

The company ProfProekt Ltd was founded in 2002. We have implemented over 300 projects over the 7-year period. At present, we are rightfully considered the leading Belorussian developer of control systems for many industrial and public sectors.

Weight bridge

Forestry, wood, and paper-and-pulp industry

Client: Republic of Belarus, Slonim, Albertin JSC Slonim Cardboard and Paper Factory

Automated working station for weight bridge (weighting, statistics, protocol, bills). Transducers and secondary convertors: CAS (Korea).



Control system for wood processing line

Forestry, wood, and paper-and-pulp industry

Client: Latvia, Republic of Belarus

ACS for wood trunks procession line. Solid technological task of transportation, processing and sorting of trunks. Sorting is conducted via laser measuring of trunk cubage. Control: PLC, HMI Mitsubishi Electric GmbH terminals.



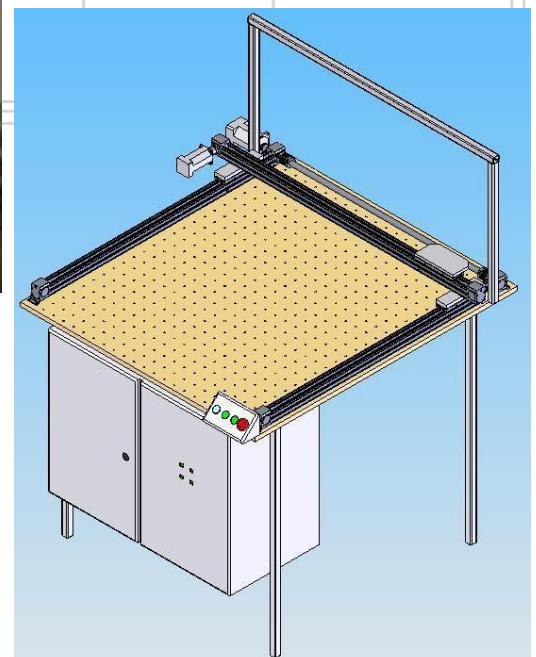
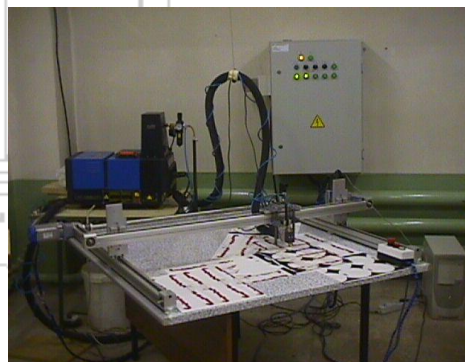
Control system for gluing machine

Machine building and metalwork

Client: Russian Federation, Moscow, Electrosetstroyproekt JSC

Control system fulfils two independent axes. Servo-drives JUNMA in control system Trajexia Motion Control (OMRON) used. The system is opened and allows to fulfil up to 16 independent axes without controller side changes. Trajectories of drawing of glue can be set through Acad.

Control: PLC and drives Omron.



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Mixed feed plants

Milling, cereal and mixed feed industry

Client: Republic of Belarus, Grodno region: farms - Honevichi, Pogranichny, Lidahleboproduct (Bakery Product) JSC; Miory, Miory Mixed Feed Plant JSC; Russian Federation, Kaluga region, Maloyaroslavets, Maloyaroslavetshleboproduct (Maloyaroslavets Baking Industry)

ACS for mixed feed miniplant with the capacity of 5 tons per hour. Mixture forming principle is weight, static. Transport systems are screws. The ACS controls mixture forming process, grinders (mills) loading, makes archiving. The ACS has implemented friendly set formula principle.

Microadditives line (13 fractions). It was designed and manufactured in a set. Mixture forming principle is weight static. Transport systems are screws. The ACS controls mixture preparation process, mixer, and makes archiving. The ACS has implemented the principle of friendly set formula.

ACS for mixed feed preparation. The control system provides synchronized operation of 12 continuous work dosers. Dosers are of belt type with belt zone weighting. The ACS has implemented dosers productivity control according to mixture formula and process archiving.



Control system for grain thrower and grain loader

Milling, cereal and mixed feed industry

Client: Republic of Belarus, Minsk, Plant Promburvod JSC

Control: relay scheme with loader current feedback.



Packaging, dosing

Milling, cereal and mixed feed industry

Client: Republic of Belarus, Miory, Miory Mixed Feed Plant JSC

ACS for mixed feed packaging.

Control: Mitsubishi Electric GmbH PLC (Japan).
 Transducers and secondary converters: CAS (Korea).



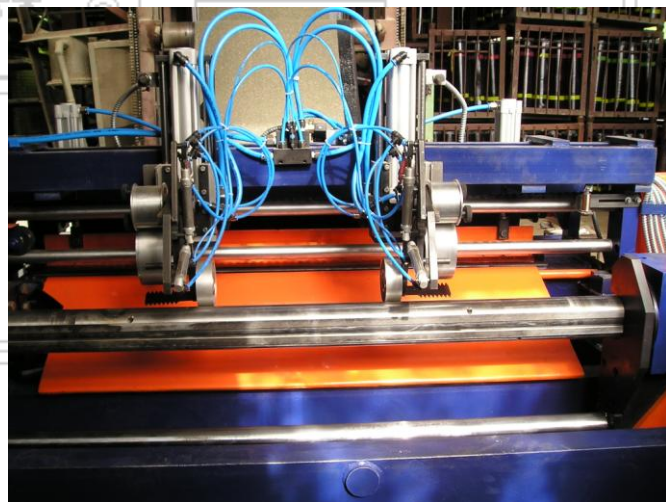
Client: Russian Federation, Saratov, Saratov Oil Refinery JSC; Moscow region, Dmitrov, Dmitrovskaya teploizolaciya JSC; Noginsk, Noginsk Plant of Roofing JSC

The machine presents a component of the rolled roofing and waterproofing material production line. The machine rolls bituminous and bituminous-polymeric roofing materials (of "stekloizol" type) and packages rolls. The law of rolling control is moment maintenance. Size is controlled by the incremental transducer. The ACS controls the following tasks: positioning, rolling moment maintenance, statistics.

Control: PLC, HMI tactile terminal, inverters Mitsubishi Electric GmbH (Japan)/Hitachi (Japan).

Basic technical specifications:
 annual production capacity of the line at round-the-clock operation, sq. m – 4-6 mln;
 production capacity (at roll sheet length of 10 m), minimum number of rolls per hour – 160;
 production method – continuous;
 cycle time, s – 13;
 maximum sheet movement speed m/min – 80;
 sheet movement speed setting – stepless;
 frame sheet width, mm – 850-1100;
 operating pressure of compressed air in the pneumatic system, MPa – 0.4-0.6;
 installed capacity, kW – 10.5.

We can develop and manufacture the entire production line.



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Control system for brick packaging and production line; Control system for ceramic brick cutting section

Construction material industry

Client: Republic of Belarus, Minsk, Building Materials Plant JSC; Stolbtsy, Stolbtsy Brickworks JSC; Republic of Belarus, Mogilev, Strommash Scientific and Technical Centre Republican Unitary Ent.

The line packages finished bricks on pallets. Working mode: automatic and manual. All the line drives are electric motors.

The line packages bricks into cases for further burning. Working mode: automatic and manual. All the line drives are electric motors.

The section cuts (molds) ceramic bricks. Control mode: manual, automatic. The ACS processes positioning and drives control tasks. The ACS has implemented network control of inverters (CCLink). Control: PLC, HMI tactile terminals, Mitsubishi Electric GmbH inverters (Japan).



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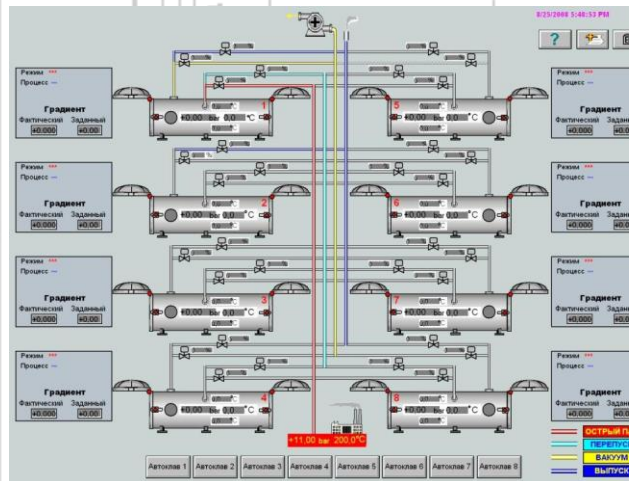
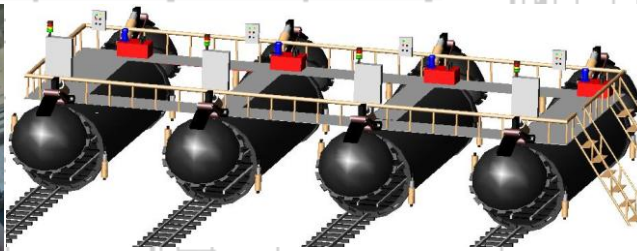
Control system for autoclaves

Construction material industry

Client: Republic of Belarus, Minsk, Minsk Integrated Silicate Goods Plant JSC; Smorgon, Smorgonsilikatobeton JSC

Minsk Silicate Products Plant: ACS for four autoclaves (silicate products steaming, temperature and pressure control, statistics). The ACS has implemented covers control and safety blocking system. On-board installation of protective shells. Control: PLC, Mitsubishi Electric GmbH tactile panel (Japan). Working mode: automatic and manual. SCADA upper level, Beijer Electronics AB E-View (Ver 1.03).

Smorgonsilikatobeton: ACS for 13 autoclaves (silicate products steaming, temperature and pressure control, statistics). Control: Siemens PLC (Germany). On-board installation of protective shells. The ACS has implemented network control (Siemens S7-300 head station, Siemens ET200 slave stations). Working mode: automatic and manual. SCADA upper level WinCC.



Control system for gantry crane

Construction material industry

Client: Republic of Belarus, Minsk, Komplekt JSC

ProfProekt renewed electrical equipment of a gantry crane. The control system is based on the relay scheme with minimum changes in the existing one. The control system is based on up-to-date complete set. We performed assembling and commissioning.



Liquid and dry components dosing (dough preparation)

Food industry

Client: Borisovhlebprom (Borisov Baking Industry) Republican Unitary Ent.; Bresthlebprom (Brest Baking Industry) Republican Unitary Production Ent.; Vitebskhlebprom (Vitebsk Baking Industry) Republican Unitary Production Ent.; Gomelhlebprom (Gomel Baking Industry) Republican Unitary Production Ent.; Grodnohlebprom (Grodno Baking Industry) Republican Unitary Production Ent.; Minskhllebprom Municipal Unitary Ent.; Shklov, Integrated Plant of Cooperative Industry Private Unitary Ent.

Control system doses flour and liquid mixtures (salt, sugar, yeast, butter, leaven, etc.). Dosing is by weight. Stop valves are electromagnetic, pneumatic and electric valves. The number of components is to be discussed when ordering. Working mode: automatic and manual. Terminal language is Russian.

ACS for one doser

Implementation: one component doser and multicomponent doser. It is used for flour dosing (substitution of MD-100 weighting system) or liquid fractions.

ACS for two dosers

Implementation: one- or multicomponent flour doser and multicomponent liquid fractions doser. It is used for flour and liquid fractions dosing into one or two dough mixers.

ACS for three or more dosers

Implementation: one- or multicomponent flour dosers and multicomponent liquid fractions doser. It is used for dosing into three or more dough mixers.

- stores up to 99 formulas freely programmed by operators;
- number of liquid and dry components is to be discussed when ordering;
- terminal dialog language is Russian;
- statistics for components spending, violations, failures;
- liquid components temperature control.

Control: PLC, HMI tactile terminal, Mitsubishi Electric GmbH inverters (Japan). SG channel (weighting): CAS (Korea).

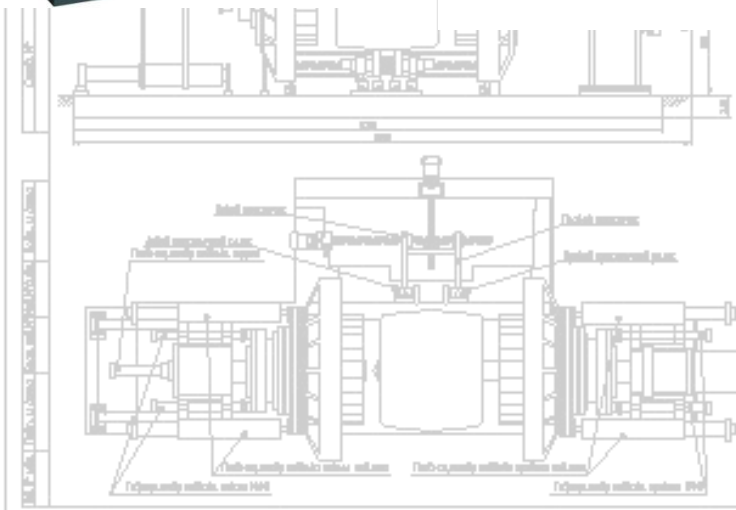
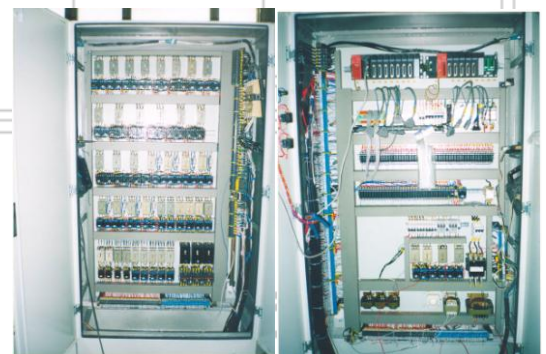
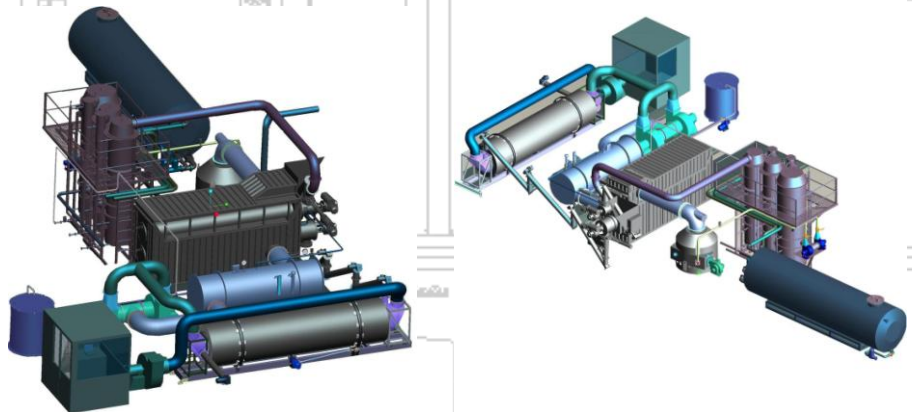
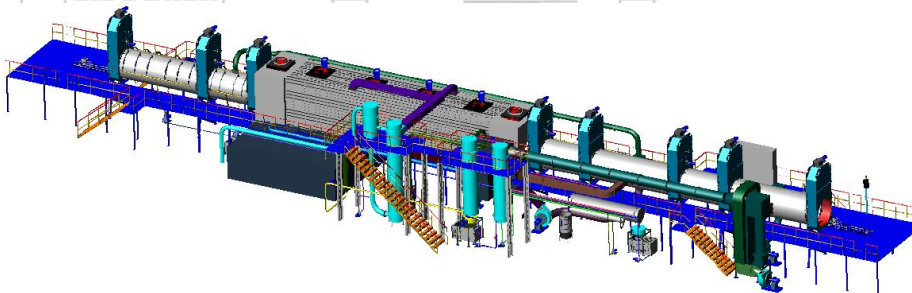
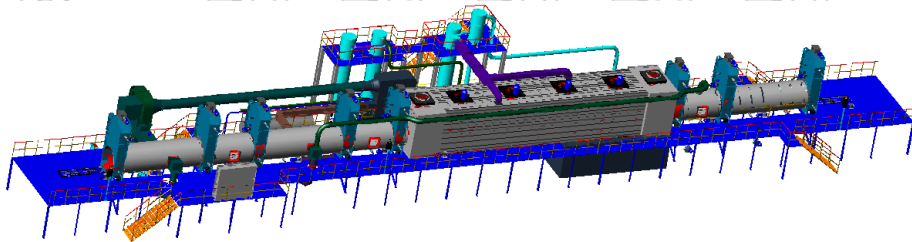


Control system for rubber waste thermal processing

Chemical industry

Client: Lithuania, Elektrenai, Ekoela JSC; Taiwan

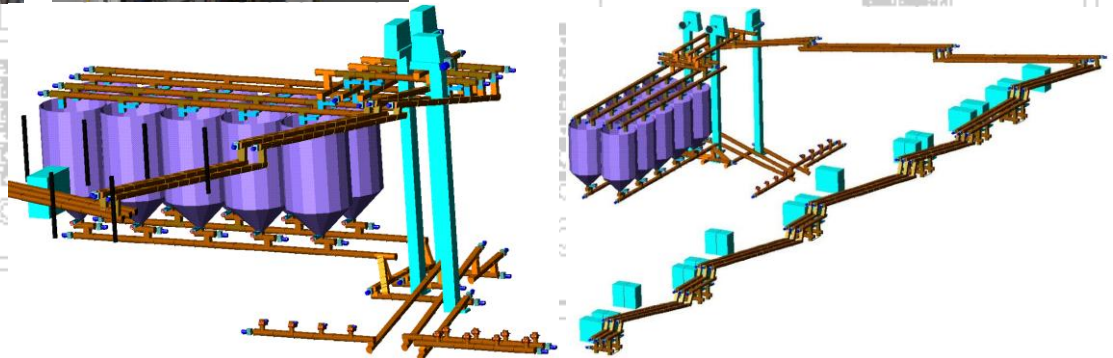
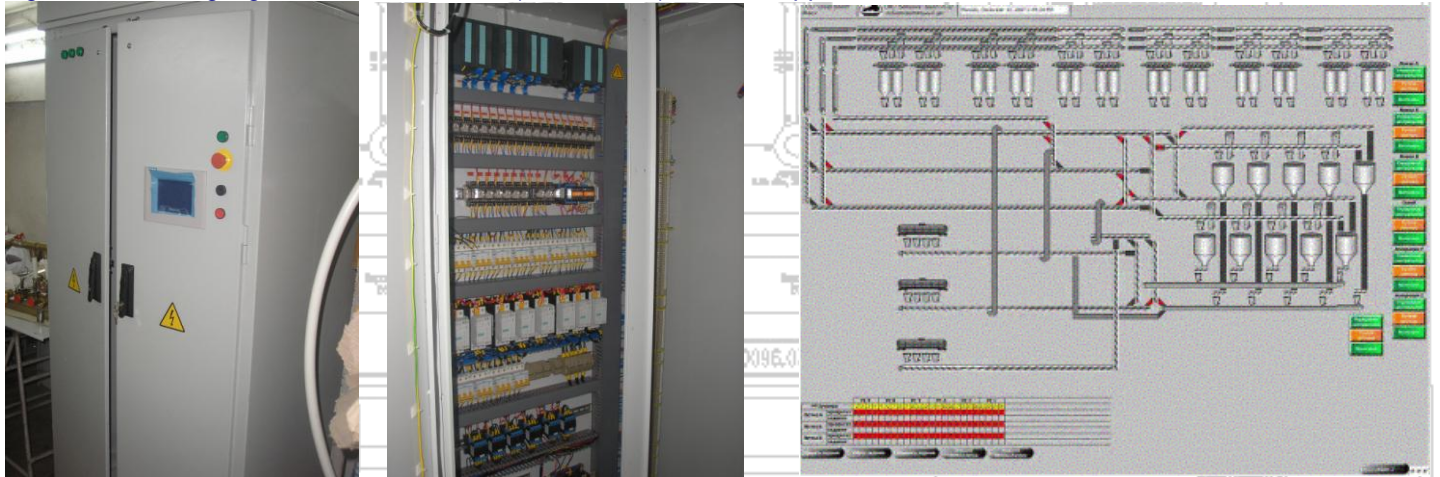
Solid technological tasks. Control over thermodynamic processes. Control over temperatures, pressures, levels, position, and drives. Control: PLC, HMI tactile terminal, inverters.



Client: Republic of Belarus, Bobruysk, Belshina JSC

Control system for technical carbon feeding line provides carbon storage and feeding to rubber production machines. The line is a solid transport system of screw, belt, and vertical transporters (about 200 electric motors). The ACS includes exhaust system for transport systems; it controls transporters loading, soft launch, and bin filling levels.

Control: PLC, HMI tactile terminals, Siemens soft launch devices (Germany). Controlled volume: 8 CPU, 2280 discrete signals, 90 analog signals, network control (PROFIBUS), SCADA upper level.



Client: Republic of Belarus, Bobruysk, Belshina JSC

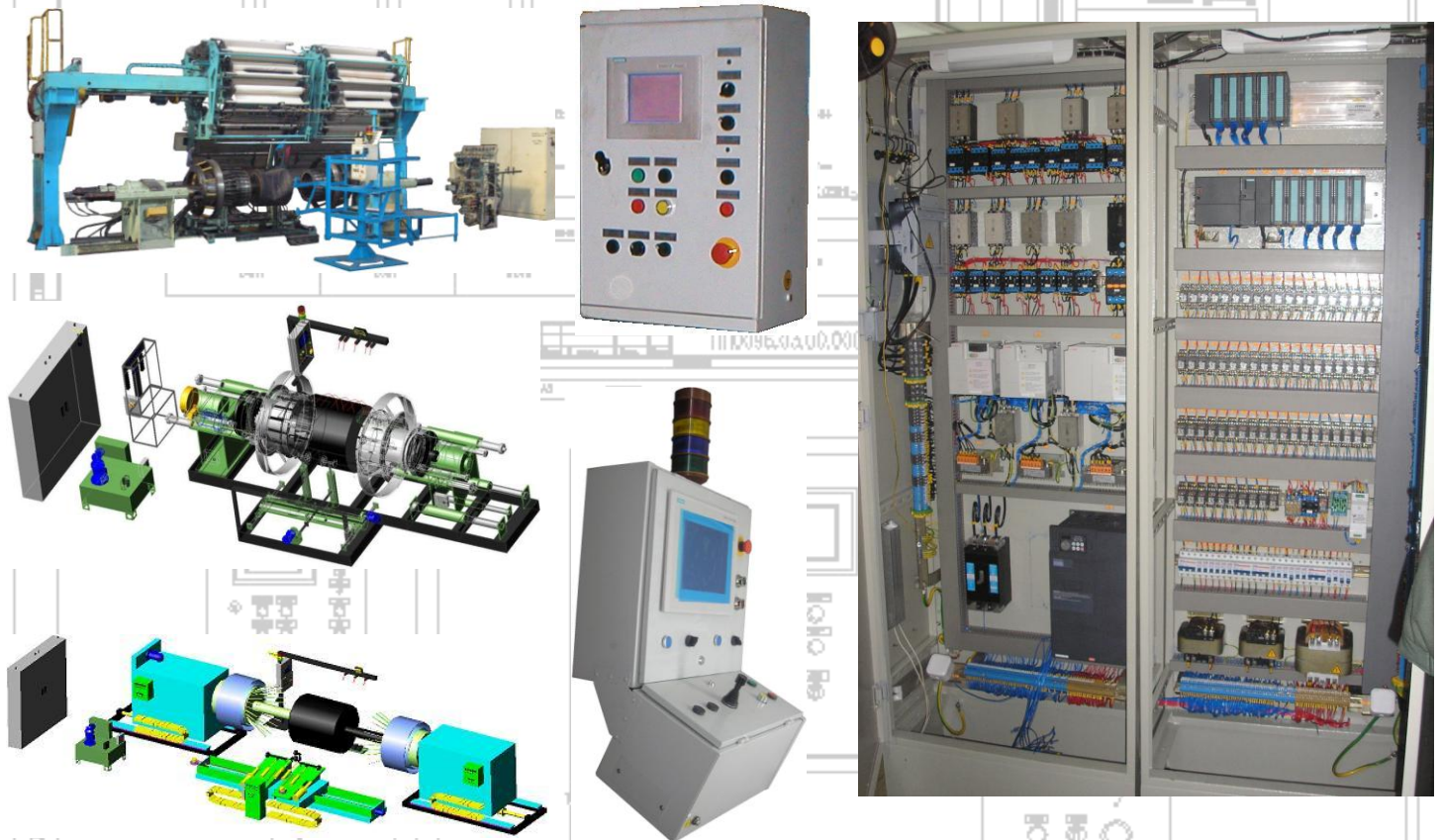
ACS for tread line. The control system provides the set cut (angle and length) of rubber band from extruder. Extruder operation quality is controlled by continuous table-type scales. Extrudate mass is controlled by piece counting scales. Scales and ACS were designed and manufactured in a set. Scales are inbuilt into the existing line and are controlled by the single ACS. Control: PLC, HMI tactile terminal, Mitsubishi Electric GmbH inverters (Japan). Position transducers: LIR (Russia). SG channel (weighting) – CAS (Korea).



Client: Republic of Belarus, Bobruysk, Belshina JSC

The machines assemble and form heavy tires and agricultural tires. Control mode: manual, automatic. The ACS processes positioning and drives control tasks. The ACS has implemented network control of inverters (PPOFIBUS).

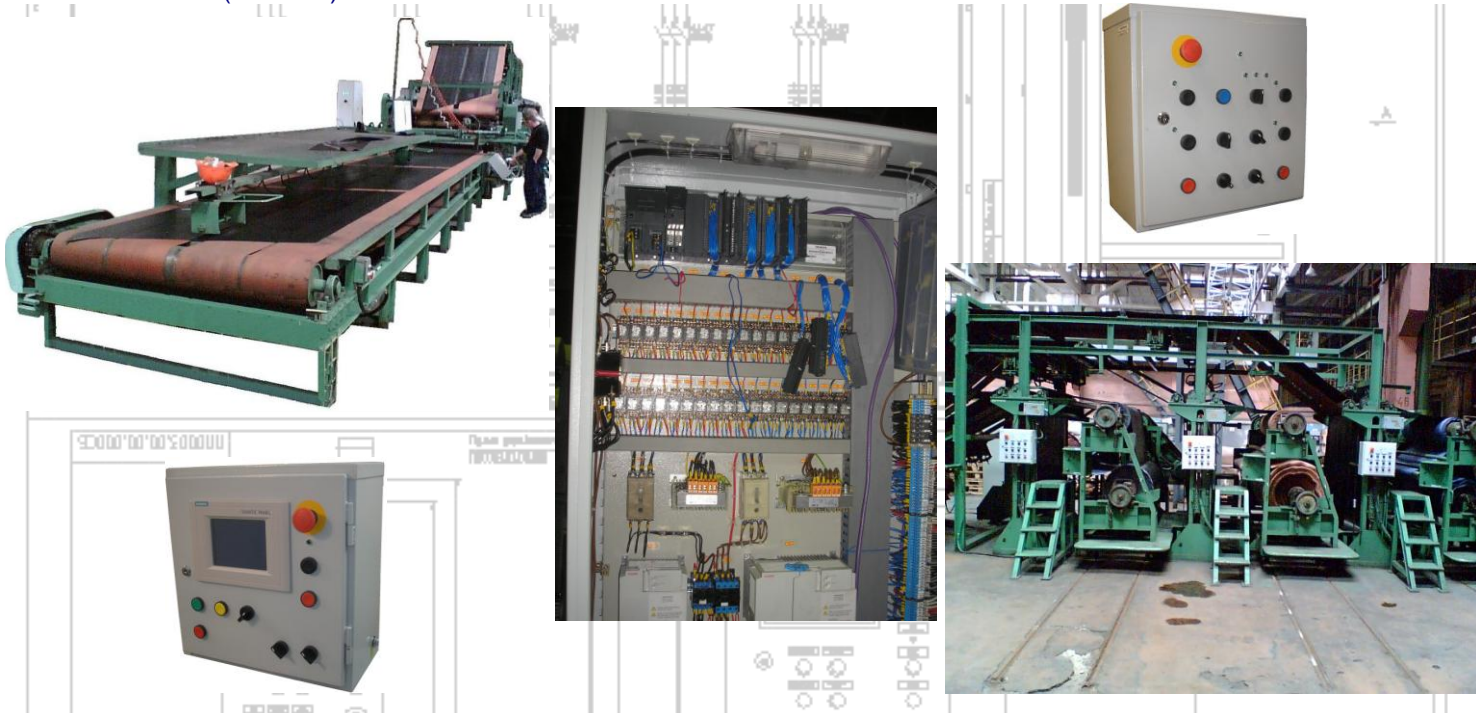
Control: PLC, HMI Siemens tactile terminal (Germany), inverters Mitsubishi Electric GmbH (Japan)/Siemens (Germany). Absolute position transducers: LIR (RUSSIA).



Client: Republic of Belarus, Bobruysk, Belshina JSC

The machine makes the set cut (angle and length) of rubberized cord coil. The ACS provides automatic control over cut and storage. The system works with two positioning coordinates.

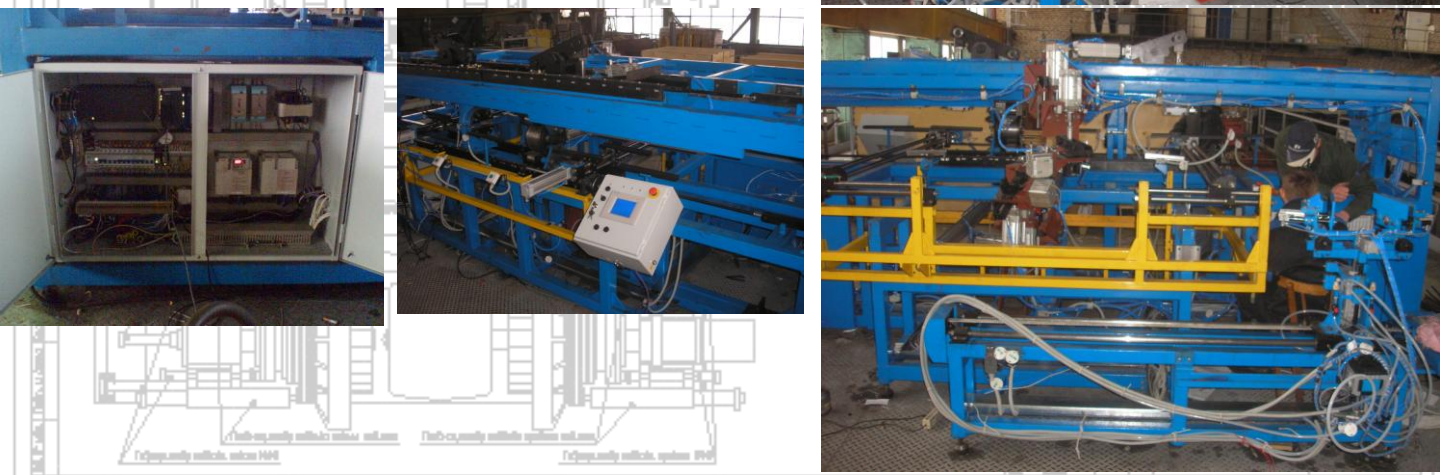
Control: PLC, Siemens HMI tactile terminal (Germany), Mitsubishi Electric GmbH inverters (Japan). Absolute position transducers: LIR (RUSSIA).



Control system for tension scroll winding and bending

Client: Russian Federation, Moscow, Electrosetstroyproekt JSC

The line winds wire set into spiral shape. Winded wire sets are bended into required shape. Shaping is made by manipulators. Bending drives are pneumatic, winding drives are electric motors. The ACS has implemented network control of inverters and pneumatic islands (PPOFIBUS). PLC – Siemens S7-300-2DP, HMI – Siemens TP170, pneumatic islands – FESTO.



Continuous wire cutting machine

Electric power industry

Client: Russian Federation, Moscow, Electrosetstroyproekt JSC

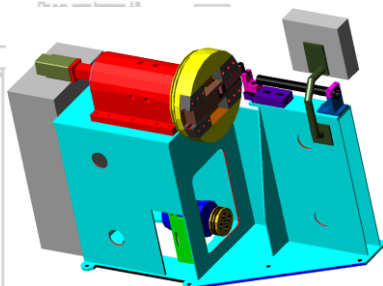
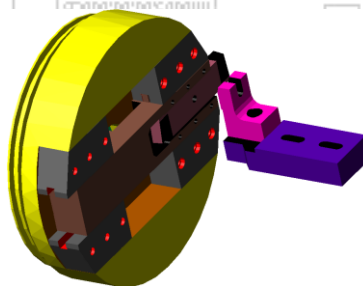
The machine has been developed and manufactured in a set.

There are two cutters that make cutting. The first one is fixed immovably on the machine body. The second one is movable and is set on the faceplate in a movable case. At rotation, the movable cutter moves forward by 35 mm in the moment of cutting.

The automated control system has implemented network control of drives (PPOFIBUS). ACS: PLC – Siemens S7-300-2DP, HMI – Siemens TP170, cutter driver – REXROTH INDRAMAT servo-module, faceplate driver – Mitsubishi inverter.

Basic technical specifications:

- diameter of cut steel wire – 2.65-6 mm;
- diameter of cut aluminum wire – 3-8 mm;
- cutting cycle time – 0.2 s;
- installed faceplate driver capacity – 2.2 kW;
- installed cutter driver capacity – 3.4 kW.



Control system for heating unit

Electric power industry

Client: Russian Federation, Krasnogorsk, Energostil JSC

Heating unit ACS.



Control system for ventilation

Other industries

Client: Republic of Belarus, Minsk, MILAVITSA CJSC

Ventilator ACS: Vesper (Russia) and Hitachi (Japan) inverters.



Reactive power regulator

Other industries

Client: Republic of Belarus, Minsk, Minskhlebprom Municipal Unitary Ent.

Packaged capacitor plant for enterprises in the system of central or group compensation. Control: PROPHI electronic reactive power regulator, power capacitors.

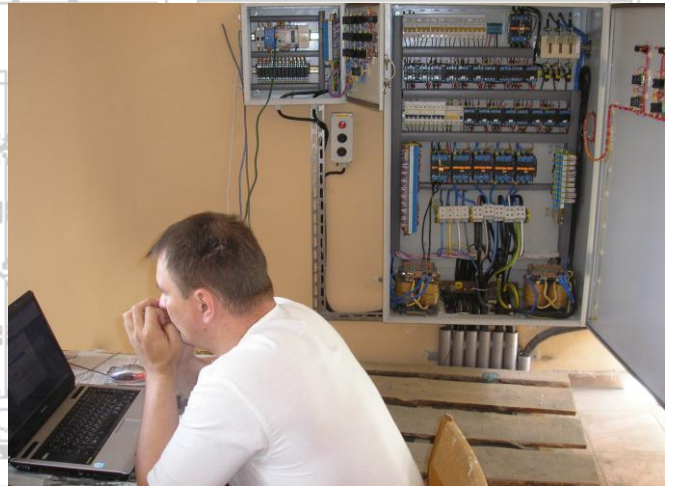


Control system for a fountain

Other industries

Client: Republic of Belarus, Soligorsk

ACS controls water feeding and fountain illumination. The control has been implemented on the basis of Mitsubishi PLC.



Control system for shot blasting chamber

Other industries

Client: Russian Federation, Moscow, Electrossetstroyproekt JSC

The control system is based on relay contact logic. It controls air preparation and purification system, feeding, safety systems, and lightning.



The complete project implementation cycle includes:

- surveying and studying of technological process peculiarities;
- electrical equipment and mechanical structure design;
- manufacturing of protection covers for automation and mechanical structure;
- measuring and driven equipment delivery;
- metrological support of projects;
- development of application software for controllers and upper level;
- assembling and commissioning of the supplied systems;
- client's staff training;
- servicing and warranty maintenance of the supplied equipment;
- technical support.

Our staff qualification allows working with intellectual equipment of companies like ABB, B&R, Hitachi, LG, Mitsubishi, Omron, Siemens, etc. We have tools of famous world companies for PLC programming and Scad projects.

ProfProect is ready to cooperate to complement and to manufacture equipment according to client's projects.

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