&gas;
  - Industrial agriculture, pulp and paper.
- The Company has **successfully completed more than 300 projects** and is **currently executing over 30 assignments** of various types for power, industrial and infrastructure applications.
- **SSE Engineering** also has the possibility to attract project resources of the Holding with about 250 employees for basic and detailed design of infrastructure and industrial projects and organized in 2019 engineering-expert network **«Leonardo»** with more than 1000 engineers in various disciplines, industries, enterprises.

Engineers breakdown by specialization



- Moscow Head Office: 78 pers.
- Construction sites: 23 pers.
- 12 employees have 2 university degrees; 3 Ph.D.
- 30 engineers and managers are fluent in English

COMPANY OVERVIEW: HISTORY OF DEVELOPMENT (2/3)



Today SSE Engineering is a fast growing multi-disciplined company capable of fulfilling most complicated demands

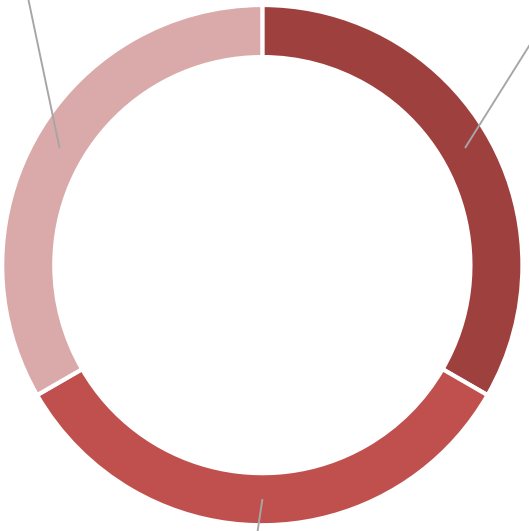
CUSTOMERS

SSE Engineering clients are leading energy companies, industry and financial institutions

COMPANY OVERVIEW: OUR SERVICES (3/3)

Basic and detailed design

- Pre-FEED, Investment feasibility study
- Development of business plan
- Basic design, including permit documentation
- Development of technical specifications
- Safety declaration
- State Expert Examination
- BOQ
- Detailed engineering incl. Technological solutions, Structural solutions, HVAC, Electrical, Instrumentation and Utilities.
- Adaptation of foreign basic and detailed design to Russian norms and standards.
- BIM



Engineering consultancy

- Declaration of intent
- Pre-feasibility/Feasibility study
- Business plan
- Project documentation for authorities (PDA) preparation support
- PDA audit
- Technical and cost audit

Owner's Engineer/Bank's Engineer Services

- Audit of primary and reporting documentation
- Engineering documentation review
- Local procurement support
- Project schedule control
- Equipment manufacturing and delivery control
- Construction supervision, site monitoring, procurements and commissioning management
- QA/QC, HSE
- Monitoring of fire, industrial and ecological safety; occupational safety
- Budget control
- Laboratory tests

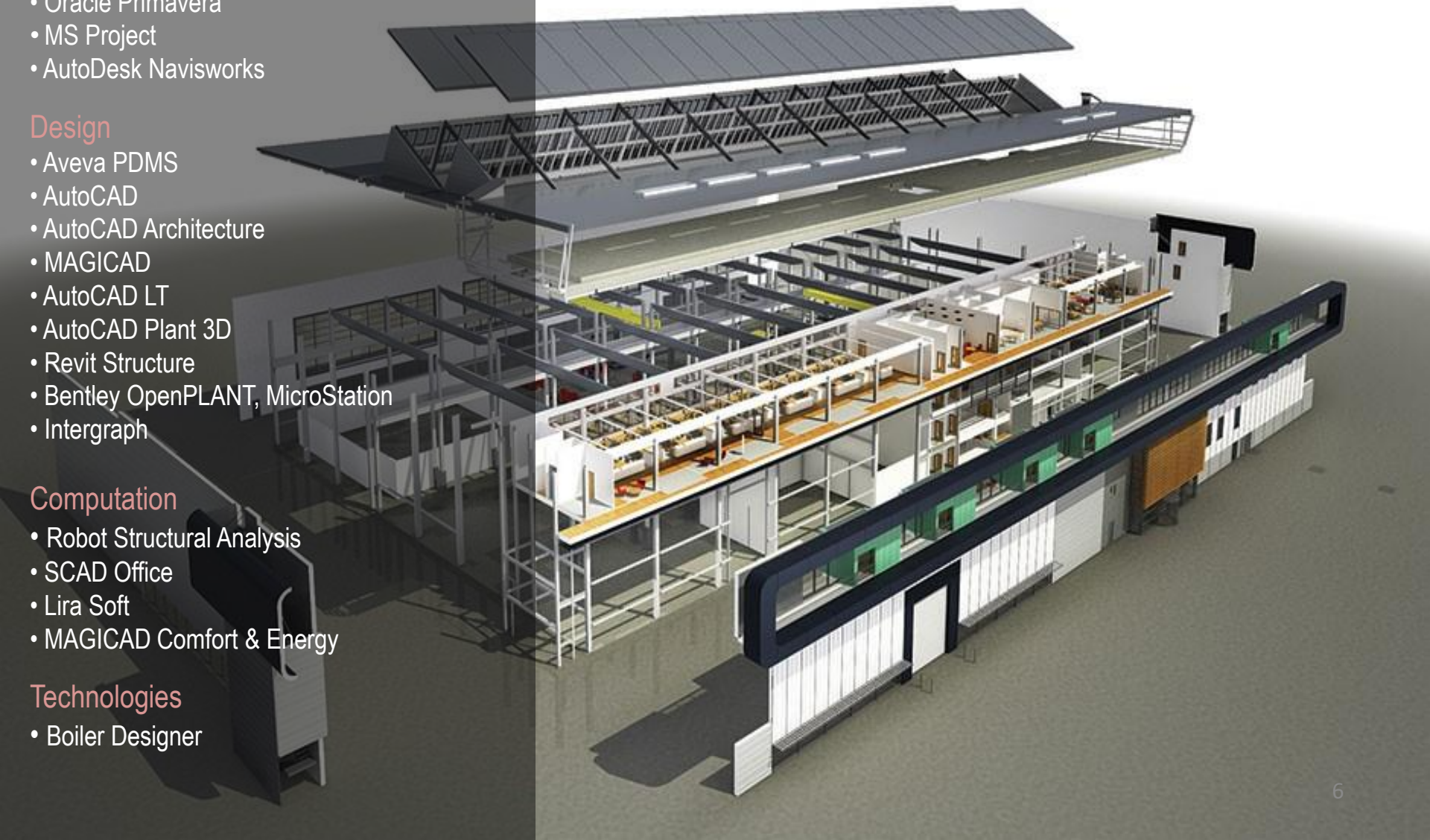
SOFTWARE

Project management
- Oracle Primavera
- MS Project
- AutoDesk Navisworks

Design
- Aveva PDMS
- AutoCAD
- AutoCAD Architecture
- MAGICAD
- AutoCAD LT
- AutoCAD Plant 3D
- Revit Structure
- Bentley OpenPLANT, MicroStation
- Intergraph

Computation
- Robot Structural Analysis
- SCAD Office
- Lira Soft
- MAGICAD Comfort & Energy

Technologies
- Boiler Designer

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REFERENCES

SELECTED REFERENCES

Customer:
Danieli Volga

Project:
Laser scanning of the production complex of the Magnitogorsk Iron and Steel Works

Project features:
Laser scanning of furnace No. 4, including auxiliary equipment (total scanning area ~ 20,000 m^2)

Country: Russia, Magnitogorsk

Contract period: 2022

SELECTED REFERENCES

Customer:
Renaissance Heavy Industries
PJSC "Sberbank"

Project:
Conducting a construction audit and financial and technical monitoring of the construction project under the Project "Plant for the production of liquefied natural gas (LNG Plant Contract)". Provision of technical supervision

Country: Russia, Ust-Luga

Contract period: Ongoing

SELECTED REFERENCES

Customer:
Renaissance Heavy Industries
JSC "Gazprombank«

Project:
Carrying out a construction audit of the construction project under the Project "Gas processing complex as part of the complex for processing ethane-containing gas near the village of Ust-Luga".
Provision of technical supervision services.

Country: Russia, Ust-Luga

Contract period: Ongoing

SELECTED REFERENCES

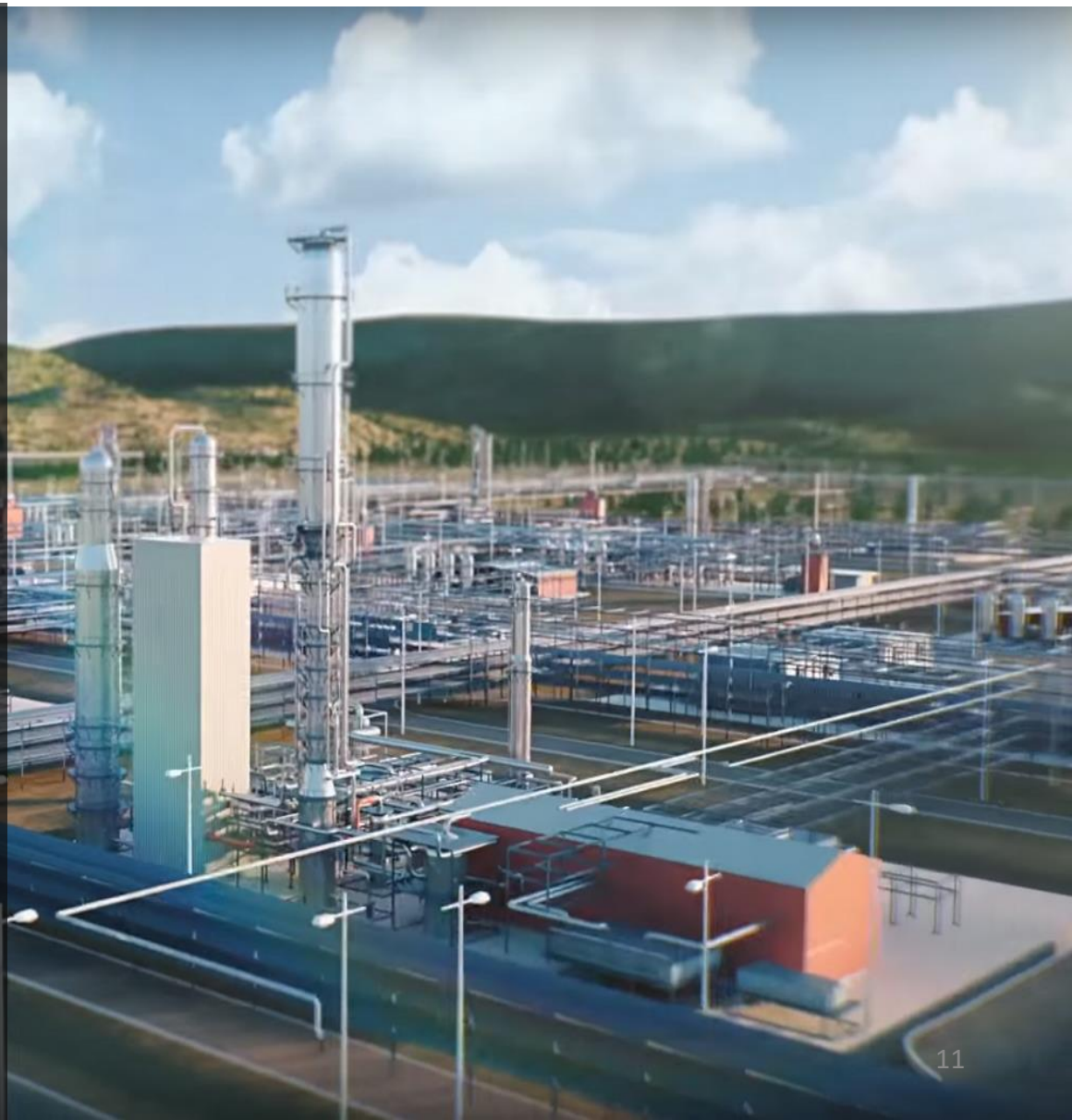
Customer:
NIPIGAS JSC

Project:
Amur Gas Processing Plant

Scope:
Backup control of contractors' work quality using destructive methods and other types of tests

Country: Russia

Contract period: 2018 – ongoing



SELECTED REFERENCES

Project:
Marine LNG Terminal in Murmansk Region

Customer:
NOVATEK-Murmansk LLC

Services for the 1st phase of the public technological and pricing audit for the Murmansk Marine LNG Terminal investment project (including public hearings)

Country: Murmansk, Russia

Contract period:
2019

SELECTED REFERENCES

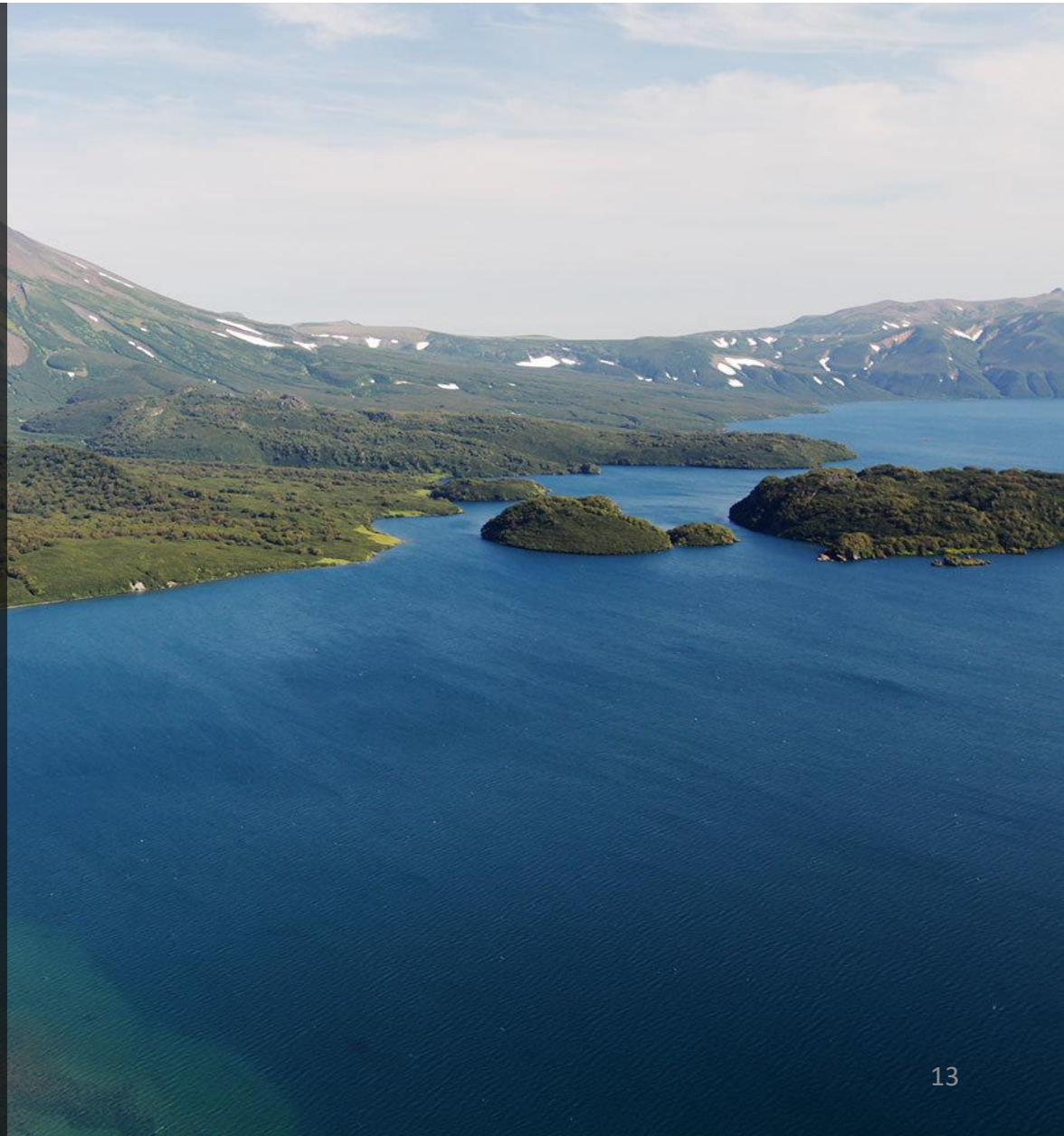
Project:
Kamchatka Marine LNG Terminal

Customer:
NOVATEK-Kamchatka LLC

Services for the 1st phase of the public technological and pricing audit for the Kamchatka Marine LNG Terminal investment project (including public hearings)

Country: Murmansk, Russia

Contract period:
2019



SELECTED REFERENCES

Customer: Orenburgneft JSC

Project:
Project execution schedule control and supervision. Consulting services during commissioning of oil and gas processing facilities incl. Zaikinskoe gas processing plant, railway terminal and propane, butane and gasoline shipment terminal.

Scope of works
- Development of general project execution schedule
- Development of detailed by-structure schedule
- Daily and weekly schedule updates
- Milestones monitoring with recommendations on works acceleration
- Consulting services during commissioning

Deliverables:
- Optimization of logistics, process solutions, decrease of construction time.
- Technical and economic recommendations regarding the commissioning;

Russia
2012 - 2013

SELECTED REFERENCES

CUSTOMER
LLC SK RUSVIETPETRO

PROJECT
RUSVIETPETRO

Scope of works:

- Assessment of technological risks not provided for in the construction documentation;
- Assessment of the current state of the infrastructure, incl. facility engineering communications, access roads, energy, gas, heat, steam, and water supply systems, etc., which, in the opinion of the Consultant, affect the efficiency of construction processes;
- Assessment of the Customer's risks due to the logistical risks of the general contractor and the main supplier of equipment associated with restrictions on the availability of transport, energy, utility infrastructure, the availability of the necessary space for construction;
- Assessment of the energy and fuel regime for the construction period (availability of a backup, emergency source of energy);
- Assessment of the feasibility of the deadlines for the directive construction schedule;
- Expert engineering assessment and technical analysis of initial permits and design estimates

Country : Russia
Contract period: 2013

SELECTED REFERENCES

Customer:
AGK-1 LLC

Project:
Financial and technical monitoring of construction and realization of in-vestment projects for the construction and operation of energy recovery facilities of MSW

Scope:
Facility 1 – Russia, Moscow Region, Voskresensky district, near of Svistyagino;
Facility 2 – Russia, Moscow Re-gion, Naro-Fominsk district, near of Mogutovo;
Facility 3 – Russia, Moscow Re-gion, Solnechnogorsk ur-ban setlment, near of Khmete-vo;
Facility 4 – Russia, Moscow Re-gion, Noginsk district, near of Timokhovo.

Contract term: 2018

SELECTED REFERENCES

Customer:
JSC "Institute Orgenrgostroy"

Project:
Ruppur Nuclear Power Plant

- Cargo Terminal on the Padma River
- A set of organizational and technical measures by the Customer. Block 2. Buildings and structures of a cooling water system. Integrated construction and installation works
- A set of organizational and technical measures by the Customer. Station-wide buildings and structures. Integrated construction and installation works. Part 3. Start-up boiler
- The complex of organizational and technical measures for the implementation of construction and installation works -“ Block 1. Public buildings. Buildings and facilities of the cooling water system of critical consumers. Integrated construction and installation works

Scope:

- Construction survey services. A third-party audit of the current status of the Facility engineering and construction and compliance with the requirements of the Russian law, and audit of Investment Project funding sources

Country: Bangladesh
Contract term: 2019-2020

SELECTED REFERENCES

Customer:
Sberbank of Russia PJSC

Project:
CHP in Sovetskaya Gavan - Technology and pricing audit for construction of 126MW STU.
Yakutskaya GRES-2 - Technology and pricing audit for construction of 170MW GTU.

Scope:

- Expert review of investment project documents against budget cost
- Monitoring the development of primary and reporting documentation
- Monitoring of management processes
- Control of funding schedule
- Schedule control
- Risk monitoring

Country: Russia

Contract term: 2013-2020

SELECTED REFERENCES

Customer:
Russian Fishery Company LLC

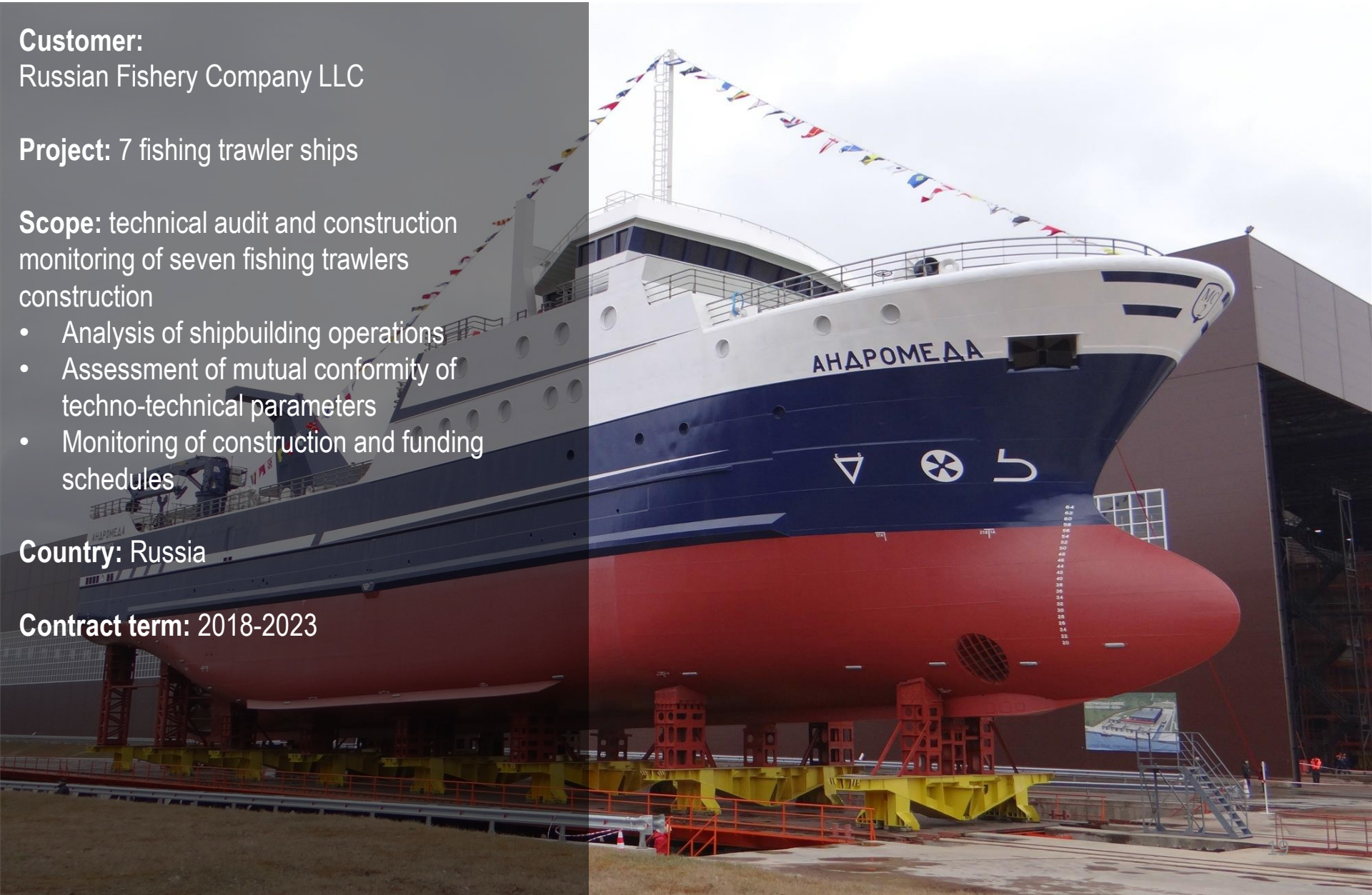
Project: 7 fishing trawler ships

Scope: technical audit and construction monitoring of seven fishing trawlers construction

- Analysis of shipbuilding operations
- Assessment of mutual conformity of techno-technical parameters
- Monitoring of construction and funding schedules

Country: Russia

Contract term: 2018-2023



SELECTED REFERENCES

Customer:
JSC Mosenergo

Project: Customer' Engineer services
CHPP-26,
CHPP-20,
CHPP-16,
CHPP-12
Construction of new CCGT units with a capacity varying from 230 to 420MW

Scope:
Optimising project solutions The layout process solutions offered by the Customer's Engineer resulted in substantial cost saving.

Country: Russia, Moscow

Contract period: 2010 – 2013

SELECTED REFERENCES

CUSTOMER
State Unitary Enterprise Housing and Utilities Sector of the Republic of Sakha (Yakutia)

PROJECT
Modernization of Boiler Stations and Construction of Heating Networks within Investment Program for Project of Energy Efficiency

Scope of works:

- Monitoring of the Project Implementation Schedule
- Creation, analysis and updating of the Project Implementation Schedule
- Obtaining of the permits for any changes to the plans
- Ensuring of any applied ecological procedures and standards required by the bank
- Carrying out of tender procedures

Country : Republic of Sakha, Russia

Contract period: 2014-2016

SELECTED REFERENCES

Customer:
MRES Ltd (Gazprom Group)

Project:
Adler CHP – main power generation facility for Sochi Olympics

Scope:
Owner's Engineer services during entire project cycle (from first tenders till start up) including:

- Verification of tender offers
- Cost control and budget monitoring
- Verification of engineering documentation
- Equipment and supplies manufacturing supervision and menegement

Contract term: Completed in 2013

SELECTED REFERENCES

Customer:
Sberbank
Romeks-Kuban

Project:
Regional clinical oncological dispensary

Scope of work:

Extended banking support of the contract for the Object: "Construction of an oncological dispensary for 200 beds, 20 day care places, 12 resuscitation and intensive care beds, a polyclinic for 300 visits per shift."

Country: Russia

Contract period:
2020-2022

SELECTED REFERENCES

Customer:
JSC Polyus Gold
JSC Matrosov Mine

Project:
Natalkinskoye Deposit
Customer' Engineer services

Work scope:
- Construction audit of Construction Stage 1 under the project "Construction of a Mining and Processing Complex at Natalkinskoye Gold Deposit. Correction 1"

Country: Magadan, Russia

Contract term: 2015

SELECTED REFERENCES

Customer:
NJSC Chukotka Trading Company
Bank VTB

Project:
Energy Center Bilibino

Scope:
Conducting financial and technical supervision over the implementation of the project for the construction of an energy source in the city of Bilibino with an off-site infrastructure with a total installed capacity of 91 MW

Country: Russia, Chukotka Autonomous Okrug, Bilibinsky district, city of Bilibino

Contract period: 2020-2022

SELECTED REFERENCES

Customer:
OJSC Nizhne-Bureyskaya HPP

Project:
Nizhne-Bureyskaya HPP
Customer' Engineer services

Scope:
- Instrumentation and laboratory quality control of facility construction for Nizhne-Bureyskaya Hydraulic Power Plant JSC

Country: Russia,

Contract period: 2015 – 2020

SELECTED REFERENCES

Customer:
Boguchanskaya HPP JSC

Funding organization: VEB.RF

Project:
Technical audit of 3000MW HPP construction. Construction control and construction budget management

Country: Russia

Contract term: 2011-2016

SELECTED REFERENCES

Customer:
Norilsk Nickel
Taimyrenergo

Project:
Ust-Khantaiskaya HPP
Customer' Engineer services

Scope:
Delivery of Customer's Engineer services. Carrying out external engineering supervision, including activity progress planning

Country: Russia, Norilsk

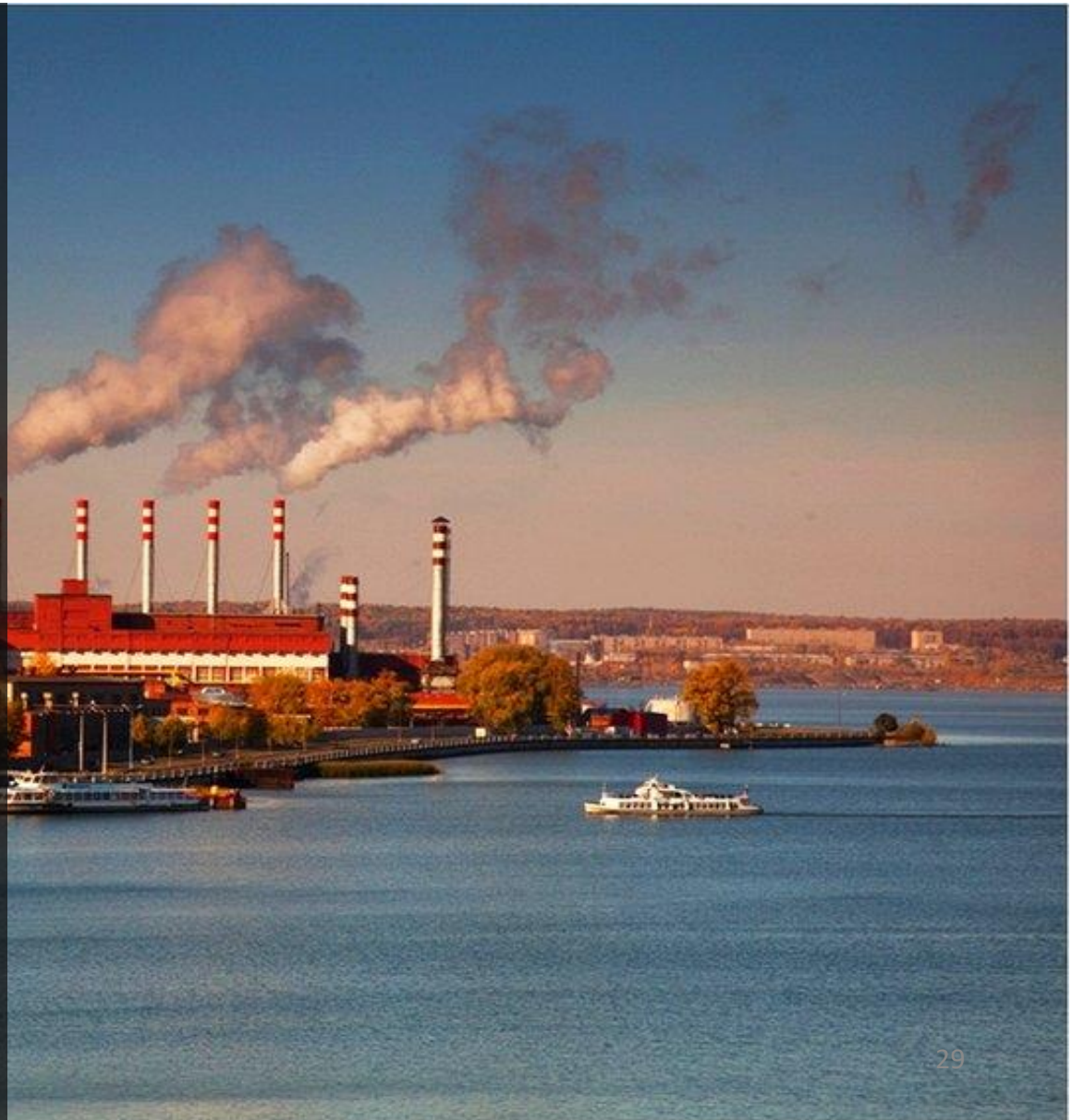
Contract period: 2015 – 2020

SELECTED REFERENCES

Customer:
KES CJSC (PJSC T plus)
Project:
Izhevskaya CHP-1 - Provision of services as Technical Agent during Kirovskaya CHP-3 retro-fitting
220MW CCGT
Kirovskaya CHP-3 - Provision of services as Technical Agent during Kirovskaya CHP-3 retro-fitting
220MW CCGT
Novobereznikovskaya CHP - Provision of services as Technical Agent during Novobereznikovskaya CHP retrofitting. 2*115MW CCGT
Scope:

- Preparation of the conditions for holding the competition, the tender documents, the technical assignment and the technical requirements for the participants;
- Competitive Negotiations
- Formulating a draft treaty
- Customer support when contracting with contracting companies.

Country: Russia
Contract period: 2011-2015



Wind Power Plant
2018-2010

Customer:
Perviy Vetropark FRV LLC
Tretiy Vetropark FRV LLC
Pyatnadzaty Vetropark FRV

Final Customer:
Gazprombank
Fortum

Scope:
Financial and technical supervision of the progress on the wind power plant construction

Country: Russia

SELECTED REFERENCES

Customer:
VES Breeze LLC
Sberbank

Project:
Funtovo wind plant

Scope of work:
Provision of technical expertise services for the construction project of the Funtovo WPP wind farm with a total installed electric capacity of 15 MW (preparation of a Zero report)

Country: Russia

Contract period:
2019-2020

SELECTED REFERENCES

Solar Energy
2018 – 2020

Orlovsky GOK SPP
Baley SPP
Tarbagatay SPP
Kabanskaya SPP
BVS SPP
Maiminskaya SPP
Ininskaya SPP
Akhtubinskaya SPP
Funtovskaya SPP-2 SPP
Novouzenskaya SPP
Mikhailovskaya SPP-2
Elista Severnaya SPP
Bugulchanskaya SPP
Buribayevskaya SPP
Perevolotskaya SPP
Kosh-Agachskaya SPP-2

Customer:

Solnechnaya Generatsiya LLC (Solar Generation LLC)
VTB Bank
Teravatt LLC
Altai Solar Power Plants LLC
Green Energy Rus LLC
GazpromBank
Avelar Solar Technology LLC

Scope:

Construction audit and construction monitoring during engineering, construction, supply and installation of equipment, commissioning and operation of solar power stations.

Country: Russia

SELECTED REFERENCES

Customer:
Sberbank of Russia PJSC

Project:
Sabetta Sea Port facilities

Providing the Bank's Engineer services at the stage of monitoring the primary facilities of the sea port at Sabetta on the Yamal Peninsula.

Providing public technological and price audit services at the stage of building the primary facilities of the sea port at Sabetta on the Yamal Peninsula.

Country: Sabetta, Yamal Peninsula, Russia

Contract term: 2015 - 2018

SELECTED REFERENCES

Customer: LLC "Inter Rost"

Project: Financial and technical audit of the design documentation and engineering and technical support systems constructed of the building

Work scope:

- Analysis of changes made by subcontractors for compliance with the technical specification, construction technologies and Feasibility Assessment studies
- Review of executive records against working documents
- identification of subcontractors' violations which resulted in unreasonable overstatement of the value of the work and materials under the subcontracts
- Comprehensive audit of work completed on engineering systems including analysis of the terms and conditions of subcontracts
- Analysis of additional costs not provided for in the original budget, which resulted in longer deadlines for completion and completion of the work agreed upon in the tender and approved in overall work schedule
- Identification of the deliberate underestimation of the value and costs originally declared and agreed upon in the Contracts for the purpose of artificial optimization of the terms and conditions of subcontracts

Country: Russia, Saint-Petersburg

Contract period: 2020

SELECTED REFERENCES

Customer:
Linde AG

Project:
Civil detailed design of pile foundations for process piperacks as well as equipment structures
Structural steel detailed design including all the necessary calculations

Project features:
Civil and structural design is done fully in 3D using Autodesk Revit

Country: Russia

Contract period: 2019-2021

SELECTED REFERENCES

Customer:
Citec Group (Finland)
Citec Engineering & Information Gmbh

Project:
Olefin complex in Tatarstan
Nizhnekamskneftekhim JSC

Scope of works:
- KM/KJ detailed design
- GIP services and technical support during development of detailed design

Russia, Nizhnekamsk
2019-2020

SELECTED REFERENCES

GT Power Plant 2x13 MW
Oil, Gas and Condensate Field
Chinarevskoe RK

Zhaikmunai, Kazakhstan

Scope of works:

- Full package of design documentation.
- State expertize, including Environmental impact esessmeent
- Detailed design
- Author's supervision

Engineering hours – 11000

Republic of Kazakhstan
2014-2017

SELECTED REFERENCES

Customer:
Nor-Maali

Project:
Paint and coatings production plant in pskov

Scope of works:
- Contract for full scope of design and detailed documentation

Russia, Pskov
2015-2016

SELECTED REFERENCES

Project:
External Power Supply for Ammonia Production
Design work

Customer:
Fosforit Industrial Group LLC

Work scope:
- Obtaining initial planning documentation
- Approved part of design documentation
- Developing detailed documentation
- Developing a tender package for selection of the general contractor
- Compiling data sheets and technical requirements for equipment manufacture

Kengisepp, Leningrad Region, Russia
2015 - 2018

SELECTED REFERENCES

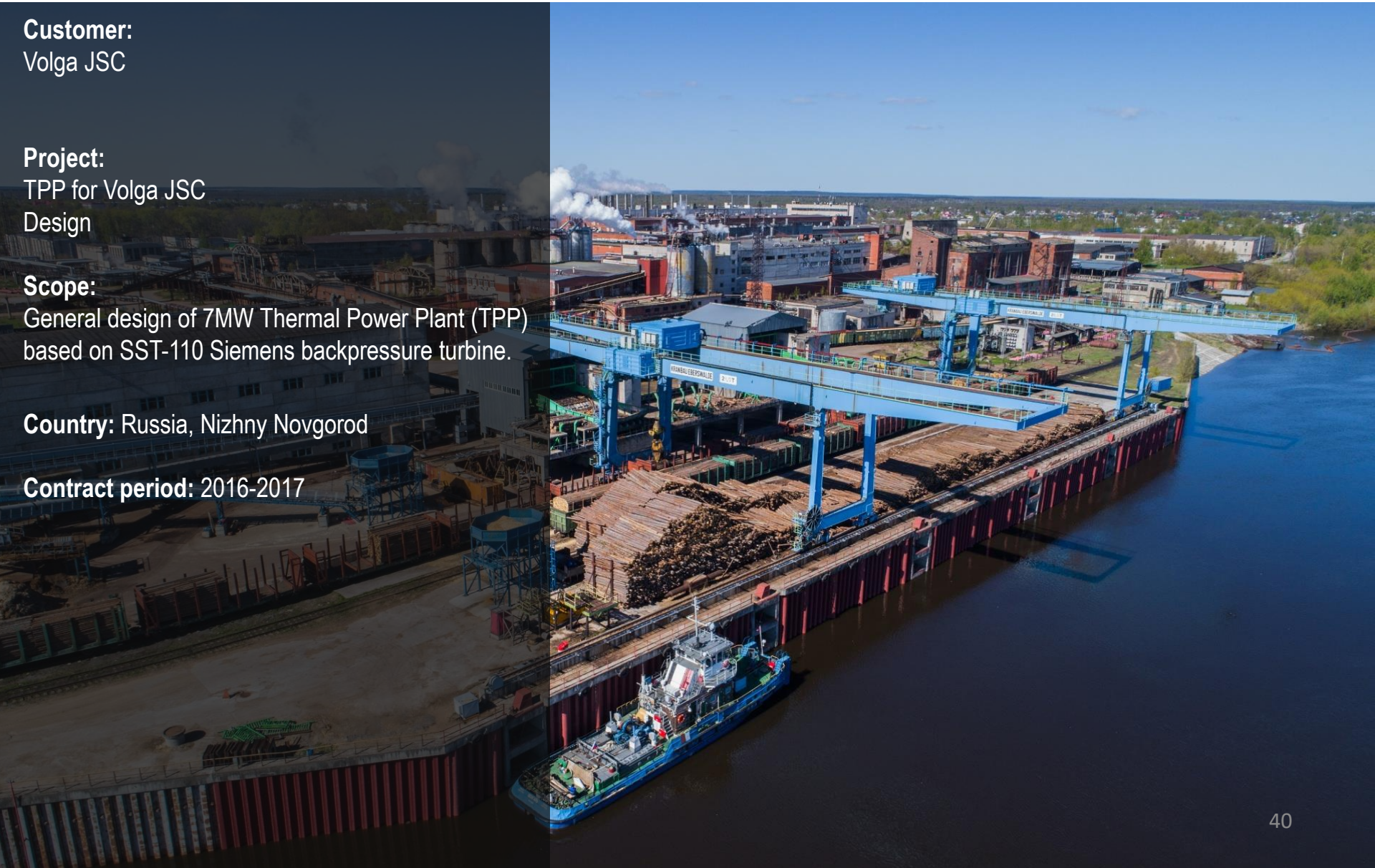
Customer:
Volga JSC

Project:
TPP for Volga JSC
Design

Scope:
General design of 7MW Thermal Power Plant (TPP) based on SST-110 Siemens backpressure turbine.

Country: Russia, Nizhny Novgorod

Contract period: 2016-2017



SELECTED REFERENCES

Customer:
ATOMPROEKT JSC

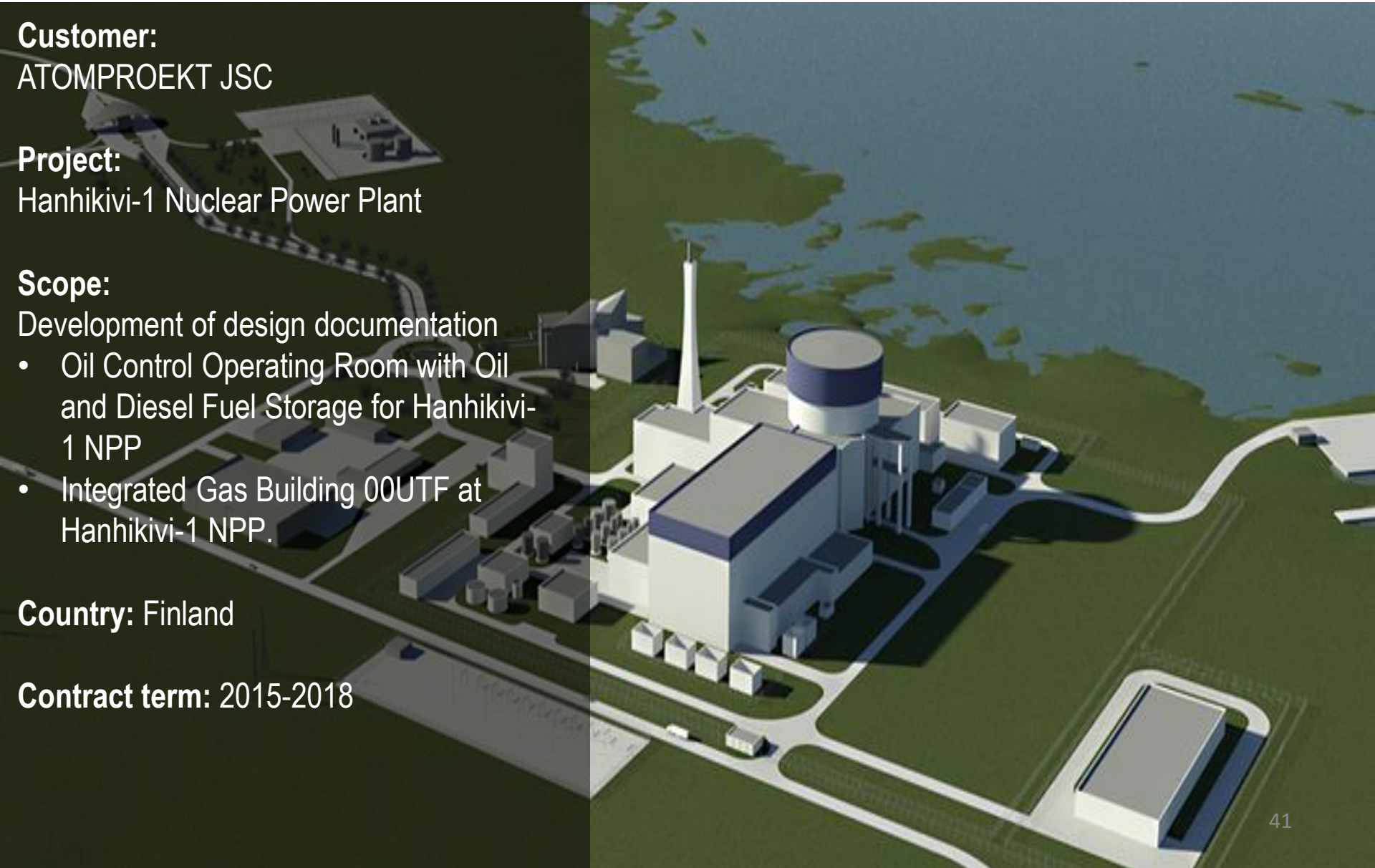
Project:
Hanhikivi-1 Nuclear Power Plant

Scope:
Development of design documentation

- Oil Control Operating Room with Oil and Diesel Fuel Storage for Hanhikivi-1 NPP
- Integrated Gas Building 00UTF at Hanhikivi-1 NPP.

Country: Finland

Contract term: 2015-2018



SELECTED REFERENCES

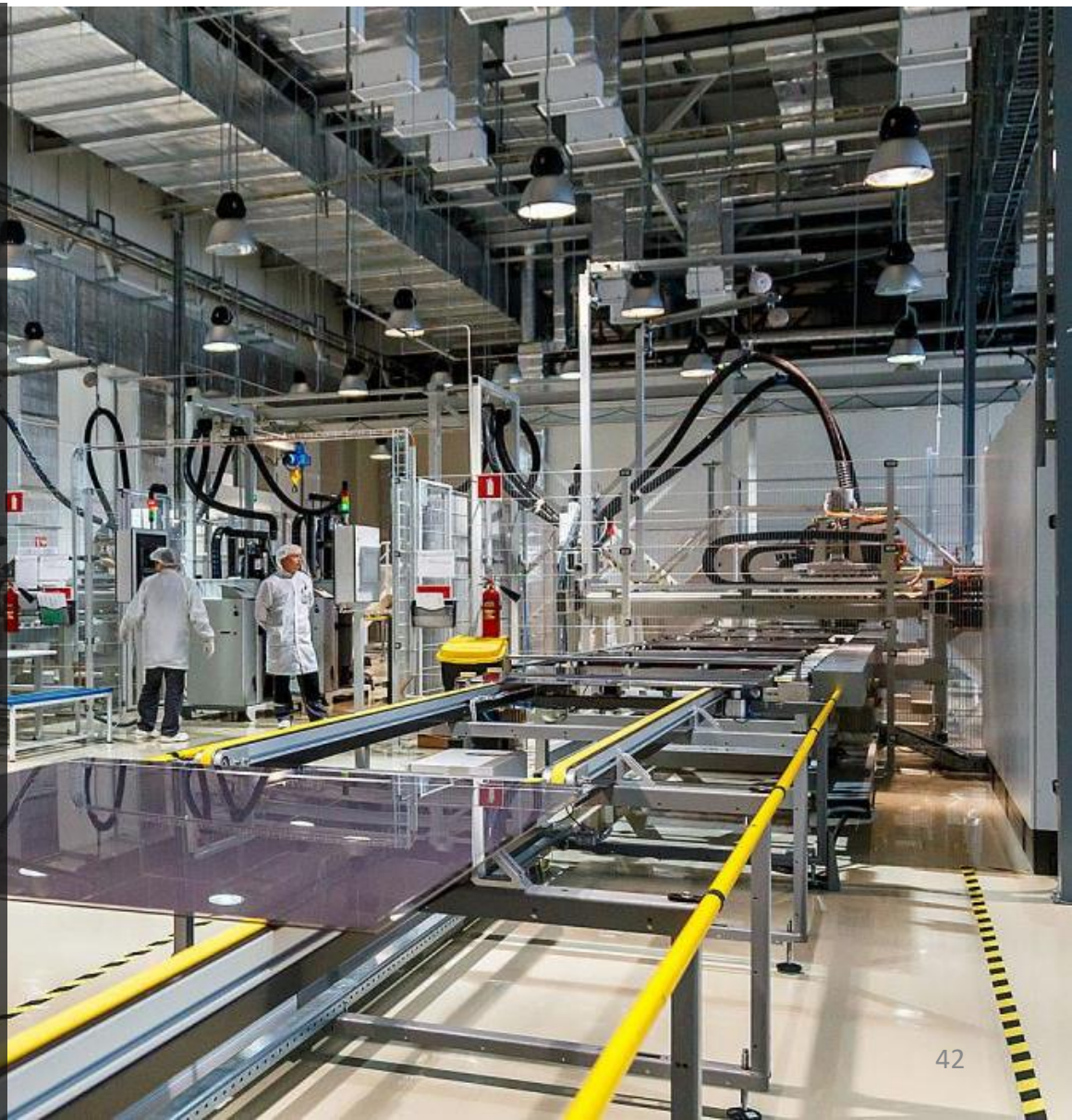
Customer:
Hevel LLC

Scope:
Reequipment of Hevel Plant including:
- Pre-design concepts,
- Basic and detailed documentation
- Industrial safety expert review

Project's features:
- Carried out using a laser 3D scanning technology.
- Production processes involve the use of aggressive toxic media and clean rooms.
- Reequipment was carried out without putting the production process on hold

Country: Russia

Contract period: 2017-2019



SELECTED REFERENCES

Customer:
Sveza

Project: SSE - General Designer of Pulp Mill. Permit Design based on the Finnish basic engineering (Sweco Industry, Valmet) e.g. adaptation to the Russian standards.

In cooperation with Sweco Industry, day-to-day joint work, consulting, communications

Country: Russia

Contract period: Ongoing

SELECTED REFERENCES

Customer:
JV Russian Gas Turbines (GE, InterRAO, Rostec Corporation)

Project:
Contract for full package of design documentation and construction design supervision
Acquisition of a positive statement of the Expertise

Country: Russia

Contract period: 2014

SELECTED REFERENCES

Customer:
SVEZA Uralskiy LLC

Project:
Plywood and Particle Board Mill

Scope:
Development of Investment Feasibility Study for upgrade of power plants at plywood and particle board mill.

- Calculation of fuel balances
- Calculation of the financial model taking into account existing production
- Assessment and optimization project investment costs

Country: Russia, Perm Territory

Contract period: 2015-2016

SELECTED REFERENCES

Customer:
Mitsubishi Heavy Industries Environmental & Chemical Engineering CO., Ltd. (“MHIEC”)

Project: MHIEC

Scope:
Audit of design documentation for Mitsubishi’s Waste Incineration Plant, verification of drawings to ensure their compliance with Russian stand-ards and legislation

Country: Russia, Г. Ulan-Ude

Contract period : 2018

SELECTED REFERENCES

Customer:
LLC "EnergoSet“

Project:
Production and heating boiler-house of Verkhnetagilskaya TPP

Scope:
Design and survey work on the construction of a heating boiler house production for Verkhnetagilskaya TPP in 2020-2022.

- Pre-design
- Engineering surveys for planned facilities (geodetic engineering, engineering and geological, etc.). Survey of existing overpasses

Country: Russia, Sverdlovsk region

Contract period: 2020 - ongoing

SELECTED REFERENCES

Customer:
JSC Mosenergo

Project:
CHP-22

Development of engineering solutions to modify the scheme of heat power distribution from CHP-22, a branch of Mosenergo JSC

Scope:

- Analysis of current thermal power generation
- Establishment of a programme of measures to optimize the thermal load of CHP-22
- Feasibility Assessment of the Developed Programme of Activities

Country: Russia, Moscow

Contract period: 2018 – 2019

SELECTED REFERENCES

Customer:
JSC Mosenergo

Project:
CHP-22 Unit 9 Renovation

Scope:
Arm's length expert validation of the capital construction cost for CHP-22 Unit 9 Renovation project owned by Branch of Mosenergo JSC

Country: Russia, Moscow

Contract period: 2017

SELECTED REFERENCES

Customer:
JSC Mosenergo

Project:
CHP-22

Scope:
Development of a Feasibility study for the reconstruction of a CHP with an increased share of coal combustion

Country: Russia, Moscow

Contract period: 2017

SELECTED REFERENCES

Customer:
Mayak-Energy JSC

Project: CCGT 25 MW, JSC “Mayak – Energy”

Project features:

- Development of design and detailed documentation for the JSC “Mayak-Energy” CCGT, Penza city, with installation of three power units, part of the GT and HRSG with total power no more than 25 MW
- Acquisition of a positive statement of the Expertise

Country: Russia

Contract period: 2013-2016

SELECTED REFERENCES

Customer:
JSC Gas Systems

Project:
Feasibility study for implementation of T32 Turbine on all Mosenergo gas cycle power stations

Scope: Engineering surveys, design and other technical documentation

Country: Russia, Sverdlovsk region

Contract period: 2020 - ongoing

SELECTED REFERENCES

Customer:
Fortum JSC

Project:
Argayashskaya CHP, Chelyabinskaya CHP-2

Scope:
Development of prefeasibility study for power plants modernization
515MW STU.

- Development of pre-design documentation
- Development of main technical solutions for conversion of CHP equipment to full combustion of solid fuels
- Development of main technical solutions for the modernization of turbo-electric units

Country: Russia, Chelyabinsk

Contract period: 2015-2016

SELECTED REFERENCES

Customer:
Avelar Solar Technology

Project:
Armavirskaya 25 MW SPP
Mostovskaya 37,5 MW SPP
Severskaya 37,5 MW SPP

Scope:
Full package of basic and detailed engineering including surveys and author's supervision during construction

Country: Russia, Krasnodar Krai

Contract period: 2020- 2021

CONTACTS

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