



Solutions for Industry

Metal Industry
Chemical Industry
Petroleum Industry
Cement Industry
Food Industry
Pharma Industry

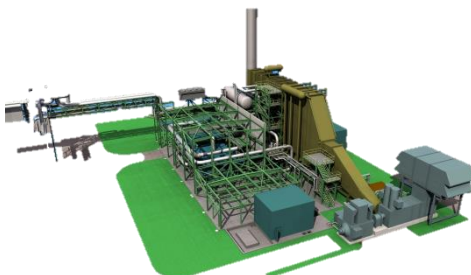
Solutions in Industry!

ELCOM is specialized in a number of system applications. Our offered solutions are according to the characteristics and performance of the industry process and they can be found in:

Metal Industry



Chemical Industry



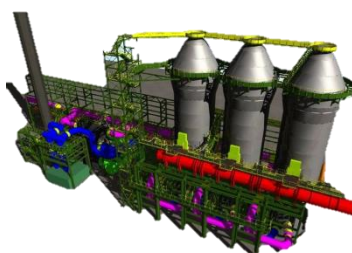
Petroleum Industry



Cement Industry



Food Industry



Pharma Industry



Solutions for Industry

ELCOM is a **System Integrator** and our solutions for Industry , from raw materials storage and transport to high plant productivity with high product quality and flexible plant operation with automated process control are there to provide maximum flexibility and efficiency.

We offer comprehensive operation and maintenance services including:

- Engineering
- Manufacturing
- Delivery
- Integration and tests
- Full commissioning
- Training
- Support
- Lifecycle extension

Solutions in Industry!



Automation & Controls

Distributed Control System
SCADA & Telemetry

Power Distribution

LV and MV Power Distribution
Electrical Substations

Boiler Control

Burner Control System
WSC Regulation
Combustion air and flue gas
Sootblowing System

Furnace Control

Coke Furnace
Blast Furnace

Flare Gas Systems

Monitoring & Control
Flare Gas Recovery System

Raw Material Handling

Material Transport and Distribution
Stacker – Reclaimer Machines
Wagon Tippers

Emissions Control Systems

Electrostatic Precipitator
Slag and Ash Handling
Emission Measurement Solutions

Auxiliary Systems

Water Treatment Plant
Pumps and Drives
Instrumentation Solutions

Facility Management

Electrical Power Systems
HVAC
Security
Central plant
Facility Management System

Services and Support

Solutions for Industry

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Solutions in Industry!

Distributed Control System (DCS)

ELCOM DCS for industry is a complete and powerful Distributed Control System designed to cover all needs during the entire plant life-cycle. We focus greatest attention to selection of component parts with high reliability, redundancy and diagnostic checks for all those elements and/or components which are relevant for the purposes of the safety integrity. The redundancy of the modules and of the communication bus is always provided as a basic functionality of the system. A careful audit of the operator actions and a flexible and precise management of the plant alarms, carried out by the control room operator workstations, enables customers to focus daily operations on both functional and security aspects. Our DCS manages various type of LAN and WAN connectivity (wired and wireless) in order to link all system control nodes, all other field equipment and other interconnected systems.

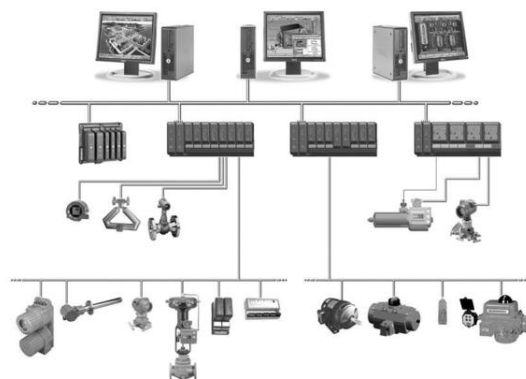
Completely scalable, flexible and tailor made product suitable for various implementations and easy to adapt to customer needs and requirements both in terms of system architecture and in terms of I/O size, as well as performing control and regulation functions, DCS can be equipped with proper add-on to cover in a fully integrated solution specific requirements in terms of security (SIL 3, according to IEC 61508 and IEC 61511), fire detection and gas leakage detection (F&G) and fire extinguishing.



SCADA & Telemetry

Our SCADA & Telemetry system offers maximum functionality and a user-friendly user interface. With this configurable and scalable system, you have the advantage of absolute openness to both the office environment and to production. An integrated process database and Plant Intelligence, for example, ensure transparency in production. Numerous options and add-ons extend and expand the scope of performance.

We offer SCADA systems on different platforms of different manufacturers such as Siemens, ABB, Schneider-Electric...It is up to customer or us to decide which platform is the best for each specific case.





Low and Medium Voltage Systems and Solutions

ELCOM offers complete engineering, supply, manufacture, delivery to site, installation, commissioning, testing, and ensure the quality of the complete control and electrical system of your power facility is at the highest level.

We offer complete Low and Medium voltage solution compiled with IEC standards with instrumentation, control and electrical system integration for plants. We use innovative brand name products in low and medium voltage electrical range of equipment for producing a reliable and safe system for distribution of electrical power.

Low Voltage Systems & UPS

ELCOM low voltage switchgear provides centralized control and protection of low voltage power equipment and circuits in industrial, commercial, and utility installations involving generators, motors, feeder circuits, and transmission and distribution lines. In the range of Low Voltage and UPS we offer by compiling the (IEC) standard for supply system in the range of 50–1000 V AC or 120–1500 V DC and extra low voltage for AC < 50 Vrms and DC < 120 V with turn-key solution.



Medium Voltage Systems

Medium voltage systems are custom engineered for distribution over wide range of medium voltage switchgear as for starting, synchronizing and paralleling power sources and motor control. Compact and quiet modular design assures easy application for any needs. Our systems are available for Medium Voltage applications from 1 KV up to 35 KV.



Substations with Automation & Control

Our prefabricated substations and automation system ensures grid stability and protects and controls substations with IEC 61850 protocol. We use brand name protection relays and measurement devices for integration into complete substation Power Control System (PCS).



ELCOM solutions for **Electrical Systems** and **Power Distribution** are precisely tailored to your requirements. We offer individual services and complete range of Power Management Solutions for LV and MV distribution systems.

To find more about our references visit:
www.elcom.ba

Solutions in Industry!

ELCOM offers Boiler Control from which the balance in mass & energy of in and out of the boiler is achieved. Inputs are fuel, combustion air or steam & feed water. Of these, fuel is the major energy input. Combustion air is the major mass input, outputs are steam, flue gas, radiation & soot blowing.

There are three general types of material & oil combustion control schemes used:

- Control in series, parallel & series-parallel.

In series control, variations in steam header pressure cause a change in combustion air flow which in turn results in a sequential change in fuel flow.

In parallel control, variation in steam pressure simultaneously adjusts both fuel & air flows.

In series-parallel, variation in steam pressure set points are used to adjust the fuel.

Because no combustion system is like another, **ELCOM** considers each plant individually with full control and monitoring of the material mills and material feeders for and complete overview of the Boiler with all required measurements and data for overall better performance.

Soot blowing System

ELCOM offers Soot blowing system with local and remote control and automation for removing of the soot that is deposited on the furnace tubes and walls of a boiler during combustion.

Types of soot blowers: Wall Blower, Long Retractable Soot Blower (LRSB) and Air Heater Blower.

Depending of the location and the purpose a blowing medium can be:

Water, Steam or Air.



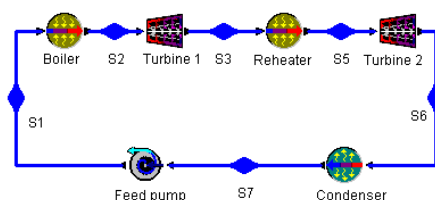
Burner Management System

ELCOM is a System Integrator and our overall Burner Management System (BMS) is a safety solution for power generation facilities that enables the safe start-up, operation, and shut down of the multiple-burner furnace section of a boiler. Despite the differing range of functionality, ELCOM burner management systems are suitable for each burner.



Water Steam Cycle Regulation

Boiler Feedwater and Condensate systems are critical to overall plant performance, but can be one of the single largest energy consumers in the plant. **ELCOM** offers reduction of energy consumption and lower maintenance cost by controlling boiler feedwater and condensate flow with a variable speed drive rather than a throttling valve.



Combustion air and flue gas regulation

Reduce your energy consumption and improve operational performance with solutions from ELCOM.

Boiler fresh air and flue gas fans can be controlled by varying the speed of the electric motor that controls the speed of the fan. With this solution a better regulation of the air flow to the boiler is achieved.



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Solutions in Industry!

Coke Furnace

ELCOM Automation and Control System allows the centralized supervision and optimization of the coke plant, while reducing the environmental emissions and the fuel consumption, assuring a constant coke quality, increasing the coke battery life and improving the coke production. Highest efficiency and reliability of the coke plant operation and optimal environmental protection can be reached.

We offer coke production control, with monitoring and control of all battery equipment and calculation of pushing/charging times, battery thermal control with calculation of the thermal flow rate, coordination of the pushing/charging machines, allowing an automatic operation and data storing.

Cokemaking By-Product

Efficient plant operation includes coke gas treatment and by-product recovery. We offer a comprehensive range of process control solutions in the field of coke gas treatment.



Blast Furnace

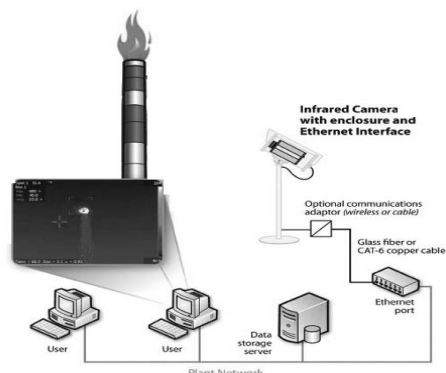
Blast furnace is a counter current chemical reactor where semi-processed raw materials like sinter, ore and coke are charged (charging process) from the top of the furnace and hot blast air is blown (blowing process) in from the lower part of the furnace. The hot blast air reacts with the descending coke and produces blast furnace gas (CO , CO_2) which progressively reduces the iron-oxide of the charged material and produces hot metal (liquid iron). The hot metal, along with the slag (the impurities) is collected in a pit at the bottom of the furnace called hearth from where it is drained out periodically (tapping process) and transferred to steel making shop to produce steel.

ELCOM offers system for control and visualisation of the blast furnace process with direct and indirect reactions parameters of the furnace using the plant data like flow, temperature, pressure, distance, velocity and controls charging, blowing and tapping processes. System assists the process owners to monitor the health and stability of the furnace.



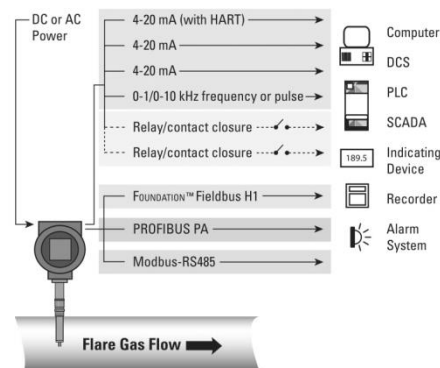
Monitoring & Control

Plants which have flare gas system applications are uniquely challenged with two diverse and critically important flow conditions: (1) very low flow under normal conditions and (2) sudden very high flows during an upset/blow-down condition. Our flare gas solutions are in range from single-line to a large flaring system with a complex array of tributary lines and mixed gases with IR monitoring and PLC control for safe and efficient operation. With IR video cameras which are an ideal monitoring tool, you can have automated remote monitoring on a 24/7 basis in virtually any weather.



One of the key points for safe and efficient operation of flare stack is to have accurate gas flow measurement. Selecting a flow meter can be a complicated process, with our engineering experience we can help you to choose the best measuring solution and the most suitable locations for installation of this crucial measurements.

When selecting a flow meter for flare gas systems, it is necessary to start with developing a check list of key criteria that include performance, the operating environment, environmental and safety criteria.



Flare Gas Recovery System

Flare Gas Recovery is the process of recovering the waste gases that would normally be flared, so they can be used as fuel gas elsewhere in the facility. This results in reduced emissions and cost savings.

ELCOM offers system design, manufacturing and in-field start-up assistance. Our engineering team will work with you to design the right system for your operation. From project beginning to final execution, we'll ensure your gas flare recovery system is optimized to reduce NOx, SOx, CO and CO2 emissions.

With flare gas recovery systems, capture the flare gas which can then be reused as valuable fuel or feedstock with reducing costly emissions, giving you environmental control with an immediate return of investment.

We offer complete solution from gas storage to gas flare stack with complete automation and control of the gas recovery and flaring process.



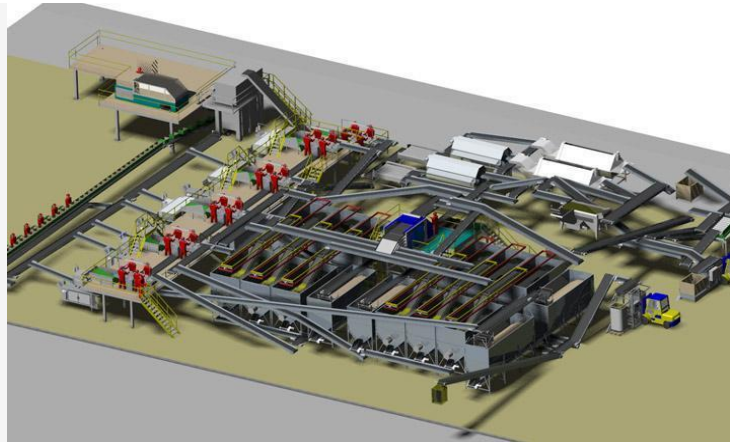
ATEX certified



ELCOM supplies complete **Raw Material Handling Systems**. We offer complete scope, from mechanical, hydraulical and electrical systems to full Raw Material Handling automation system. Raw Material Handling systems are an integral part of a complete material flow and quality management system. Raw Material Handling at utilities requires specialized technology and equipment from unloading to crushing and dust control to fire protection.

Material Transport & Distribution

Fully automated operation from a central control room where operator knows at any time how much material, in real time, is going to stockpile and by tracking tonnage and quality he has a complete overview of the process. By controlling transporter speed and knowing the state of the conveyor belts with measurements and sensors which send a feedback to the control system with closed control circuit a complete system gives outstanding performance.



Stacker – Reclaimer Machines

The material can be stacked and reclaimed by various methods in order to provide an adequate treatment of the material and perform the necessary mixing and blending. One of the methods is Stacker-Reclaimer, process machines which are running with or without any local operator and are supervised by an operator in the central control room. This operation mode advantages, such as: Constant and optimized belt load and thus optimised material throughput, less equipment wear due to less stress factors, less faults and damages triggered by operator failures, reduced labor costs, and energy savings by smooth and continuous operation.



Wagon Tippers

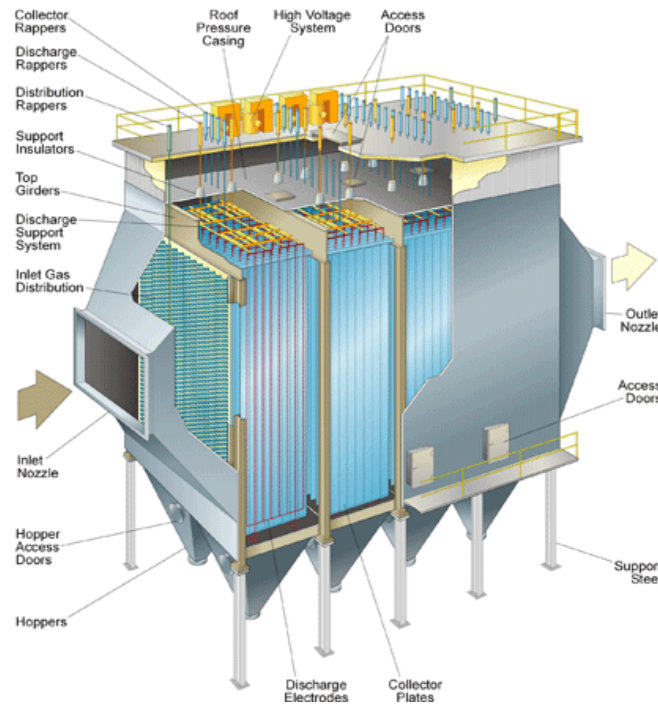
We can deliver wagon tippler on turnkey basis to meet demanding requirements of our customer both in quality and price as well as lead time. The main frame of wagon tippler system is car dumper, and can be equipped with various kinds of dispatch vehicle arrangement and safeguards equipment to constitute the unload line.

We offer complete Wagon Tippler solution with full automation to meet dumping requirements. The process is monitored from the control room by one operator.



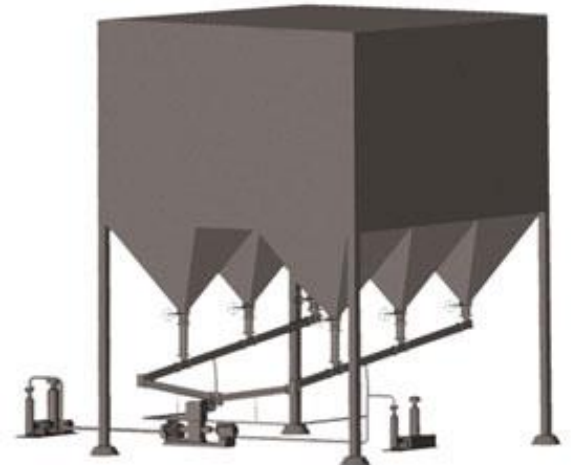
Electrostatic Precipitator

Electrostatic precipitation is a method of dust collection that uses electrostatic forces, and consists of discharge wires and collecting plates. A high voltage is applied to the discharge wires to form an electrical field between the wires and the collecting plates, and also ionizes the gas around the discharge wires to supply ions. When gas that contains an aerosol (dust, mist) flows between the collecting plates and the discharge wires, the aerosol particles in the gas are charged by the ions. The Coulomb force caused by the electric field causes the charged particles to be collected on the collecting plates, and the gas is purified. ELCOM with highly driven technical expertise and experience, we offer full system solution which comply with the harsh industrial standards. With our tailored system solutions users achieve higher benefits including better productivity, reliability and higher performance using top of the class control systems.



Slag and Ash Handling

Fly ash, also known as flue-ash, is one of the residues generated in combustion of material, and comprises the fine particles that rise with the flue gases. Ash which does not rise is termed bottom ash. Fly ash is generally captured by electrostatic precipitators or other particle filtration equipment before the flue gases reach the chimneys of material-fired plants, and together with bottom ash removed from the bottom of the furnace is in this case jointly known as material ash. ELCOM offers complete system solution for removal and pneumatic transport of fly ash from electric precipitator hoppers with monitoring and control of the process from a control room.



ELCOM offers complete range of Emission Measurement Solutions for analyzing and monitoring of flue gases arising from the combustion contain CO₂, oxide or soot particles.

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Solutions in Industry!

Water Treatment Plant

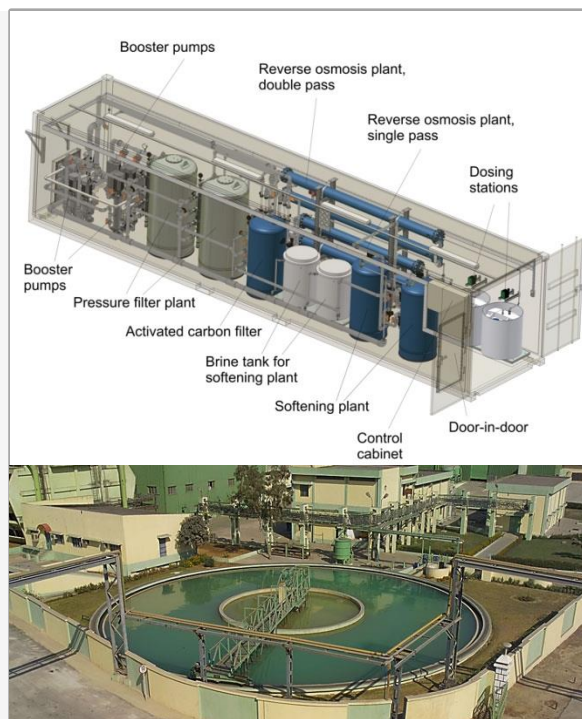
Hardness, salt and all minerals which are a threat for the mechanical parts of the plant need to be removed from the water which is going to the boiler and that is done by a water demineralizing treatment plant (DM).

A DM plant generally consists of cation, anion, and mixed bed exchangers. Any ions in the final water from this process consist essentially of hydrogen ions and hydroxide ions, which recombine to form pure water.

Industrial Wastewater Treatment

covers the mechanisms and processes used to treat waters that have been contaminated in some way by anthropogenic industrial or commercial activities prior to its release into the environment or its re-use. Most industries produce some wet waste although recent trends in the developed world have been to minimize such production or recycle such waste within the production process.

We offer complete system solutions for Water Treatment .



Pumps and Drives

We deliver Pumping Solutions for Water Applications from brand name manufacturers .Based on our experience, we help you to transport and treat water and wastewater according to most stringent requirements. Pumping solutions for water transport and supply, desalination, water reuse and waste water treatment.

Everywhere where large drives and electric actuators are required in industry and infrastructure, ELCOM offers the ideal solution with precise calculations and experience that are combined to offer an optimal drives system.



Instrumentation Solutions

ELCOM offers wide portfolio of measurements, including standalone instruments, smart sensors and integrated measuring and analyzing systems from brand name manufacturers.

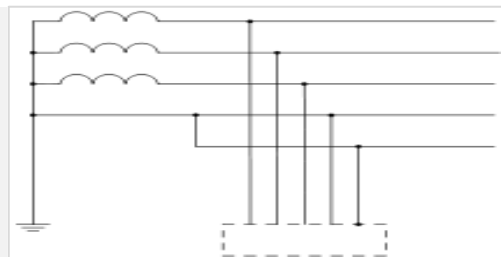
Analytical Instruments and Sensors, Field Instruments Configuration Tools and Accessories, Flow Meters, Pressure Transmitters, Process Level Sensors Recorders and Data Acquisition, Temperature Transmitters & Sensors.



Facility Management is a system designed to monitor and control the Electrical Power Systems, security, fire and flood safety, lighting (especially emergency lighting), HVAC control and ventilation systems in a facility.

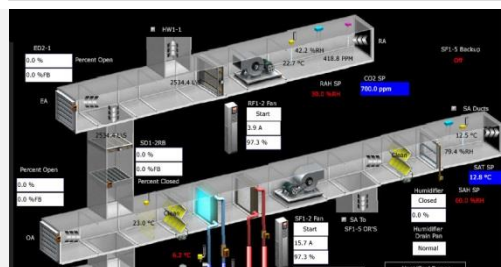
Electrical Power Systems

Power Distribution in Facility
Lighting
Cable and cable trays
Communication and telephones
Paging and loudspeakers



HVAC

HVAC Units
Air handlers
Constant volume air-handling units
Variable volume air-handling units
VAV hybrid systems



Security

Video surveillance
Access control
Security alarms
Fire safety system



Central plant

Chilled water system
Condenser water system
Hot water system



Facility Management System

Centralized control center
for management of the facility



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Services

Our scope extends across the entire chain. It begins with base and detailed design, engineering, project management, installation and commissioning. This incorporates all the electrical, control and instrumentation equipment, from the electrical balance of plant to the substation and grid connection, and from the instrumentation and field devices to the distributed control system. Our unique engineering combines the understanding of process properties with a detailed knowledge of materials and equipment. These services help our clients minimize costs, improve efficiency, meet safety standards, and ensure that installations conform to operational and design parameters. We have carried out a wide range of projects, building large scale systems and using the best brands and the latest equipment for the Industries.

We offer complete **Turn-Key System Solutions** with advanced and integrated technical solutions in the field of electrical, hydraulic, pneumatic and mechanical systems.

One of the specialties of ELCOM is engineering and realization of complete process control systems.

ELCOM expertise and system products are offered in next segments:

- Automation & Controls
- Power Distribution
- Boiler Control
- Furnace Control
- Flare Gas Systems
- Raw Material Handling
- Emissions Control Systems
- Auxiliary Systems
- Facility Management

We offer comprehensive operation and maintenance services including:

- Engineering
- Manufacturing
- Delivery
- Integration and tests
- Full commissioning
- Training
- Support
- Lifecycle extension

Support

All of our support services can be combined into a tailor-made contract with a fixed-fee to help you meet your specific budget and service requirements.

We ensure the support you need when you need it.

Online support

- 24/7/365 Phone intervention for guidance and technical information.
- Remote desktop connection for urgent actions.

On-site support

With our On-site Services, ELCOM engineers can assist your maintenance staff with preventative and reactive tasks. Our team of experts is available as needed, regularly scheduled, or on a full-time basis to meet your specific needs and maintenance strategy.



Power Automation & System Engineering

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ISO 14000:2004
OHSAS 18001:2007



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Personnel Competence



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Solution Partner

Automation

SIEMENS