

#### ADVANCED INTELLECTUAL INFRASTRUCTURE & INDUSTRY











**Engineering** 

**Procurement** 

Construction

Management

**AVATRI S&T LLC** 



#### **AVATRI S&T LLC**

Solution Partner

SIEMENS

Solution Partner Building Technologies

SIEMENS

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#### Certified partner of the international program «Siemens Solution Partner»

Our company is an authorized distributor and system integrator of **SIEMENS** in the following fields:

- Siemens Building Technologies
- Siemens Industrial Automation
- Siemens Power Distribution

Authorized distributor: RITTAL, BOSCH, PHOENIX CONTACT, LAPP KABEL, EMERSON, HENSEL, MENNEKES



#### **Certificates**













# Solution Partner Certificate AVATRI Certified

The company is a certified Partner in Russia and is authorized to use the name Siemens Solution Partner Automation Drives. The certification has been proved in the following program modules:

Automation System SIMATIC Human Machine Interface SIMATIC HMI Process Control System SIMATIC PCS 7

This certificate is valid until September 2016





Certificate of Siemens Solution Partner



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SIEMENS

#### Сертификат

Настоящий сертификат подтверждает, что

#### 000 «Аватри»

является официальным партнером

#### Департамента «Автоматизация и безопасность зданий» (ВТ) компании «Сименс»

по продаже и установке следующего оборудования:

- система автоматизации зданий Desigo;
- продукты и решения по направлению HVAC;
- периферийное оборудование для автоматизации зданий;
- приборы стандартного управления для автоматизации зданий;
- автоматика для котлов и горелок;
- система пожарной сигнализации Cerberus PRO;
- система диспетчеризации оборудования систем безопасности MM8000.

Руководство Департамента «Автоматизация и безопасность зданий»

Москва, 24.11.2015 Номер сертификата: ВТ - 15 – 11-56 Сертификат действителен до 30.09.2016



Certificate of official partner Siemens Building Technologies



AVATRI S&T provides engineering, procurement, fabrication, construction, maintenance and project management services to diverse Clients globally.

#### **Industry Automation**

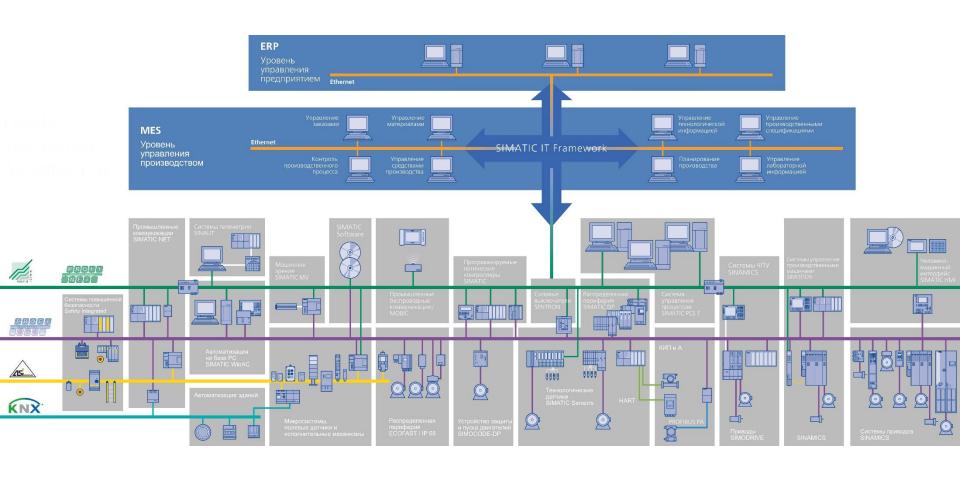


#### **Construction and Infrastructure**





#### **Total Automation for Industry Automation(TIA)**





#### **AVATRI Industry Automation**

#### Processes:

A full range of products and systems for automation solutions in all areas of production and processing

- Basic Products:
- SIMATIC automation systems
- SIMATIC HMI visualization system
- SIMATIC software
- SIMATIC PCS 7 (PCS) Process Control System;
- Automation PC-based
- SIEMENS Instrumentation and Process Analytics
- SINAMICS Drives
- MES solutions based on SIMATIC IT





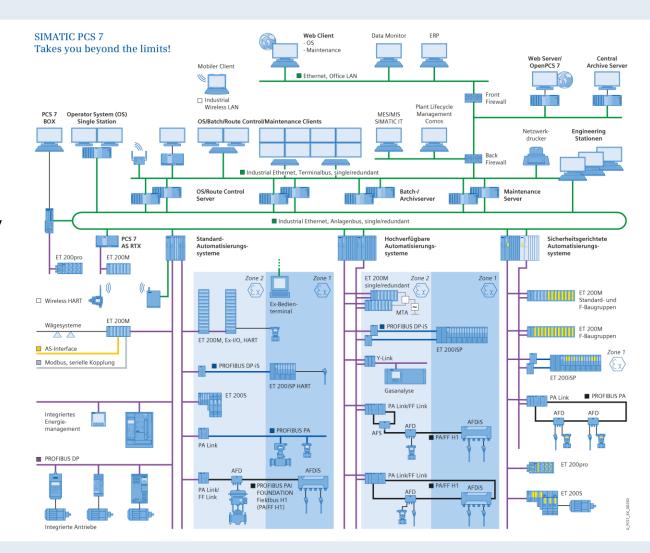




#### **Distributed control system**

#### SIMATIC PCS7 distributed control system

Distributed control system for process automation with a variety of functions.





#### **Corporate Information**



AVATRI S&T provides engineering, procurement, fabrication, construction, maintenance and project management services to diverse Clients globally.







**Quality Management System** 

**OSH** management

**Ecological Management** 

Clients trust us as an industry leader to design and build projects safely, cost-effectively and on-schedule. Our exceptional people, broad knowledge, agility, dedication to safety and vast network of resources enable AVATRI S&T to fulfill this commitment every day.



#### **Corporate Information**











#### **OUR ACTIVITIES:**

- Project study
- Basic & Detail Design
- Software Development
- Procurement and Manufacturing
- Erection and Supervision
- Commissioning and Tests
- Staff training



#### **ADVANTAGES:**

- Top qualified engineers 70 certified professionals.
- 130 employees of the company.
- Professional project management.
- Extensive, stable relations with international suppliers and partners.
- Long-term fruitful relationships with major customers and partners.
- All required certificates, licenses and permissions.
- Own workshop for manufacturing, assembling and installation works of appr. 1000 м².
- Own warehouse of appr. 1000 m2 with significant quantities of components available from the shelf

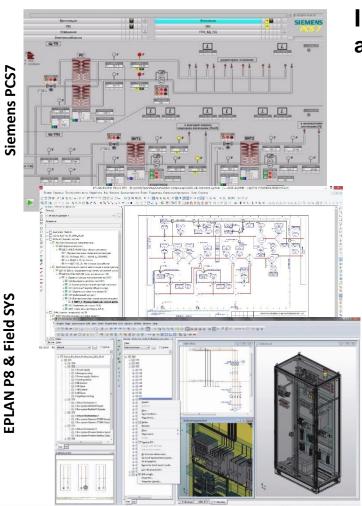








## Engineering acc. to local and international standards



## IEC, DIN, NEMA, GOST and special standards are applied upon project requirements

#### **Basic engineering:**

- Initial data and project specifications;
- General principles and requirements for project design;
- Functional specifications;
- Hardware configurations;
- Dimensioning and specification of main equipment and loops
- · Layouts and main cable routes

#### **Detail engineering:**

- Detailed engineering and planning of electrical and automation equipment and circuits
- Detailed selection and configuration of equipment and loops
- Development of process and drive control systems
- Detailed cable-route erection engineering
- PLC and HMI software development











#### **Best-in-class engineering results**



#### FIRST PRIZE

design competition EPLAN in Russia 2016

High quality standards, compliance with regulatory legal norms and local standards, usage of the world's latest construction materials and technological design know-how, supplemented by close cooperation with international design companies, enables us to satisfy any customer wish.



#### Manufacturing and supplies



#### Own assembly shop:

- Selection of reliable and proven vendors and suppliers;
- Low –voltage distribution, MCC and automation cubicles,
- Supplies of power equipment, instrumentation
- System integration tests;
- Factory acceptance tests with customers' participation
- Own material and spare stock house

#### **Transportation:**

Efficient transportation channels

#### **Complete supply-chain responsibility**

- Open packaging inspection (OPI) at customer's warehouse;
- Erection and commissioning of supplied equipment.



#### **Qualified erection and commissioning services**





#### **Erection:**

- LV cubicles and drives;
- Automation and Human-Machine Interface;
- Instrumentation;
- Cables

#### **Supervision of erection:**

- Transformers
- MV Switchgears and distribution

#### **Commissioning:**

- System software Level 1/Level 2 and HMI;
- Drives, MCCs, distribution panels,
- Instrumentation;
- Assistance for different stages of Authority Approvals.

#### After sales service





#### **Supply of spare parts:**

- Electrical equipment and components;
- Automation equipment;
- Instrumentation

#### **Upgrades:**

- Electrical equipment;
- Human-machine interface and hardware systems;
- Software.

#### **Support:**

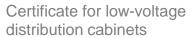
- Customer's staff training;
- Technical advisory services (remote & on-site)





#### Certificates







Certificate for automation and control cabinets



Certificate for fire prevention devices









































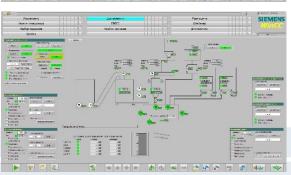




#### **Construction materials**







# Automation of cement-bonded particle (CBP) boards production. Tyumen

#### MAIN SYSTEM FUNCTIONS

- Material-handling and transportation systems;
- Material mixing and dosing systems
- Pressing, forming and heating systems
- Product handling, transportation and stacking

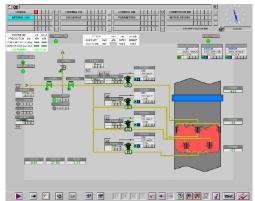
#### **SCOPE OF WORK**

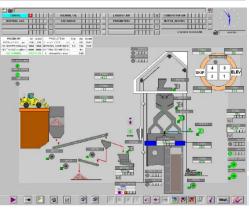
- Project design and software development
- Procurement and cubicle manufacturing
- Installation & Commissioning

- SIEMENS SIMATIC Box IPC WinAC, ET200S;
- Siemens WinCC HMI
- Control cubicles 8 pcs;
- Local control panels 5 pcs;
- Digital IOs 1200 pcs;
- Analog IOs– 8 pcs;
- Weighing modules SIWAREX 4 pcs;
- VVVF Drives Siemens Sinamics 20 pcs;
- Soft-Starters Siemens Sirius 3RW 5 pcs;
- Material-tracking system;
- Press-control package;
- Dosing stations.









#### **Construction materials**

#### Automation of lime production. Bogdanovich

#### MAIN SYSTEM FUNCTIONS

- Material handling and dosing systems
- Lime-furnace process controls
- Product handling systems
- Advances diagnostic and reporting features

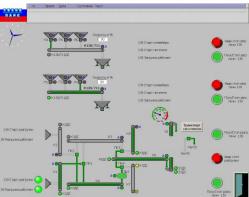
#### **SCOPE OF WORK**

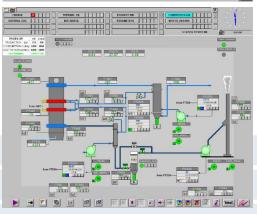
- Project design and software development
- Procurement and cubicle manufacturing
- Installation & Commissioning

- Siemens PCS 7 v 7.1 including software and hardware tools and components
- PLCs Siemens 416-2 with ET 200M distributed IOs









#### **Construction materials**

# Automation of lime production. Sysert



#### MAIN SYSTEM FUNCTIONS

- Material handling and dosing systems
- Lime-furnace process controls
- Product handling systems
- · Advances diagnostic and reporting features

#### **SCOPE OF WORK**

- Project design and software development
- · Procurement and cubicle manufacturing
- Installation & Commissioning

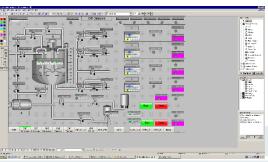
- Siemens PCS 7 v 7.1 including software and hardware tools and components
- Siemens PLCs 416-2 with ET 200M distributed IOs
- VVVF Drives Omron 30-75 kW 18 pcs
- Digital IOs 756 pcs;
- Analog IOs– 260 pcs;
- Weighing modules SIWAREX 8 pcs
- Level measurement SITRANS LR400 HART 4 pcs.



#### Household chemicals







# Automation of shampoo production. Unilever

# Unilower

#### MAIN SYSTEM FUNCTIONS

- S13000 reactor control and selection of receipt
- Control of homogenizer
- Control of mixers
- Control of temperature and vacuum processes
- · Control of pumping tank level by weight
- Integration with MES of enterprise

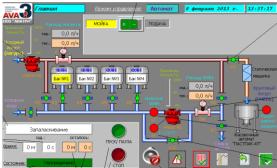
#### **SCOPE OF WORK**

- Project design and software development
- Procurement and cubicle manufacturing
- Installation & Commissioning

- SIEMENS SIMATIC S7-416-2 + ET200M
- Siemens PCS7
- Siemens Panel PC + WinCC Flexible
- VSD Siemens MICROMASTER 440









#### Food production

#### Yogurt production. Danone



#### MAIN SYSTEM FUNCTIONS

- Automatic control of additives concentration;
- Automatic productivity control;
- · Product tracking and reporting;
- · Data exchange to superimposed systems;
- · Equipment-condition monitoring and reporting system.

#### **SCOPE OF WORK**

- Project design and software development
- Procurement and cubicle manufacturing
- Installation & Commissioning

- SIEMENS SIMATIC S7-1200
- Touch-control panel 7" SIEMENS TP 700 Comfort
- Control cubicle- 1 pc.;
- VVVF Drives SINSMIX G120C
- Electromagnetic flowmeters SITRANS FC
- Mass flowmeters SITRANS FC Mass.
- Conductive level monitor VEGAKON
- Pneumatic drive SY3000.







# Automation of roll inspection and cooling line. Evraz NTMK



#### MAIN SYSTEM FUNCTIONS

- Control group drive roller conveyors
- · Management of cooling refrigerators
- Control of rolls tilters

#### **SCOPE OF WORK**

- Project design and software development
- Procurement and cubicle manufacturing
- Installation & Commissioning

- PLC Siemens S7-317-DP + ET200S;
- Operator Workstation MP377 + WinCC flexible;
- VSD MICROMASTER 440, Siemens 22 pcs .;
- Digital signals 550;
- Analog signals 85;
- Encoders -13 pc.







# Automation of wire-galvanization process. NLMK



#### MAIN SYSTEM FUNCTIONS

- Control of conveyors, valves and motors
- Wire-line speed master
- Control of temperature of the molten zinc and the annealing furnace
- Control of temperature and level of acid in the pickling and fluxing baths
- Control of drying temperature of the wire

#### **SCOPE OF WORK**

- Project design and software development
- Procurement and cubicle manufacturing
- Installation & Commissioning

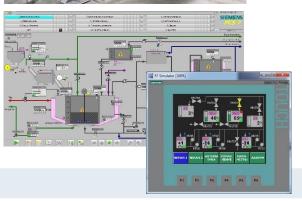
- PLC SIEMENS SIMATIC S7-414-2DP + ET200M
- Operator Workstation Panel PC 677-15 + WinCC flexible;
- VSD MICROMASTER 440, Siemens 62 pcs .;
- Digital signals 300;
- Analog signals 32;
- Encoders -20 pcs.
- SITRANS level meters 5 pcs.











# Automation of tellurium production plant. UMMC



#### MAIN SYSTEM FUNCTIONS

- Automatic control of the tellurium production stages
- Process interlocking and diagnostics
- Recipe management
- Control of the vacuum system

#### **SCOPE OF WORK**

- Project design and software development
- Procurement and cubicle manufacturing
- Installation & Commissioning

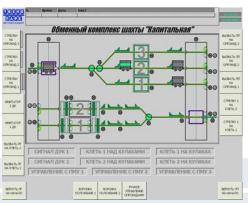
#### **AUTOMATION SYSTEMS AND COMPONENTS**

PLC - SIEMENS SIMATIC S7-416-3DP + ET200M Operator Workstation – Siemens PC + PCS7 Node operator panel – Siemens KP700 – 9 pcs. VSD Sinamics G120, Siemens - 18 pcs . Digital signals - 800 Analog signals - 200









#### Automation of exchange station of Emerald mine "K"

#### MAIN SYSTEM FUNCTIONS

- Management of transport wagons;
- Management of reloading facilities;
- Coordinating the work of the exchange station with the mining lift units.

#### **SCOPE OF WORK**

- Project design and software development
- · Procurement and cubicle manufacturing
- Installation & Commissioning

#### **AUTOMATION SYSTEMS AND COMPONENTS**

PLC - SIEMENS SIMATIC S7-315-2DP + ET200M Operator Workstation – Siemens Panel PC + WinCC Flexible Digital signals - 300 Analog signals - 5









# Automation of Steel treatment plants 1-3. Severstal



#### MAIN SYSTEM FUNCTIONS

- Process sequences
- Safety interlocking
- Material handling and dosing systems
- Oxygen lance control
- Reporting system and integration with MES

#### **SCOPE OF WORK**

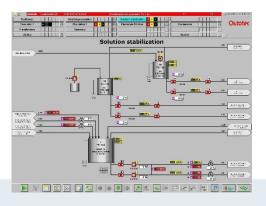
- Project design and software development
- Procurement and cubicle manufacturing
- Installation & Commissioning

- PLC SIEMENS SIMATIC S7-414 + ET200M
- HMI Simatic WinCC
- VVVF Drives Sinamics 24 pcs
- Sensors and Actuators: 180 pcs









# Automation of copper-refining plant. UMMC



#### MAIN SYSTEM FUNCTIONS

- Control of Electrolyte solution: preparation, stabilization & filtration
- Control of electrolyte process by transformer-rectifier
- Control of solution circulation, incoming and outgoing
- Control of process water, reagent feed, sumps conditions and utilities
- Monitoring of anode and cathode treating machines, technological cranes, filters
- Communication to MES

#### **SCOPE OF WORK**

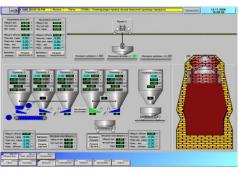
- Project design and software development
- Procurement and cubicle manufacturing
- Installation & Commissioning

- PLC SIEMENS SIMATIC S7-417-5H + ET200M
- PCS Siemens PCS7 2 pcs.
- Redundant Workstations Siemens
- Redundant Servers Siemens PC –PC 2 pcs.
- VSD ACS800, ABB 80 pcs .;
- Sensors & Actuators by Profibus-PA 400 pcs.









# Automation of Blast furnace 5. UMMC



#### MAIN SYSTEM FUNCTIONS

- Increased system reliability
- Safety interlocking
- Process sequences
- Furnace proper, Stoves, Charging control

#### **SCOPE OF WORK**

- Project design and software development
- Procurement and cubicle manufacturing
- Installation & Commissioning

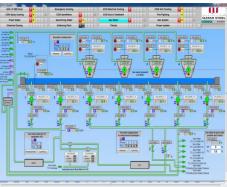
- PLC SIEMENS SIMATIC S7-414 + ET200M
- HMI Wonderware InTouch
- VVVF Drives Sinamics: 20 pcs
- Sensors and Actuators: 400 pcs



#### Water treatment







# **Automation of Water treatment plant. QASCO**

#### قطر ستيل QATAR STEEL

#### MAIN SYSTEM FUNCTIONS

- Process sequences
- Safety interlocking
- Feed water control
- Make-up water control
- Open- and closed cycle water control
- 1000 transmitters, 200 motors
- Interfaces with packages

#### **SCOPE OF WORK**

- Project design and software development
- Procurement and cubicle manufacturing
- Installation & Commissioning

- PLC SIEMENS SIMATIC S7-416H + ET200M
- PCS Simatic PCS7 v8.0
- VVVF Drives Sinamics: 80 pcs
- Sensors and Actuators: 360 pcs



#### Advantages for E&A in industrial projects



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- Engineering, manufacturing and site services for electrics and automation in accordance with national and international standards;
- Long-term experience in automation of industrial plants;
- Efficient cooperation models for industrial plants;
- Cost effective implementation of high-tech solutions by highly qualified specialists;
- Open automation systems allowing further functionality extension, program upgrade, equipment repairs and replacement;
- All stages of engineering and manufacturing for automation cubicles;
- Cooperation with local design and erection companies;
- Own quick and qualified automation support;
- Availability of spare parts for automation and electrical systems;
- Own manufacturing facilities and spare-parts stock



#### **EXPERTS IN INDUSTRY AUTOMATION**

Our expertise includes wide variety of industries including metals and mining, oil and gas, power generation, construction materials, household chemicals, food and beverages.



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ОАО "Магнитогорский металлургический комбинат", г. Магнитогорск



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Группа компаний «RED»



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ООО "ПСО Теплит", г. Березовский



ОАО "Синарский трубный завод", г. Каменск-Уральский



ОАО "Северский трубный завод", г. Полевской



ОАО "Челябинский трубопрокатный завод", г. Челябинск



ОАО "НПК Уралвагонзавод", г. Нижний Тагил



ООО "Тюменниигипрогаз", г. Тюмень





ОАО "Уралэлектромедь", г. Верхняя Пышма



ЗАО "Уромгаз",





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