Customer	Retrospective	Facility	
OAO SODA City of Sterlitamak, Russia	2010-2011	Technical upgrade of conveying line for sodium bicarbonate transportation based on SICON conveyor system	
	2011-2012	Installation of SICON Conveyor System for Sodium Bicarbonate Transportation from KD-3 Shop to Calcination Shop #1	
SME TEC Ltd. 2011 Industrial differential heat treat ment unit for 13.6 m long rails from separate inductive heating based on TEC technology		Industrial differential heat treat ment unit for 13.6 m long rails coming from separate inductive heating based on TEC technology	
OAO Novosibirsk Tin Integrated Works 2011 Belt feeders		Belt feeders	
MaSteel International Trade & Economic Corporation, Maanshan, Anhui Province, P.R.China			
MaSteel International Trade & Economic Corporation, Maanshan, Anhui Province, P.R.China	Corporation, Maanshan, 2011-2012 Automated control system for transportation line (for railroad wheel pondestructive testing units)		
OAO NK LUKOIL			
OOO Trading House LUKOIL	2012	Batching system for pet coke	
OAO COTTAGE, city of Samara	2012	Continuous belt batchers	



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Tomsk Electronic Company is certified according to the international standard BS EN ISO 9001:2011, audited by NQA Russia









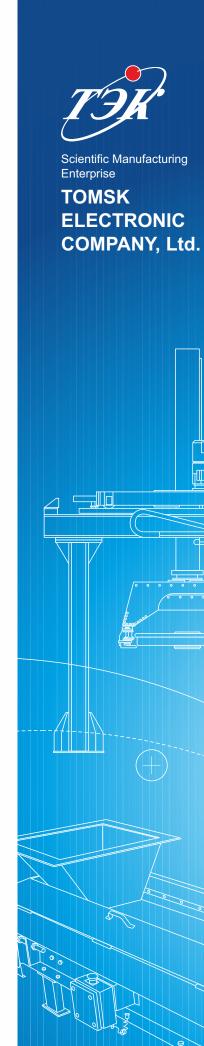
Subsidiary in the Republic of Kazakhstan TOO SMETEC

62, Voroshilova St., 070002, Ust-Kamenogorsk, Republic of Kazakhstan

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e-mail: smetec@mail.npptec.ru

web: www.smetec.kz



Process Solutions.
Systems for Materials Batching,
Preparation and Supply

www.npptec.ru 2013

Scientific Manufacturing Enterprise Tomsk Electronic Company (SME TEC)

offers solutions on preparation, processing, batching, transportation and feeding of materials into processing units for metallurgical, mining, construction, cement and petrochemical branches of industry, including works execution as EPC contractor on a turnkey basis:

- Pre-implementation site survey with the development of process and technical proposals (pre-engineering)
- Designing of facilities including process part and PCS
- Manufacturing and packaged delivery of systems and lines
- Civil, construction and installation works
- Installation supervision and commissioning
- Warranty and post-warranty service.

During work at industrial facilities in the Russian Federation and the Republic of Kazakhstan there was developed and implemented a number of design solutions for process industries and process automation including packaged delivery of equipment.

By completing integrated tasks on development and implementation of process lines and systems, depending on their complexity and the required scope of work, the company can function as General Contractor, General Designer or subcontractor.

Our Partners:

- OAO Gipromez (Moscow)
- NITU MISIS (Moscow)
- OAO Magnitogorsky Gipromez
- OAO PKI Nikom-Project (Nizhny Tagil)
- OAO Lipetsky Gipromez (Lipetsk)
- Siemens VAI (Austria)
- CONTITECH Conveyor Belt Group (Sweden, Germany)
- OOO Gummilabor Rus (Saint Petersburg)
- and other design, research and production facilities.

Our Customers:

- EvrazHolding (OAO EVRAZ NTMK, OAO Evraz ZSMK, OAO KGOK)
- Magnezit Group (OAO Kombinat Magnezit, OOO Magnezit-Torkret-Massy)
- AO TNK Kazchrome (Aksu Ferroalloys Plant, Aktobe Ferroalloys Plant)
- OAO Pervouralsky Dinas Plant
- ZAO United Metallurgical Company (OAO VMZ, OAO Chusovoy Metallurgical Works)
- OAO MECHEL
- OAO Chelyabinsk Electrometallurgical Plant
- TOO Taraz Metallurgical Works
- SIBUR (OOO Tomskneftekhim)
- OAO Soda
- OAO Siberian Cement
- and other facilities in Russia and the Republic of Kazakhstan.

Process solutions

For metallurgical, mining, construction, cement branches of industry SME TEC offers the following:

- Development of main process solutions for production
- Integrated designing
- Processing of materials and feedstock
- Preparation, storage, batching, transportation and supply of materials into process units, shipment
- Full automation of production processes.









Mass Production

Batchers

Batchers are aimed to be built into process lines dealing with continuous feeding of bulk materials and fluids as well as automation of continuous and cyclic batching.

Batchers are registered in the State Register of Measuring Tools and allowed for use in the Russian Federation (Certificate No.28434) and the Republic of Kazakhstan (Certificate No. 4128).



DBN Continuous Weigh Hopper

Maximum capacity (NPP), t/h	0.1 - 10.0
Limit of permissible error as per GOST 30124-94, %	±0.25; ±0.5; ±1; ±2
Hopper capacity, m ³	from 0.1



DB Discontinuous Weigh Hopper

Maximum batching limit (NPD), kg	5 - 1500
Accuracy class as per GOST 10223-97	0.2; 0.5; 1; 2.5





DLN Continuous Belt Batcher

Maximum capacity (NPP), t/h	6.3 - 630.0
Limit of permissible error as per GOST 30124-94, %	±0.25; ±0.,5; ±1.0
Belt width, mm	от 500 до 2000

Special Features

- Implementation of «start-stop/discrete charge» operation - unloading of preset charge within the required period of time
- Automatic adjustment of belt length is aimed for exclusion of additional error at belt extension
- Automatic belt centering during operation
- Material accountancy at belt discharge allowing to be operated in discrete charge mode
- Forming a uniform material layer at the outlet of charging cone that allows obtaining distributed load.



Continuous Plate Batcher (Material temperature is up to 600°C)

Maximum capacity (NPP), t/h	6.3 - 630.0
Limit of permissible error as per GOST 30124-94, %	±0.5; ±1.0
Plated belt width, mm	800 - 1600
Temperature of batched materials, °C	Standard configuration up to +300 Special configuration up to +600

BV Hopper Scales

Maximum weighing limit (NPV), t	0.1 - 20.0	
Accuracy class as per GOST 29329-92	medium	
Number of calibration units ne	500 - 3000	

02

Feeders

Feeders and conveyor equipment manufactured by SME TEC are aimed to transport materials within process lines.

> Design parameters and advantages of the conveyors and feeders are the following:

- Diverse features allowing building into process
- Components by leading international manufacturers, tested during operation
- Wide performance ranges
- Scope of supply includes a set of matching and intermediate steel structures
- Design and control system are done as per Customer's requirements.



PS Auger Feeder

Rated capacity, m³/h	от 0.1 до 10.0
Pitch angle, degrees	от 0 до 90



PB Drum Feeder

Rated capacity, m³/h	from 0.5
Drum diameter, mm	500



PR Rotary (Lock) Feeder

Rated capacity, m³/h	from 0.2
Grain size, mm	up to 20



PL Belt Feeder

Rated capacity, m³/h	от 1.0
Belt width, mm	from 300 to 2000



Plate Feeder

Rated capacity, m³/h	from 5
Plated belt width, mm	from 500 to 1600
Temperature of conveyed material, °C	Standard configuration up to +300 Special configuration up to +600



Vibrating Feeder

Capacity, m³/h	up to 250
Drive type	electromechanical

Auxiliary Equipment







Flap Gate

Sector Gates Slide Pin Gates

Gap section, mm	from 200x200 to 1200x1200
Control of gate actuator	manual (screw-nut), electromechanical,



TTPS Transportation **TTM Single Rail Car with Lifting Table Transportation Car**

Lifting capacity, kg		from 500 to 5000	from 100 to 3000
Moving velocity, m/s		up to	0.5

Project-Related

Conveying Equipment

Belt conveyors of SME TEC are aimed to be built into process lines dealing with continuous feeding of bulk materials of various properties (grain size, abrasiveness, flowability, etc).



Vertical Conveyors

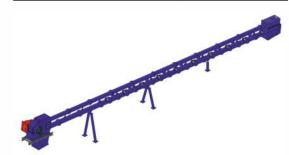
(including mine embodiment), using the belt manufactured by ContiTech Scandinavia AB (Sweden) and Gummilabor (Italy)

Capacity, t/h	up to 750
Material lifting height, m	up to 50, up to 200 is also possible
Belt width, mm	from 800 to 1200



Stationary Belt Conveyors (inclined, horizontal)

Rated capacity, m³/h	from 13 to 4200
Belt width, mm	from 400 to 2000
Belt linear velocity, m/s	from 0.8
Pitch angle, degrees	from 0 to 18



KST Scraper Tubular Conveyors

Capacity, t/h	up to 350
Belt angle, degrees	up to 45
Length of transportation, m	up to 100



SICON Conveyor System

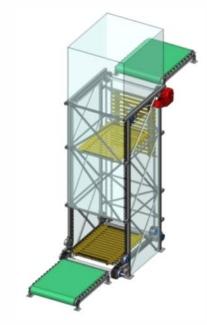
SICON conveyor system, using the belt manufactured by ContiTech Scandinavia AB (Sweden)

Capacity, m³/h	up to 380
Belt angle, degrees	up to 35



Retractable Conveyors

<u> </u>	
Rated capacity, m³/h	from 13 to 4200
Belt width, mm	from 800 to 2000
Distance between drum axes, mm	from 5000



Vertical Lift Conveyors

Capacity, minimum, pcs/h	250
Weight of single load, kg	up to 500
Lift height, m	from 3 to 12

Industry Solutions

Ferroalloy

and Agglomeration Production

The lines for AO TNK Kazchrome as an example

Customer:

Aksu Ferroalloy Plant, AO TNK Kazchrome (Republic of Kazakhstan, city of Aksu) Aktobe Ferroalloy Plant, AO TNK Kazchrome (Republic of Kazakhstan, city of Aktobe)

Purpose

Increase in operation stability of ferroalloy furnaces due to replacement of worn out and old-fashioned process and electrical equipment of batching departments:

- Batching departments of continuous batching:
 - DO-1, 2 of shop No.6; DO-1, 2, 3 of shop No.1
 - DO DPPTU at AFP, city of Aksu
 - Agglomeration plant at AFP, city of Aksu
 - DO-2 of shop No.1 at AFP, city of Aktobe.

The total amount of continuous batchers within the process lines is more than 150 pcs.

- Batching departments of discontinuous batching and feeding of materials into furnace:
 - DO-1, DO-2, DO-3 of shop No.2
 - ДО-1, 2 , 3, 4, 5, 6, 7, 8 of shop No.4 at AFP, city of Aksu
 - Agglomeration plant at AFP, city of Aksu
 - DO-2 of shop No.4 at AFP, city of Aktobe.

The total amount of discontinuous batchers within the process lines is more than 100 pcs.



Scope of Work and Services

- Line designing
- Development, manufacturing and supply of process equipment and PCS
- Installation supervision and commissioning
- Confirming guaranteed (metrological) parameters.



Features of Process Lines

Process lines of continuous and discontinuous batching delivered and put in operation provide the following:

- High accuracy of material batching:
 - for continuous batchers the error is $\pm 0.5\%$ as per GOST 30124-94
 - for discontinuous batchers the accuracy class is 0.5 as per GOST 10223-97
- Guaranteed maintenance of the weight ratio of supplied materials as per preset recipe by ASAD (adaptive system of automatic batching) not exceeding ±1%
- Minimum influence of «chocking up and bad descent» of materials in storage bins due to automatic including/excluding batchers to supply and introducing the «start- stop» mode of batcher supply
- Self-adjustment depending on reducer humidity and content of the main component in ore materials.

Fire Resistant Production

Lines for unmolded materials production No.2 and runner clay lines

Customer:

OOO Magnezit-torkret-massy (Russia, city of Satka)

Purpose

Process lines is aimed for preparation of unmolded materials with capacity of 15000 tons per year. Number of components - 8. Maintenance of the component ratio with accuracy of $\pm 1\%$.

Scope of Work and Services

- Designing, manufacturing and packaged delivery of process lines
- Installation supervision and commissioning.

Process Line Components

- Continuous batchers for dry components
- Auger feeders
- Elevators
- Screw conveyors
- Slide gates.





Process batching equipment and PCS of the corundum-graphite shop

Customer:

OAO Pervouralsky Dinas Plant (OAO DINUR) (Russia, city of Pervouralsk)

Purpose

Process batching line and PCS of the corundumgraphite shop is aimed for automatic preparation of conglomerates as per preset recipe.

Scope of Work and Services

- Development of process plan, PCS design
- Manufacturing and packaged delivery of the line
- Installation supervision and commissioning.

Technical Parameters

- The volume of corundum-graphite mixture output when three mixers are in operation -5.85 t/day
- Batching accuracy of each component -0.2 as per GOST 10223-97
- Travel speed of transportation car 0.3 m/s
- Lifting table:
 - Lifting speed 20 mm/s
 - Full screw stroke 200 mm
 - Lifting capacity 2500 kg







Blast Oxygen Production

Upgrade of bulk materials and ferroalloys transportation system to storage bins of converters in Oxygen Blast Shop #1 and charge materials supply system to converters

Customer:

OAO Nizhny Tagil Metallurgy Works (Russia, city of Nizhny Tagil)

Purpose

The guaranteed supply of bulk materials into storage bins of the converters due to the construction of a standby conveying line based on conveyor with folded SICON belt; batching components into the converters.

Scope of Work and Services

SME TEC, acting as Contractor of Austrian company Siemens VAI, implemented a project of material conveying line on a turnkey basis starting from a technical solution to putting into operation.

Technical Parameters

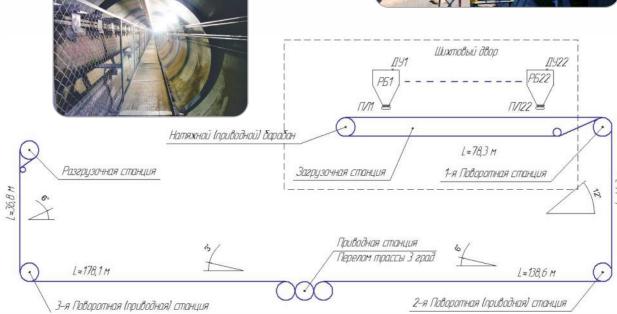
- Capacity of the material conveying line: for scale 310 t/h; for lime 190 t/h
- Accuracy of batching and material supply into the converter by belt batchers in «start- stop» mode is ±0.5% as per GOST 30124-94
- Maintenance of the components proportion is ±1%
- An automatic scale calibration of belt batchers is foreseen.

Features

- Using SICON conveyor provided dust free transportation of materials and allowed locating the conveyor within the limited space of the existing production shop
- Integration into the unified WinCC multi-project
- Loading of storage bins of the converter is fully automated in accordance with the setup priorities
- A flexible system to adjust capacity of the charge materials transportation system depending on the route (direction) has been implemented.







SICON Conveyor Route - Standby Conveying Line

Briquetting

Technical upgrade of ferromolybdenum production shop

Customer:

ZAO Kamyshin Foundry Ferroalloy Plant (Russia, city of Kamyshin)

Purpose

Process equipment and control system of briquetting and material supply into furnace are aimed for the following:

- Control of process cycle of briquettes preparation and materials batching into furnace
- Monitoring of batching and material supply into furnace, registration of the current state of the system, handling emergency situations, generating trip off points and emergency alarm.

Process Line Components

Ferromolybdenum shop is aimed for production of ferromolybdenum (FeMo) in the volume of 100t/month and includes the following process facilities:

- Briquetted charge preparation:
 - Continuous weigh batchers for dry components
 - Continuous weigh batchers for liquid components
 - Slide gates
 - Auger feeders
 - Belt feeders
 - Intensive mixer
 - Roller press
 - Unbalanced-throw screen
 - Drying furnace
- Charge materials supply into furnaces:
 - Continuous weigh batchers for dry components
 - Slide gates
 - Auger feeders
 - Rotary (lock) feeders
 - Feeder of feeding manipulator.



Scope of Work and Services

- Inspection of existing foundations, steel structures, premises, diagnostics of re-used equipment
- Development of process plan and PCS
- Issuing construction tasks
- Manufacturing and supply of process equipment
- Installation supervision and commissioning.





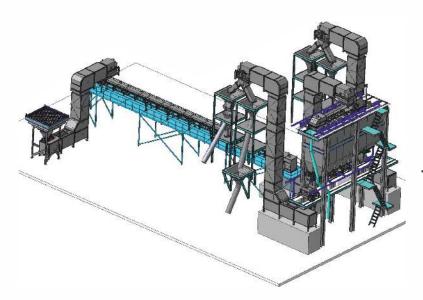
08

Electric Furnace Steelmaking

Process line for alloys and additives supply to electric arc furnace of arc-furnace melting shop

Customer:

ZAO Tikhvin Freight Car Building Plant (Russia, city of Tikhvin)



Purpose

Batching and supply of alloys and additives to electric arc furnace or ladle.

Scope of Work and Services

Development of technical solution for alloys and additives batching and transportation line.

Process Line Components

- Slide gate
- Vibrating feeders
- Belt conveyors
- Retractable belt conveyor
- Vertical belt conveyors
- Mobile weigh hopper
- Flap gate
- Swivel chute.

Technical Parameters

- Capacity of bin loading system 75 m³/h
- Capacity of furnace and ladle loading system - 40 m³/h
- Accuracy of weighing is ±0.25 out of NPV
- Accuracy of batching is ±0.5 out of NPV.

Industrial Waste Processing

Steelmaking slag separation line

Customer:

ZAO STROYKOMPLEX (Russia, city of Nizhny Tagil)

Purpose

Separating dump steelmaking slags as per grain size, extraction of metallic inclusions.

Scope of Work and Services

- Development of process plan
- Execution of working documents
- Industrial safety evaluation
- Manufacturing and supply of process equipment and steel structures
- Installation supervision and commissioning.

Состав технологической линии

- Discontinuous batchers for dry components with scales calibration system
- Slide gates
- Belt conveyors
- Vibrating feeders.





Technical Parameters

- Line capacity 160 t/h
- Size of initial slags is 0...700 mm
- Product range:
 - Metal concentrate, grain size is up to 100 mm, Fe content is min. 86%
 - Iron-bearing concentrate, grain size is from 10 up to 100 mm, Fe content is min. 40%.

Blast Furnace Production

Upgrade of bin trestle and charge materials transportation system to blast furnace No.2

Customer:

OAO Chusovoy Metallurgical Works (Russia, city of Chusovoy)

Purpose

Charge materials batching and loading into blast furnace No.2

Scope of Work and Services

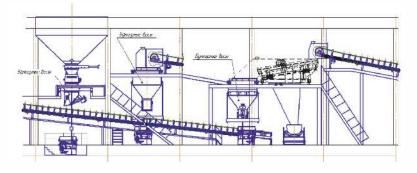
Development of process plan and PCS for charge materials batching and transportation system for blast furnace No.2.

Technical Parameters

Charge material	Line capacity
Coke	300 m³/h
Agglomerate	90 m³/h
Pellets	90 m³/h
Iron	40 t/h
Additives	30 m³/h

Process Line Components

- Belt batchers
- Vibrating feeders
- Belt conveyors
- Discontinuous batchers with scale calibration system
- Unbalanced-throw screens
- Belt feeders
- Slide gates.



Set of equipment of bin trestle for blast furnace No.3 (technical solution)

Customer:

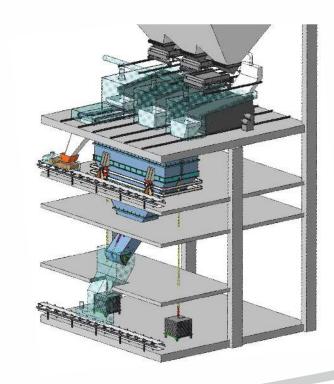
OAO SEVERSTAL (Russia, city of Cherepovets)

Purpose

Charge materials batching and transportation for blast furnace No.3 Line capacity – 100 t/h; 200 t/h.

Process Line Components

- Hopper scales
- Scales calibration device
- Slide pin gates
- Flap gate
- Sector gate
- Vibrating feeder
- Unbalanced-throw screen
- Belt conveyors
- Retractable belt conveyors
- Sampling system.



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Blast Oxygen Production

Systems for alloys and additives supply for ladle furnace

Customer:

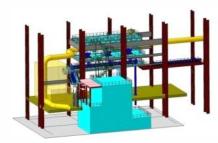
OAO Nizhny Tagil Metallurgy Works (Russia, city of Nizhny Tagil)

Purpose

The system is aimed for alloys, additives and bulk materials supply into a steel-pouring ladle for final determination of the chemical composition of metal.

Scope of Work and Services

- Development of process plan
- Manufacturing and supply of process equipment
- Construction and installation and commissioning.





Process Line Components

- Discontinuous batchers for dry components with scales calibration system
- Slide gates
- Belt conveyors
- Vibrating feeders.

Technical Parameters

- System capacity 100 m³/h
- Accuracy class for discontinuous batchers -0.5 as per GOST 10223-97
- Maintenance of the components proportion is ±1%.

Metal Mining Industry

Technical upgrade of conveying line for fired pellets

OAO KGOK VANADIY (Russia, city of Kachkanar)

Purpose

Transportation of fired pellets from pelletizing and firing to pellet bed formation.

Scope of Work and Services

- Development of process plan
- Execution of working documents
- Industrial safety evaluation.

Technical Parameters

- Capacity of fired pellets conveying line -1400-1500 t/h (peak capacity is up to 1900 t/h, duration of up to 10 min, max. 2 times per day)
- Belt speed 2 m/s
- Temperature of fired pellets in normal mode up to +120°C, in abnormal situations - up to



Process Automation

SME TEC possesses significant experience in designing, manufacturing and introduction of automated systems for process lines and units for metallurgy, mining, construction, cement and petrochemistry.

Activities:

- Designing of instrumentation, PCS and ESD
- Manufacturing and supply of automation equipment
- Development of software
- Construction and installation, commissioning
- Guarantee service and maintenance in operation.

A special order form has been developed for standard solutions of process lines and PCS thus we can choose and offer solutions which have been already tested basing on the implemented projects.

At present SME TEC exercises an integrated and system approach to meeting challenges in automation, using the following methods for PCS architecture development:

- Multi Level Structure of PCS
- Basic automation devices by leading international manufacturers (Siemens, GE Fanuc, Schneider Electric, Rocwell Automation, Emerson Process Management and others).









YOKOGAWA 🔶







- Various architecture of input-output data (local, remote, shared)
- Backup and emergency protection (basing on the importance, complexity and process requirements)
- Location of electric equipment, mnemonic diagrams in panels and various control desks, considering special requirements of the Customer
- Algorithm of the automatic adaptive support of materials proportion in continuous and intermittent supply modes (ASAD)
- Adaptation to specific production conditions
- Phased introduction of individual units and control subsystems for these individual units
- Integration with existing PCS.

Introduced PCS allows reduction of human factor influence on process performance and decrease of downtime due to self diagnostics of the system.



Development and implementation of more than 150 projects of metallurgical facility automation for OAO NTMK, AO TNK Kazchrome, OAO ChMK, OAO Dinur, OAO Kombinat Magnezit and others.

Reference List of Integrated Projects

Providing the followings works: pre-engineering, designing, manufacturing and packaged delivery of equipment, construction and installation, commissioning, achievement of guaranteed rates.

Customer	Retrospective	Facility	
OAO Pervouralsky Dinas	OAO Pervouralsky Dinasovy Plant		
OAO DINUR	2002	Process batching line and PCS for periclase-carbon products of spinel-periclase-carbon (ShPU) area of shop #1	
	2009-2010	Process batching line and PCS for the corundum-graphite shop	
	2011	Transportation line for pallets	
EvrazHolding			
OAO EVRAZ NTMK	2002-2003	PCS of process batching line for magnesium refractories	
	2004-2005	PCS of process batching line for damper plates production	
	2004-2005	PCS of process batching line for unshaped refractories	
	2005	PCS of process batching line for lower loading into blast furnace #6	
	2005	Automatic calibration system of process batching line for lower loading into blast furnace #6	
	2005-2006	Final inspection line for railroad wheels #3	
	2006-2010	Upgrade of charge materials handling system within upgrading of the Blast Oxygen Shop (KKTs-1)	
		Upgrade of heat treatment area of the wheel and tire shop (KBTs)	
	2007-2009	Conveying line of heat treatment area for railroad wheels at the wheel and tire shop	
	2010-2011	Supply of alloys and bulk materials for ladle furnace #4 of the converter shop	
	2012	Equipping Final inspection lines ##1,2 of the wheel and tire shop with devices ensuring 100% of magnetic particle inspection for railroad wheels	
OAO Kachkanarsky GOK Vanadiy, city of Kachkanar, Sverdlovsk Region	2010	Technological re-equipment of conveying line for fired pellets	
AO TNK Kazchrome			
Aksu Ferroalloy Plant	2003-2008	Process batching line and PCS for DO-1, DO-2, DO-3 of shop #1	
	2004, 2007	Process batching line and PCS for DO-2, DO-1 of shop #6	
	2005, 2006	Process batching line and PCS for DO-1, DO-2 of shop #2	
	2005-2012	Process batching line and PCS for DO of furnace ##42,44,45,46,47,48 of shop #4	
	2005-2008	Information and measuring system for furnace ##42,47,48 of shop #4	
	2006	Belt feeders	
	2006	PCS for charge conveying line and furnace hopper loading of DO-2 of shop #2	
	2007	Batchers for DO DPPTU-6	
	2007	PCS for charge conveying line and hoppers loading of furnaces ##61 and 62 of shop #6	
	2008	Shop-wide servers of batching departments of shops ##1, 4 and 6	
	2009-2010	Process batching line of agglomeration plant	
	2011	Discontinuous batchers DB-320-0.5-4E-1E-S-2	
	2011	Discontinuous batchers DB-1000 for agglomeration plant laboratory	
	2012	Process batching line and PCS for batching department DO-4 of shop #2	
Aktobe Ferroalloy Plant,	2005	Modernization of weigh metering system DO of furnace #27	
Aktobe	2006	Process batching line and PCS of DO of furnace #24 of melting shop #2	
	2006-2007	Process batching line and PCS of DO of furnace #12 of melting shop #1	
ZAO Sibtenzopribor, city of Topki, Kemerovo Region	2003-2005	Hardware and software of load sensing device for locomotive wheel sets	
OAO Chelyabinsk Electro	metallurgical I	Plant	
OAO ChEMK	2004-2005	Process batching line and PCS for charge conveying system of ferroalloy furnaces of shop #7 (unit #1 unit #2)	
(Chelyabinsk)	2007-2008	Process batching line and PCS for charge conveying system of ferroalloy furnaces of shop #7 (unit #3)	
NLMK Group			
OAO Novolipetsk Metallurgical Plant,	2004	Process batching line and PCS for coal preparation shop of coke and by-product process	
city of Lipetsk	2012	Continuous belt batchers	

Customer	Retrospective	Facility
OAO Central Preparation Plant Abashevskaya, Kemerovo Region	2004-2005	Process batching line and PCS of DO
Casting and Rolling Plant city of Yartsevo, Smolensk Region	2004	Process batching line and PCS for the bulk materials and ferroalloys transportation system to electric furnace
OAO MECHEL		
OAO Chelyabinsk Metallurgy Works, city of Chelyabinsk	2005	Process batching line and PCS for coal preparation shop of coke and by-product process
OOO Kaslinsky Plant for Art Castings	2008-2009	Batching and preparation unit for molding sand
ZAO United Metallurgical Compa	ny	
OAO Chusovoy Metallurgical	2005-2006	Process batching line and PCS for batching at charge preparation for DSP-3A electric furnace
Works, city of Chusovoy, Perm Region	2008	Automated system for metering and monitoring of material flows of vehicle spring production
3	2008	Belt feeders
OAO Vyksa Metallurgical Works, city of Vyksa,	2009-2010	Measurement units and automated metering system for basic materials and finished products including measurement systems for sheet geometry
Nizhni Novgorod Region	2011-2012	Dimensional measurement system
OAO OMK-Steel	2011	Plate feeder
TOO «KSP-Steel»		
Branch office in Pavlodar TOO KSP-Steel	2007-2008	Process lines and PCS for materials batching and loading of smelt-furnace hoppers in ferroalloy production
	2008	PCS of aspiration and dust removal system
Moscow Institute of Steel and Alloys (MISIS)	2007	System for batching and loading of charge materials into ferroalloy furnace
ZAO Polimerkompaund, city of Tomsk	2007	Polypropylene batching system
T00 T		
TOO Taraz Metallurgical Plant, city of Taraz	2008	Process line for materials batching into ferroalloy furnaces ##3 and 4
,	2008	Hardware and software for automated control system of RKO-25 SMn-M1 ore-smelting furnace
ZAO Kamyshin Foundry	2008-2009	Technical upgrade of the ferromolybdenum production shop.
Ferroalloy Plant, city of Kamyshin, Volgorad Region	2008-2009	Process line for charge briquetting PCS of briquetting Technical upgrade of the ferromolybdenum production shop.
	2000 2003	Process line for charge materials feeding into furnace PCS of charge materials feeding into furnace
ZAO STROYKOMPLEX, city of Nizhny Tagil	2010-2011	Pilot unit for steelmaking slag separation
OOO Magnezit Group		
OAO Kombinat Magnezit, city of Satka	2010	Automated control system for process flow #1 UD1 TsMP-2
Magnezit, City of Satka	2011	
	2010-2011	PCS for multiple-bedded furnace system of 100 000 tons per year in capacity. TsMP-2
	2012	
	2011	Technical upgrade of magnesium product shop #2 (Increase in output of PShPTs products)
OOO Magnezit-Torkret-Massy, city of Satka,	2010	2nd line PCS for unmolded materials production
Chelyabinsk Region	2010	PCS for charge preparation for runner and other clays
	2010	PCS for pipe-chain conveyor on acceptance area for raw materials in bulk
	2010	Process equipment and PCS for charge preparation line for runner and other clays
	2012	PCS of line #2
Nestle Group	1	
OOO Nestle Kuban	2010	Equipment of sand separation system
	2010	Continuous batchare for charging of malains from
ZAO NPP EPOS	2010	Continuous batchers for charging of melting furnace