



Scientific Manufacturing
Enterprise

TOMSK ELECTRONIC COMPANY

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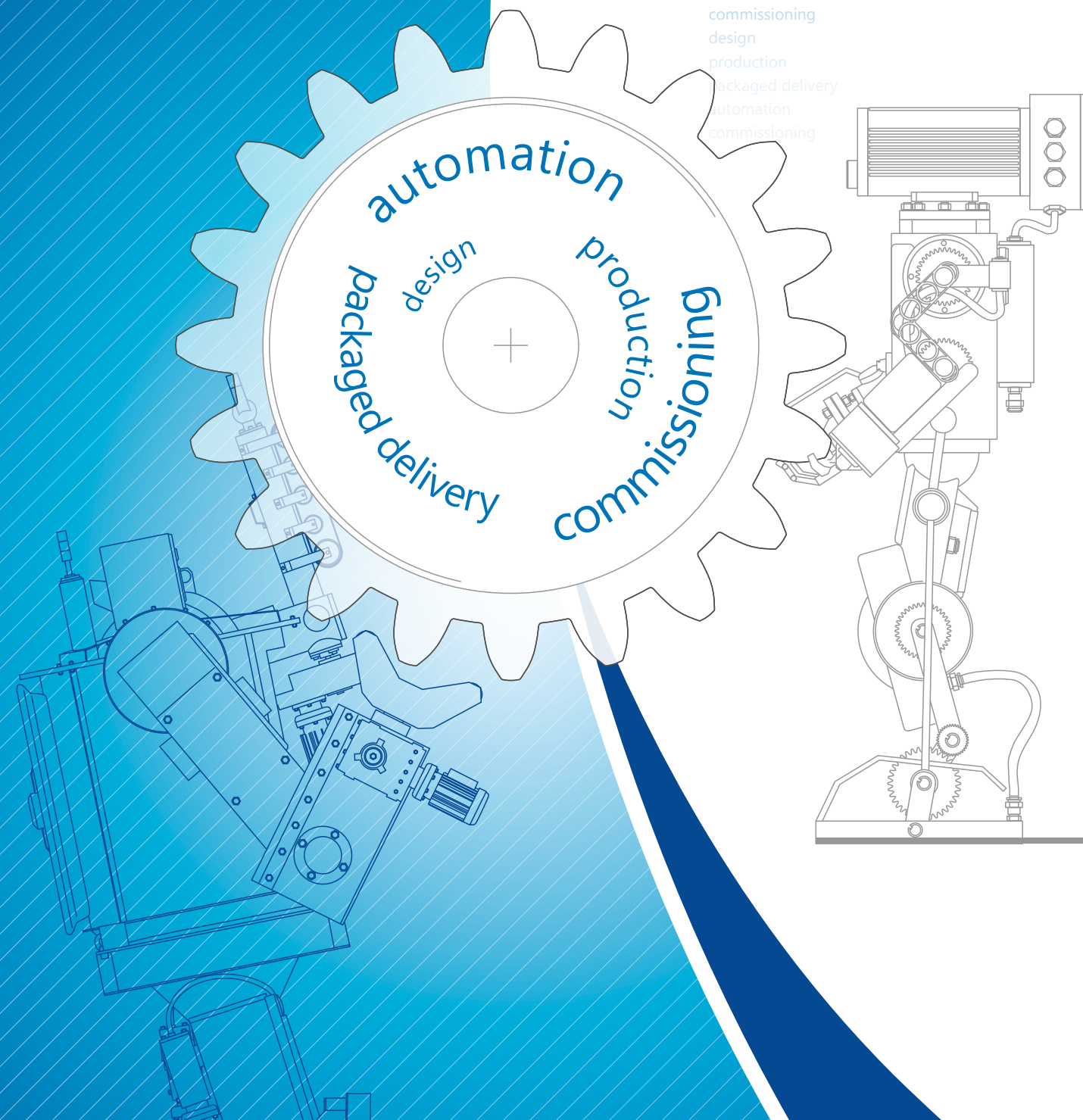
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SME Tomsk Electronic Company offers

for oil and gas, oil refining, petrochemical, metallurgical and power industries

- Designing of Facilities
- Integrated Automation
- Packaged Equipment
- Integrated Systems for Metering and Recording
- Electric Drives
- Packaged Electrics
- Metering and Automation Equipment
- Robotic Complexes and Process Lines
- Lines for Materials Batching and Supply

Scientific and Manufacturing Enterprise Tomsk Electronic Company was founded in 1999 on a base of research and production facilities of the Tomsk Branch of Moscow Research Institute of Mechanical Engineering.

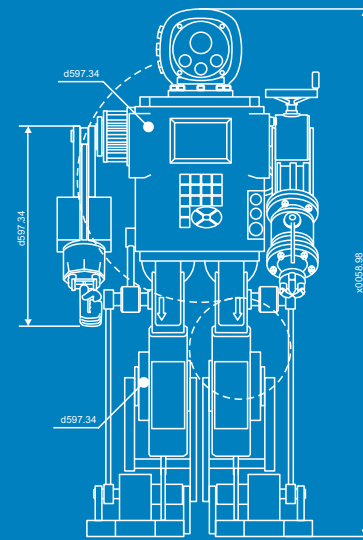
SME Tomsk Electronic Company possesses a full range of techniques for electronic, electrotechnical, mechanical engineering productions and effective management thus assuring a flexible approach to implementation of innovative solutions within target dates.

SME TEC has developed and introduced quality management system complying with requirements of international standards ISO 9001:2011. The company has SRO certificates of permit to all kinds of design, construction and installation works, for development of oil and gas fields of external oil and gas transportation, oil and gas processing facilities, petrochemistry and metallurgy.

The company has 900 employees, 85% of them are higher education professionals and 70% are engineers and technical specialists. SME TEC has branches in Moscow, Nizhny Tagil, Ust-Kamenogorsk (Republic of Kazakhstan). Production area of the company occupies 15,000 sq.m.



Designing of Facilities



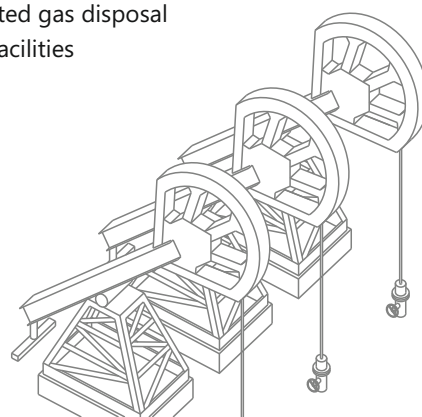
SME Tomsk Electronic Company designs facilities related to production, transport and treatment of oil and gas, gas facilities, power, oil refining, mechanical engineering, metallurgy. Also it has SRO certificates of permit to all kinds of design, construction and installation works for development of oil and gas fields and oil and gas processing facilities, petrochemistry.

SME Tomsk Electronic Company means:

- Individual approach to Customer's requirements
- Supporting the developed design and estimate documents when getting approvals and appraisal in the Russian Federation
- Ongoing communication with the Customer and assistance in decision making (selection)
- Adaptation of design solutions, developed by the foreign companies, ensuring compliance with the Russian standards.

Design Institute included in the structure of SME TEC provides services for the following fields:

- Oil and gas field development
- Pipeline systems for oil and gas transportation
- Associated gas disposal
- Power facilities

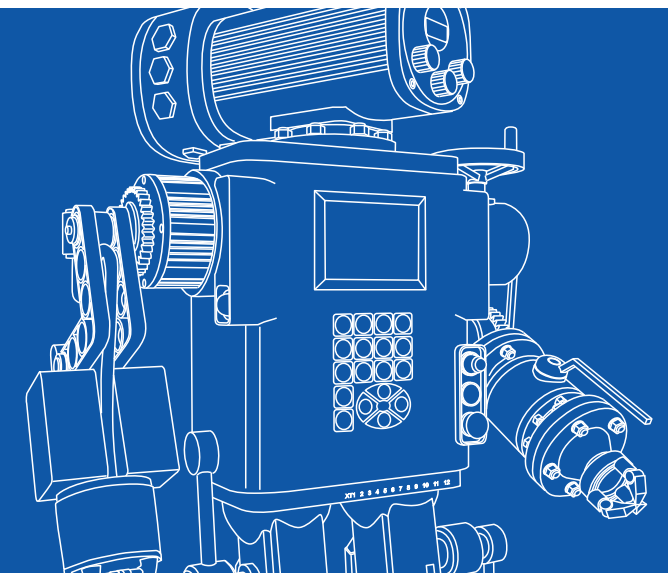


- Process automation for oil, gas and petrochemical productions
- Automated systems for traffic control and remote measurement
- Systems for oil, gas and water metering for oil and gas productions and oil refineries
- Robotic complexes and process lines
- Oil and gas processing facilities.

**Structure of Design Institute
SME Tomsk Electronic Company**

- Administrative personnel
- CPE Department
- Production department
- General outlay and motor road department
- Constructive department
- Sanitaryware department
- Electric department
- Technological department
- Cost estimate department
- Water supply and firefighting department
- Ecology group
- Department for PCS and integrated systems designing
- Department for integrated metering systems
- Department for metallurgical production design
- Department for process equipment designing
- Department for economic analysis of investment efficiency■

Integrated Automation



This profile covers the implementation of all activities related to automation starting from concept development to commissioning, including:

- Designing
- Manufacturing and supply
- Installation and commissioning
- Guarantee service and maintenance

Designing and development of automation system concept

Provides performance of full package of design work or its single stages:

- Inspection of the facility to be automated, generating basic data
- Development of the automation concept and technical requirements
- Development of detail data for tender running in order to identify the company to supply basic automation tools
- Development of a technical assignment on automation system
- Development of technical documents and detail drawings for general system solutions, organizational maintenance, technical support, data support, software

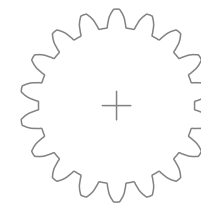
- Development of estimate documents
- Support during appraisal of design and estimate documents
- Designer's supervision in order to assure compliance with the design

Depending on the project complexity, SME TEC offers various structures of control systems. This could be both one level system with direct digital control of process equipment and PCS and ESS with difficult distributed structure, using local networks and remote access devices for user communication, as well as servers for online and archive databases, such as OPC and SQL servers.

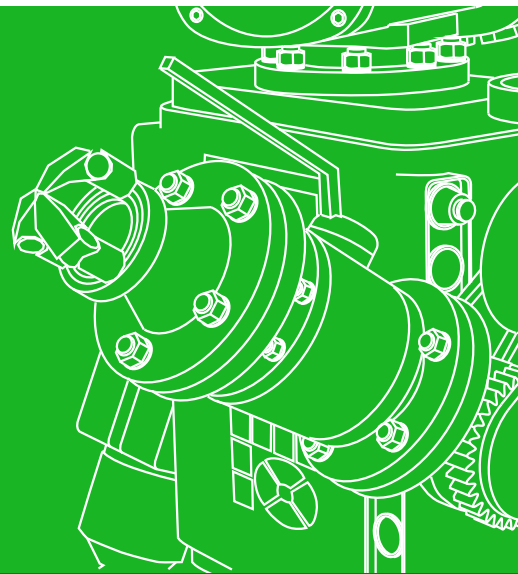
SME TEC cooperates with leading international companies - Emerson Process Management, Yokogawa, Schneider Electric, Siemens, Rockwell Automation and others.

Significant experience and high qualification of SME TEC employees allows producing highly efficient integrated automation systems of MES and ERP level.

Our customers - NK Rosneft, Gazprom, TNK-BP, SIBUR Holding and others■



Packaged Equipment Integrated Systems for Metering and Recording



SME Tomsk Electronic Company renders the whole range of services in designing, manufacturing, supply, construction, installation and commissioning, metrological assurance, warranty and post-warranty maintenance of integrated metering systems for crude and commercial oil, natural and associated gas, water as well as material flows and energy resources.

Integrated Systems for Metering and Recording

- Commercial oil metering systems (SIKN)
- Crude oil metering systems (SIKNS)
- Metering system for oil products
- Gas metering system (UUG)
- Metering units for associated gas (SIKG)
- Metering units for stripped gas and gas condensates
- Formation water metering skids (UUV)
- Metering units for material flows
- Mobile calibration units (PPU)

Pumping Stations

Equipment for Gas Treatment and Distribution

Equipment for Formation Pressure Maintenance

Administration and On-Site Facilities



Metering systems are aimed for automated metering of crude and commercial oil and oil products by indirect volume-weight method or direct weight dynamic method as per recommendation №69 dated 31.03.2005, GOST R 8.595, MI 2825, GOST R 8.615, MI 2693.



Pumping stations are aimed for transfer of oil, oil products, natural and associated petroleum gas, stripped gas, gas condensate, water, chemicals and automated supporting of the preset output pressure.



Units for oil quality parameters metering are aimed for automatic determination of physical and chemical parameters of oil quality as per GOST R 51858-2002, automatic and manual oil sampling for further oil quality analysis.



Units for gas treatment, reduction and distribution are aimed for treatment of fuel gas for gas piston and gas turbine drives of compressor stations, power stations and other consumers.

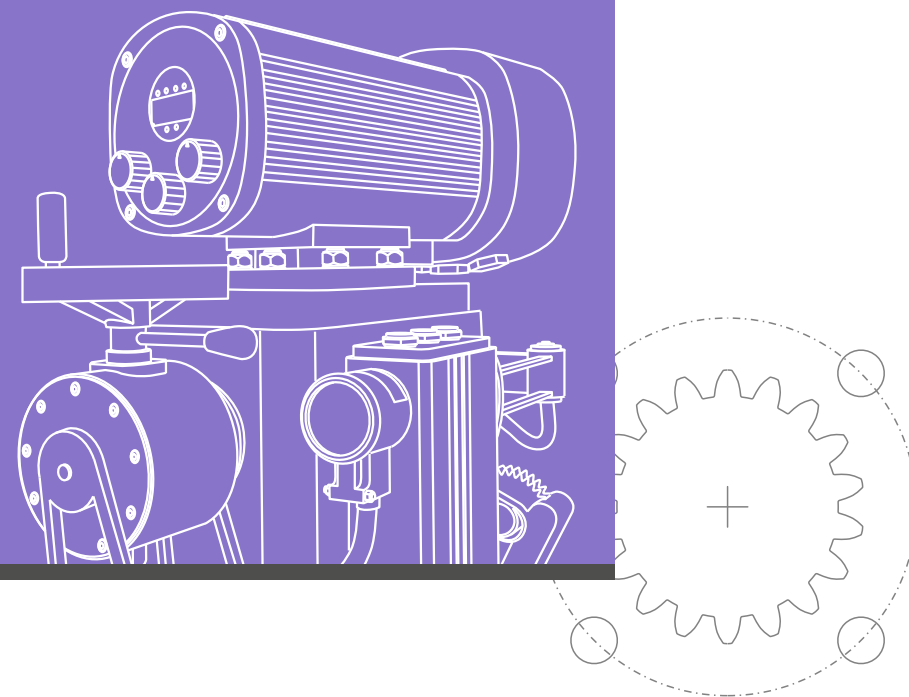


Gas metering systems are aimed for determination of quantity, quality parameters, automated metering of natural and associated gas.



Water metering skids are aimed for automated metering of formation water■

Mass Production



SME Tomsk Electronic Company Ltd. is one of the major machine-building enterprises in the Siberian region.

Mass producer and equipment supplier status enables following flexible price policy and reducing delivery time for high-quality products.

Full-profile electronic and mechanical production covers a full cycle of a machine-building enterprise.

Mass products list meets all up-to-date consumer requirements and offers a wide range of equipment:

- Explosion-Proof **RemTEK Electric Drives**
- **MicroTEK Computing Units** and air pollution monitoring equipment - **GSM-03** and **GSM-05 Gas Detectors**
- Weight Metering and Batching Equipment
- Control Devices for Weight Metering and Batching Equipment
- Conveying Equipment
- Robotic Complexes and Process Lines.

All products have been certified and have all necessary permits of use.

Support, start-up and commissioning, service maintenance, after-sales service for the supplied products enhance links with consumers.



Explosion-Proof RemTEK Electric Drives

They are aimed to regulate stop, shut-off and control pipeline valves and fittings with diameter from 25 to 1200 mm, in explosion hazardous areas of class 1 and 2 as per GOST R 51330.9-99 in severe operating conditions with the extended ambient temperature range (from -60 to +50°C).

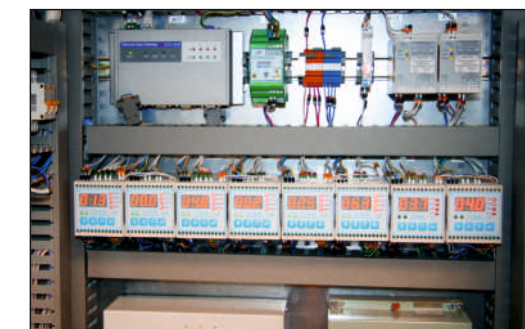
They are used to control wedge valves, sliding shutters, ball valves, butterfly valves, cut-off devices etc.



GSM Gas Detectors

GSM gas detectors are aimed for constant control in order to detect explosive concentrations of flammable gases, vaporized fluids and their mixtures of IIA, IIB, IIC catogories within T1, T2, T3, T4 groups in hazardous areas and premises of all classes, outside units and open areas by means of thermal chemical technique with ambient temperature from -60 to +50°C.

They are used at oil and gas facilities including main pipelines as well as chemical, petrochemical, oil refinery and other branches of industry.



MicroTEK Computing Units

MicroTEK computing units (IVK) are used for oil, gas and chemical industries, and can find its application at the factories where liquid, gas or power resources recording problems exist.

Purpose

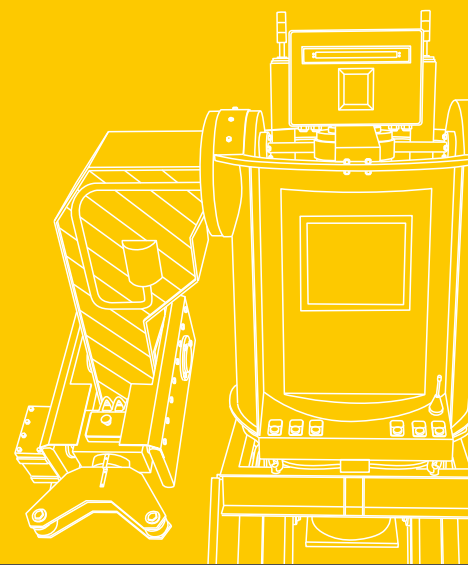
- Metering of crude and commercial oil
- Commercial and routine metering of natural gas
- Metering of associated petroleum gas
- Formation water metering
- Economic accounting of material flows (heat, gas, water, electric power, etc)

Features

- In-built spark proof circuits, not generating extra error, providing the required accuracy of metering
- Hook up to field equipment with no auxiliary equipment
- Flexible system configuration, matching any metering system structure
- Configurable and certified software
- Protection from unauthorized access, multilevel password system
- Hot backup, including computing device / measuring channels / automated workstation
- Extension of the system due to its modular design without shutdown of metering operations. The cost of the system will increase disproportionately ■



Robotic Complexes and Process Lines



SME TEC offers development and introduction of robotic complexes and process lines for metallurgical and machine building companies to fulfill the following operations:

- Finishing operations for steel making, such as cutting, transportation, marking, cleanup and quality control for blank parts
- Mill production
- Mechanical processing
- Heat treatment
- Product quality control
- Storing and shipment.

Developing in this field SME TEC has achieved the following:

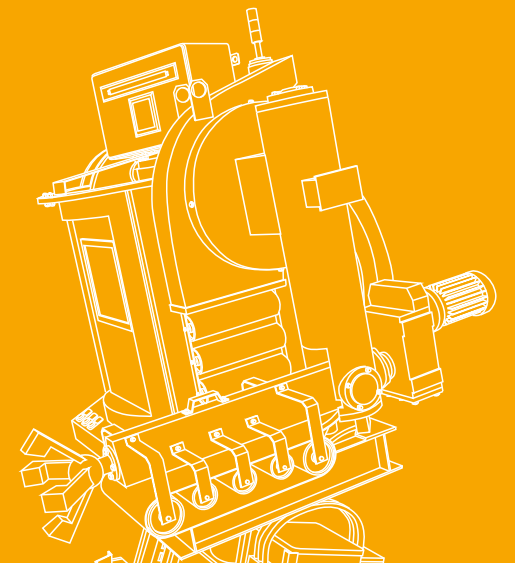
- Operating as General Contractor the Company designed, manufactured, supplied and commissioned the final inspection line for railroad wheels within the second stage of upgrading of Wheels and Tires Shop, OAO NTMK.
- Operating as Special Partner of Andritz MAERZ GmbH, the Company designed, manufactured, supplied, assembled (inclusive the equipment by Andritz MAERZ

GmbH) and commissioned the robotic conveyor line for the wheels and tires heat treatment shop of WTS, OAO NTMK.

- The Company developed and manufactured the equipment for robotic conveying lines, such as manipulators, conveying lines and other components within transportation systems.
- Jointly with the partners process units and shops for surface treatment and non-destructive quality control of the products were developed, manufactured and installed.
- The Company developed the technology and manufactured a trial sample for differential heat treatment of long items up to 100 m (including rails);
- Designed and introduced automated systems for metal tracking, including inventory control.

SME TEC cooperates with the largest Russian and international companies, such as Andritz MAERZ GmbH, Wheelabrator Group, Fraunhofer Institute, NPO Introtest, NII LKP with OMZ Victoria■

Process Lines for Materials Batching and Supply



SME TEC developed a wide range of technical solutions for weighing, batching and continuous conveying systems, covering the following process stages:

- Storage Facilities
- Batching lines and Units
- Charge Material Transportation and Supply Systems
- Weighing Systems



Batching systems and units for charge preparation and supply into metallurgical units (batching, mixing and conveying systems), including bins for temporary storage (feed hoppers, hoppers for active stock) manufactured by SME TEC allows finding the best technical options for:

- Concentration and agglomeration production for preparation of iron ore materials (production of pellets and sintered iron ore)
- Coke production, cole preparation shop
- Blast furnace production, lower loading systems
- Blast oxygen (steel making) production
- Iron foundry
- Ferroalloy industry
- Fire resistant production■