kontrolmatik.com

Kontrolmatik
Technologies

Kontrolmatik Technologies

Providing extensive range of industrial solutions in 30 countries for a sustainable, reliable, and innovative future.

About

Kontrolmatik, one of Turkey's leading engineering companies, is an engineering company, system integrator, technological product and solutions provider that provides value-added products and services to the energy, process industry, transportation and mining sectors.

Kontrolmatik was established in 2008 in Istanbul, Turkey. Its main field of activity is to provide operational technologies, industrial software, control and security systems, communication, data processing, internet of things, power systems and turnkey solutions to power generation, transmission and distribution facilities, and industrial facilities such as oil & gas, transportation, food & beverage, mine, smart agriculture & fertilizer and other industrial facilities like cement, paper, iron-steel, chemistry. The company has successfully completed numerous projects in over 30 countries with its experienced employees.

Kontrolmatik develops technologies in line with its activities in this sector and markets, carries out large system integration projects by establishing long-term solution partnerships with leading international companies in the sector, and sells end-to-end and turn-key products, services and systems with its own designs, software, products and solutions.

Kontrolmatik, one of Turkey's leading companies in digitalization, prepares its customers for the digital age with communication, protection, industrial cyber security, control systems, internet of things and software solutions created by the joint efforts of its own engineers and solution partners.

The company produces mobile power generation, transmission and distribution equipment such as MV & HV mobile substations, e-house, energy storage systems, mobile hybrid power generation units.

Having gained an important place in the international arena in a very short time, the Company is taking important steps in becoming a regional and global power. Entering the list of Giant System Integrators from the 44th rank in 2019, the company ranked 28th in the list of the world's largest system integrators published by CFE Media and Technology in 2021.

ENERGY

TRANSPORTATION

PROCESS INDUSTRY

MINING

Energy

With its energy generation, transmission, distribution and storage solutions under a single contract, Kontrolmatik contributes to creating a sustainable world while providing efficiency and profit to its customers.

Electric energy, which is one of the biggest needs of today, has become a value that should be carefully monitored from production to consumption due to both the gradual depletion of fossil fuels and the problem of global warming. Producing energy at the most affordable cost, minimizing the damage to the environment during the production phase, delivering quality energy to users with minimum loss have gained critical importance in terms of sustainability. In outdated technologies, great losses occur from production to consumption. In modern energy generation and transmission systems, the use of control systems and smart electricity infrastructures increases productivity, improves quality and reduces losses.

One of the factors that make a difference in energy generation and transmission systems is to provide maximum energy production with minimum cost. Optimization in energy production and transmission systems is also gaining importance in order to protect increasingly depleted resources.

Kontrolmatik, which has become one of the most respected and innovative companies in the energy sector in a short time, contributes to a more sustainable world while providing efficiency and profit to its customers with the energy generation, transmission, distribution and storage solutions it provides under a single contract.

Kontrolmatik contributes to energy supply with its experience in renewable and conventional power plants.

As a strategic solution partner of companies in the energy sector, Kontrolmatik has successfully completed many projects for renewable and conventional power plants. Starting from feasibility studies, a sustainable approach completes the scope of detail and reverse engineering, procurement, installation, construction, operation and maintenance. Carrying its experience and success in this field to the international arena, Kontrolmatik makes a name for itself with the energy projects it has realized in over 30 countries. Contributing to the energy supply of countries with its experience in wind, solar, hydroelectric, biomass, biogas, geothermal power plants and simple cycle, combined cycle and cogeneration power plants, Kontrolmatik's turnkey solutions are as follows:

- Advanced and reverse engineering
- Power and Boiler Islands
- Transmission Line and AIS / GIS Substations
- Electrification (E-BOP)
- LV, MV and HV Systems
- Mechanical Works (M-BOP)
- Civil Works (C-BOP)
- Instrumentation and Control Systems (I&C)
- Communication, Protection and Control Systems
- PLC / SCADA / DCS / RTU
- Training, Testing and Commissioning
- Operation and Maintenance

Process industry

Kontrolmatik, provides end-to-end digital solutions for both conventional systems and digital processes, increases its references in chemistry & medicine, iron & steel, cement, paper, textile, food & beverage facilities day by day.

Kontrolmatik provides software, control system, electrification and instrumentation solutions with high added value for industrial facilities and heavy industry organizations under a single point. With extensive knowledge and experience of international standards that underpin design and implementation in the process industry, the Company has proven design, assembly and project management capabilities and provides wide-scale solutions for the following products and services:

- Electric & mechanical system designs
- Supply, installation and construction
- BOP (E-BOP, M-BOP and C-BOP)
- Industry 4.0 production level infrastructure design and installations
- Internet of Things (IoT)
- Mechanical and electrical installation
- Process control solutions (PLC, SCADA, RTU, DCS)
- Instrumentation
- Facility information systems (PI)

Kontrolmatik provides end-to end solutions for both conventional Systems and digital processes.

Facilities Generating Their Own Energy

Kontrolmatik also provides its customers solutions for production facilities that are more sustainable and have a low carbon footprint. The company designs and commissions plants that produce its own energy in order to fight rising energy costs in global markets and to have more competitive prices. With the process improvements and digitalization studies, more efficient facilities are obtained, while contributing to the reduction of the carbon footprint. Wind power plants, roof and land type solar power plants and the potential green energy sources in the factories are evaluated, and the electricity produced by the waste heat recovery systems is used in the facility. In addition, with the energy storage systems provided, it is possible to store the extra energy and use it again at high capacity when needed.

Transportation

Kontrolmatik carries out projects in the field of transportation systems and provides solutions to its customers in the fields of consultancy, system design, project design, manufacturing, software, field tests, commissioning, training and maintenance.

Ensuring the continuity of energy in the power grid feeding a transportation system is very important to access to control parameters. In a timely and accurate manner as well as functionality, safety, and efficiency of the transportation system.

With its experience in this field, Kontrolmatik realizes turnkey projects and provides solutions to its customers in all kinds of consultancy, system design, project design, manufacturing, software, field tests, commissioning, training and maintenance. Needs change in accordance with the shape of transportation system. Kontrolmatik, with its experienced and expert staff, determines the needs of the system, establishes the appropriate infrastructure, and ensures the continuity of the business with the services it provides.

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Highways

- Tunnel control center and SCADA systems
- Traffic control and management systems
- Tunnel ventilation systems
- Tunnel lighting systems
- LV, MV and HV energy infrastructure scopes
- Emergency power supply system
- Fire detection and extinguishing systems
- CCTV (Closed circuit camera) systems
- Traffic signaling systems
- Vehicle tracking and classification systems
- Computer aided fluid mechanics analysis (CFD)
- Driver information systems
- Communication infrastructure systems

Railways

- Electrification systems
- RTU systems
- Power quality solutions
- Protection and control system
- Telecontrol-telecommand center and ICCP
- LV, MV and HV energy infrastructure scopes

Airports

- Electrification systems
- RTU systems
- Power quality solutions
- Protection and control system
- Communication and internet of things applications
- LV, MV and HV energy infrastructure scopes

Metro and Light Rail Systems

- SIMS and ECS environmental control system and mechanical equipment
- SCADA system
- MCC boards
- Project design and manufacture of local control panels
- Computer aided fluid mechanics analysis (CFD)
- Tunnel ventilation and smoke evacuation systems
- IHK business scenarios and test procedures
- Tunnel fire scenarios and test procedures
- Tunnel ventilation system panel and control systems
- Tunnel JETFAN control system
- Elevators and escalators
- Door controls

Mining

Kontrolmatik cares about underground as much as above ground and contributes to the development of end-to-end digital solutions in the extraction of important minerals with its sustainable solutions.

We contribute to the most efficient extraction of underground resources with sustainable solutions. It is our job to ensure that the right technologies and products are selected, dimensioned correctly, and conformed to environmental conditions. Some of our solutions for mining sectors are listed at the below;

- Power Generation Units
- Mobile Hybrid Power Generation Units
- Electrification (E-BoP)
- Automation & Control Systems
- E-House
- LV / MV / DC Panels

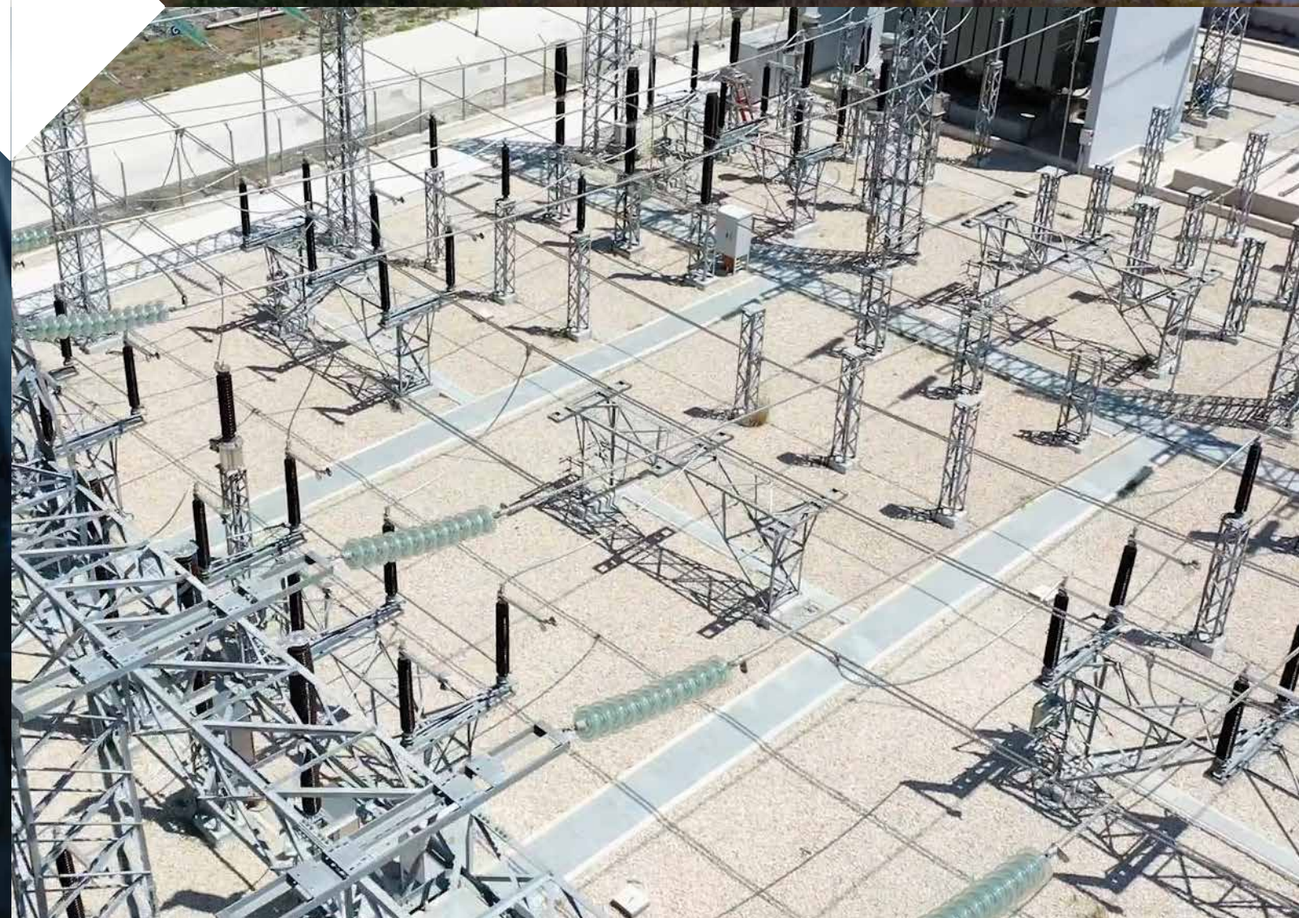
- HVAC, Drive Motors, Instrumentation
- Smart Mining and Fleet Management
- IoT Solutions
- Environmental Protection Sensors
- Installation and Field Services

The rapid population growth in the last century, together with the high consumption needs it brings, has once again revealed the importance of using existing resources more efficiently. Although underground riches seem to be unlimited, their uncontrolled extraction will cause serious resource problems in the medium and long term. In addition, studies carried out without adequate precautions, unfortunately, cause irreparable results. Especially in many geographies where surface richness is extra important, old-fashioned practices reduce the total value of the mined mines and cause more permanent damage to the nature than expected.

As Kontrolmatik Technologies, we adopt that resources should be used with the highest efficiency for a sustainable, carbon-neutral and green future, and we offer high value-added solutions to the mining industry with the most up-to-date technologies for this. At every stage of our engineering and field studies, we evaluate the effects of the applications on the environment and apply the most appropriate solution with the latest technology systems. We make solution partnerships with global companies that are experts in their fields and develop strategic solutions specific to projects.

Since our establishment, we have been training our engineering and field teams with the principle of continuous improvement, evaluating each project on its own conditions and offering the most appropriate solutions to our customers. We evaluate projects from a wide perspective with our large team of engineers in different disciplines, and we complete the projects with the highest efficiency without compromising on the environment, occupational health and quality. With our “end-to-end digital solutions” motto, we will continue to offer innovative technologies for sustainable, high-efficiency and low-carbon footprint facilities in the mining industry.

SOLUTIONS



Engineering

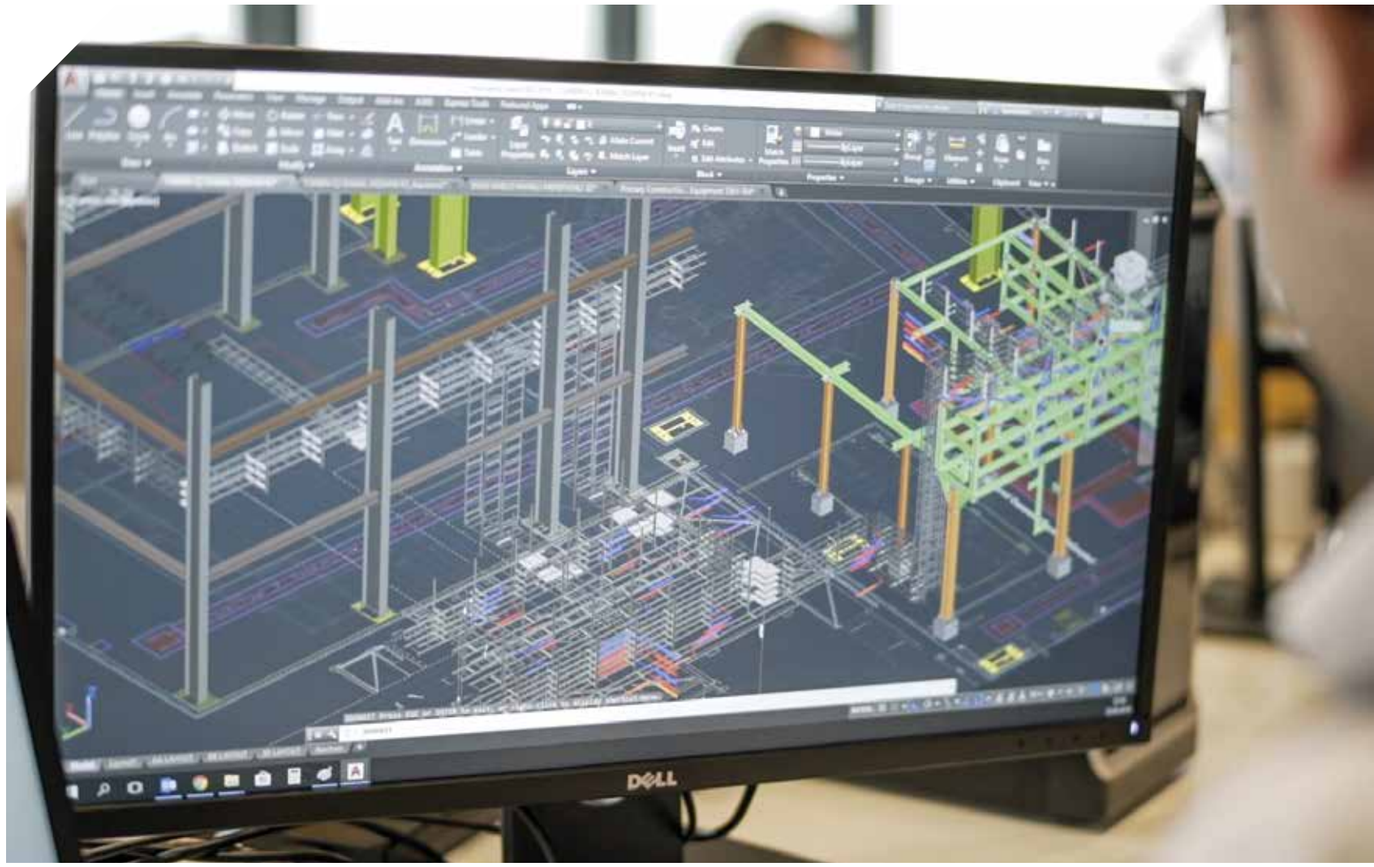
Kontrolmatik, developing its product and system range depending on today's technology dynamics, is progressing with firm steps towards its goal of becoming a world brand with its experienced and dynamic staff and rapidly developing structure

As one of Turkey's leading engineering companies, Kontrolmatik continues to successfully complete many at home and abroad with its energetic, experienced and dynamic staff. Constantly developing its product and system range depending on today's technology conditions, Kontrolmatik is progressing wit h firm steps towards its goal of becoming a world brand with its rapidly developing structure.

In addition to its staff with long consultancy and engineering experience, the company also makes a difference with its modern techniques and computer-aided engineering design tools, and produces professional solutions.
Some of the solutions provided by the Company are as follow:

- Power systems design and analysis
  - Short circuit analysis
  - load flow analysis, load shedding
  - Stability analysis, transition stability, tension stability
  - Relay coordination, selectivity analysis
  - Harmonic analysis, electromagnetic transmission analysis power systems design
  - Network quality, interconnection studies frequency regulation
  - Power system stabilization
  - Power plant mathematical model
- Power quality analysis and modeling
- Switchgear centers; primary, secondary and SCADA designs
- Control systems design and supply
  Process control engineering
  - Functional logic descriptions and logic diagrams
  - Control system specification
  - Instrument design and instrument specifications and datasheets
  - Instrument connection diagrams
  - Instrument list, cable list, signal list,
  - Alarm list
  - Loop wiring diagrams
- Power plant basic engineering and consultancy services
- Power plant performance evaluations, review and review
- Electrical single line diagrams
- Site layout
- Flowcharts review and review

- Examination and reviewing P & I diagrams
- Tender specification reading and review
- Power plant performance test procedure, reading and review
- Power plant detail engineering and consultancy services
  - P & ID equipment coding (ISA/ KKS) and I & C review
  - Electric load list
  - MCC control circuit diagrams
  - Instrument, signal, cable lists and connections
  - Instrument assembly documentation
  - Instrument design and specifications



Electrification

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With its experience and strong engineering infrastructure, Kontrolmatik offers facility-specific “auxiliary power plant systems (BoP)” integration and turnkey power plant integration in renewable and conventional power plants. The company helps to recover the investment cost in a short time with the control systems and electrical infrastructure installed in accordance with the type and capacity of the power generation plant.

Auxiliary power plant systems include all systems, components and structures other than the main energy generating system and the waste heat recovery system in a power plant, and it is aimed to manage these independent control systems at a single point.

The appropriate integration of these systems, the ability to share data between systems and the flexibility that this system will bring are one of the most important parameters affecting the efficiency and productivity of a power plant. Kontrolmatik ensures that all systems and software work in perfect harmony, just like an orchestra conductor.

Turnkey solutions for renewable and conventional power plants with its strong and dynamic engineers.

Kontrolmatik, which has played an active role in many renewable and conventional power plant projects since its establishment, provides a wide range of services from feasibility studies of power plants to advanced and reverse engineering studies, from procurement of all materials to installation and assembly, from testing and commissioning studies to system upgrades.

In addition to the installation of new power plants, the company also provides services for the rehabilitation and modernization of existing power plants, their removal and re-installation, if necessary. Kontrolmatik is one of the only companies that does reverse engineering in this field.

Energy transmission and distribution

Kontrolmatik, which evaluates each project within itself, designs it in accordance with the most up-to-date specifications in the country where the project is carried out, taking into account the specific conditions of the project.

In addition to the solutions it offers in power plants, Kontrolmatik also performs the necessary services for the connection of the produced energy to the national grid or the facility to be used.

Acting as the strategic solution partner of its customers, the Company carries out turnkey projects in different geographies from 0.4 kV to 500 kV voltage levels in air-insulated or gas-insulated substations, overhead transmission lines

Kontrolmatik reduces the burden of its customers by offering all engineering, equipment supply, construction, installation, testing, commissioning, operation and maintenance works in the systems it implements under a single contract.

and underground energy cables projects.
The company reduces the burden of its customers by offering all engineering, equipment supply, construction, installation, testing, commissioning, operation and maintenance work in these systems under a single contract.

Kontrolmatik, which evaluates each project within itself and designs it in accordance with the most up-to-date specifications in the country where the project is carried out, considering the project-specific conditions, is the turn-key projects it has implemented up to 500 kV voltage level:

Gas-insulated switchgear (GIS) and air-insulated switchgear (AIS) :
Turnkey substation projects, including feasibility studies, detailed engineering, primary and secondary projects, control systems and protection systems.

Energy transmission and distribution lines:
Turnkey energy transmission and distribution lines, including conducting surveys, route discovery and obtaining permits, advanced engineering and design of poles and foundations, lower and upper assembly and conductor pulling.

Underground power cables:
Turnkey underground power cable projects including conducting surveys, determining route and ground analysis, obtaining permits, cable channel design with advanced engineering, laying cables, installing headers and closing channels.

Industrial software, protection and control systems

Control systems provide efficient and safe operation by minimizing risks in businesses. It offers the advantage of monitoring, reporting, access to all control points from any point of the system, flexibility, speed and minimizing errors.

Access to all control parameters from any part of the system to control systems power plants and industrial facilities; management and monitoring of the entire system with a single control platform; possibility of quick command; integrating electrical infrastructure and control systems; early detection of malfunctions that may occur; prevention of unplanned breakdowns and reduction of maintenance time; It provides many advantages such as reliable data collection and fast data flow.

In addition to control systems such as DCS and PLC, SCADA software that runs on standard computer hardware and transforms all control parameters into visual control tools, allows the system to be expanded in line with the needs that may be encountered in the future and to include hardware independent of the manufacturer into the system, thanks to their open protocol.

With the control systems infrastructures it offers for power plants as well as all other industrial facilities, Kontrolmatik maximizes efficiency and safety and ensures uninterrupted production. The company offers its customers solutions such as PLC, compact DCS systems, advanced DCS systems, SCADA.

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Kontrolmatik ensures that the energy produced in transformer centers is transmitted safely and uninterruptedly, with minimum loss, with its high quality electrical infrastructure and control systems. Monitoring and control of all main and sub-equipments of the distribution system, monitoring of the entire switchyard from a main center and control over SCADA are necessary for the reliability and uninterrupted operation of the system. By establishing large-area SCADA systems in many geographies, Kontrolmatik connects centers that are kilometers away from each other in a single point, allowing centers to be monitored and controlled.

Remote control of the power system is carried out via RTU (remote terminal units) with a flexible and modular design. Kontrolmatik uses the open architecture of RTU, which perfectly adapts to the scalability of the power system, and hardware and software that offers all kinds of expansion possibilities in different applications.

In addition, it is important to immediately detect an error that may occur at any point in the energy transmission and distribution lines and to ensure system reliability. The systems used should be sensitive enough to detect even the smallest fault current, and should offer safe operation even in harsh outdoor conditions. In order to provide its customers with critical operating characteristics and maximum safety in protection and control systems, Kontrolmatik offers end-to-end services such as brand-independent project design, procurement, installation and test commissioning.

Communication and cyber security solutions

Kontrolmatik offers customized cyber security solutions against unauthorized access in power plants and industrial facilities.

Kontrolmatik offers special ICS cyber security solutions and products for all cyber security needs against malicious software that can spread itself between devices and malicious people snooping through e-mails and phishing networks:

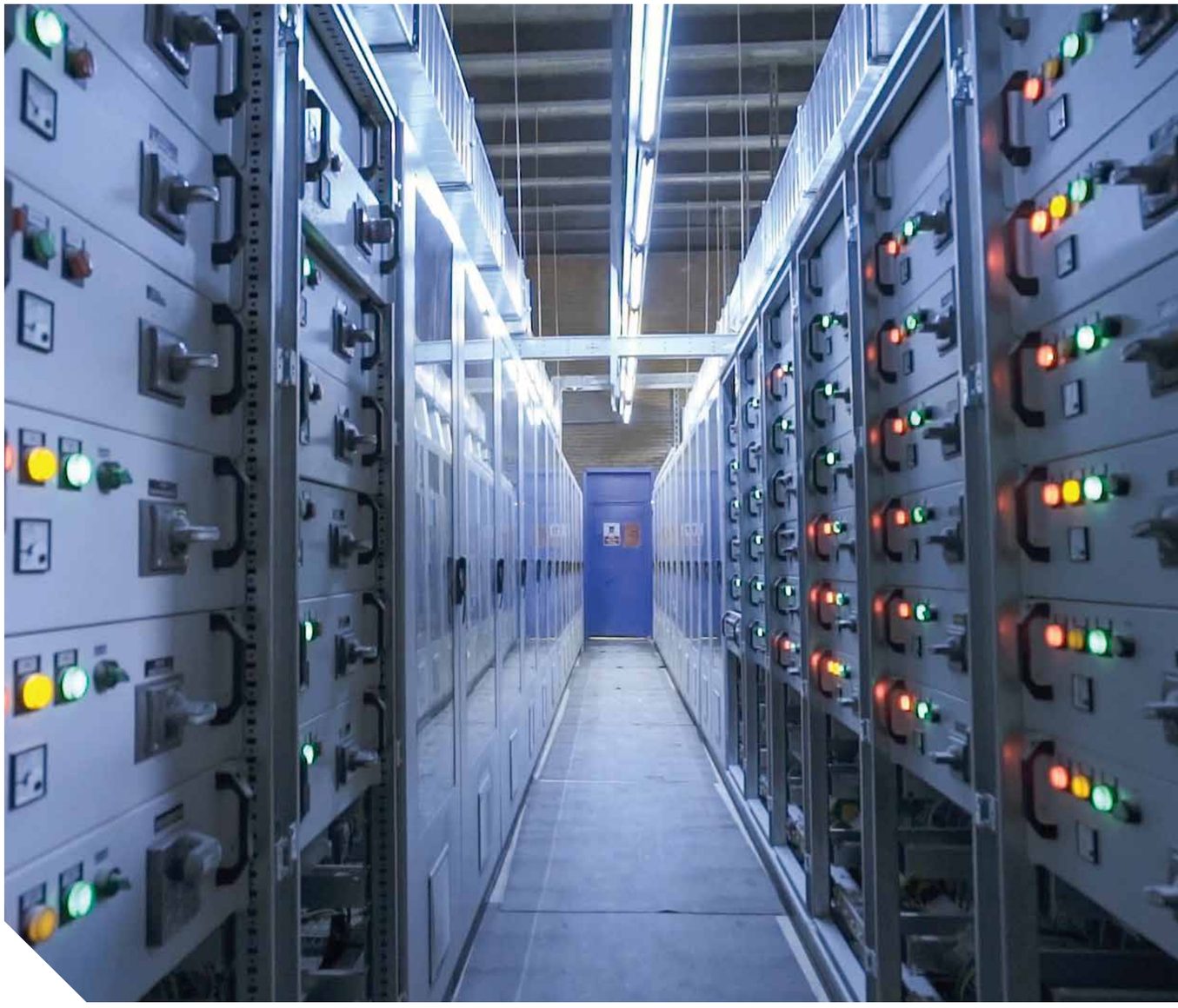
- End-to-end security design and implementation
- Industrial switches and firewalls for secure communication
- Cyber security

The company offers its customers layered defense with a comprehensive security solution that approaches the software integrity and network security of industrial control systems:

- Identification: Operational visibility, real-time asset inventory and network monitoring
- Protection: Cell protection and perimeter networking, access control, layered defense, integrated switching, wireless access, firewall and VPN
- Detection: Detect anomalies, events and cyber threats
- Responsiveness: Centralized management, recording and reporting
- Recovery: System hardening, processes and guidelines

Industrial communication networks are much more complex than traditional office networks. Successfully planning, designing and implementing them therefore requires a partner with extensive experience in this field as well as extensive knowledge of control systems and the industry as a whole. Kontrolmatik is a global company with this knowledge and experience.

- Planning and Design: Designing a robust and reliable industrial communication infrastructure
- Transport: Telecommunication services (SDH, PDH, Fiber, modem, PLC, etc.)
- Routing and Conversion: Industrial ethernet (switches, media converters, gateways, cabling, gateways and Wi-Fi).
- Optimization: Planning for end-to end integration, redundant systems and sufficient bandwidth for the future.
- Security: Considering environmental risks (ICS cybersecurity, firewall, data diodes and cybersecurity software).
- Services: Design, engineering, procurement, installation,commissioning, integration and field services.



Digitalization, data processing and internet of things

Kontrolmatik plays an important role in the transition of sectors to the digital industry. Connecting to everything with the services offered by the Company; create applications for all employees; analyze machine and plant data; experience everything with augmented reality

Kontrolmatik gives visibility to the assets of its customers with its internet of objects and data analytics solutions. Offering tailor-made solutions with state-of-the-art software and hardware that emerged as a result of joint efforts with world giants in the IT sectors, the Company has become the reliable and preferred business partner of its customers with the experience gained through successfully completed projects.

With the solutions developed by Kontrolmatik, facilities can be monitored and strengthened instantly:

- Key performance indicators-KPI
- Centers of excellence
- Real-time actions
- Energy consumption rates
- Raw material cost
- Water consumption rates
- Labor costs and rates
- Environmental regulations
- Continuous renewal
- The most suitable applications for your facility

Internet of Things (IoT)

Kontrolmatik offers important solutions in data collection management with its sensors and cloud-based software developed under the Controlix brand. The developed platform, designed in a modular way, provides monitoring, management and analysis of data collected in big data environments to create business value. Solutions containing multiple communication protocols offer flexibility and easily adapt to many projects. The company produces more than 25 sensors with its own design and project-specific connection protocols and offers unique solutions to project needs.

Some of the skills that the Internet of Things will bring to businesses include:

- Innovative New Offers: Internet of Things (IoT) technology can transform products into services and sales transactions into subscriptions.
- Business Efficiency: Connected sensors and actuators provide data that can reduce waste and adapt operations to changing conditions. Labor-intensive monitoring and meter reading can be assigned to internet connected smart meters. In the energy sector, operators use data from sequential sensors and aerial observations integrated with operational databases to improve efficiency and the safety of workers and the community.

Instrumentation and mechanical systems

Kontrolmatik offers end-to-end turnkey solutions for industrial instrumentation solutions, starting from the engineering and design stages, to procurement, field assembly, calibration, testing and commissioning processes.

Instrumentation ensures that the facilities can operate smoothly, that the operation can be monitored and controlled according to the process requirements. The use of the right instrumentation and its proper integration with control systems play a vital role in both employee and process safety.

Kontrolmatik offers end-to-end turnkey solutions for industrial instrumentation solutions, starting from the engineering and design stages, to procurement, field assembly, calibration, testing and commissioning processes. In addition to instrumentation projects, the company also produces accurate integration projects with control systems.

Some of the services provided by the Company in instrumentation engineering and design are as follows:

- Instrumentation package supply
- Instrumentation, mechanical and electrical installation services
- Instrumentation start-up and commissioning and calibration services

With the services it provides, Kontrolmatik eliminates the concerns about communication and coordination between different brand products in the projects of companies, and ensures that the project managers take timely action in the selection of the instrumentation package and ensure smooth integration.

Digital factories

Kontrolmatik brings together its years of experience in different disciplines and builds technology factories on a turnkey basis.

Kontrolmatik plays an important role in the establishment of digital factories with its own developed sensors and cloud-based software.

With our Digital Factory installations, we support our customers in their digital journeys and gain great benefits by multiplying with common forces. Some of our company's solutions are below;

- Civil, Mechanical and Electrical Engineering Works
- HVAC, Air Conditioning System
- Rehabilitation and Renovation Works
- Mechanical and Electrical Installation
- Clean Room Solutions
- Assembly Line Installation

Energy storage systems

Constantly developing its product and system range depending on today's technology conditions, Kontrolmatik is advancing with firm steps towards its goal of becoming a world brand in energy storage systems with its experienced and dynamic staff and rapidly developing structure.

Kontrolmatik manufactures its energy storage systems on a turnkey basis in its factory in Ankara, Turkey.

Kontrolmatik Energy Storage Systems (ESS), using the world-proven prismatic lithium iron phosphate technology, are systems that store the energy produced at any time and with any energy source, and enable it to be reused at the desired place and time. The main purpose of ESS for electrical networks is to convert, store electrical energy into a form to be stored and transfer it back to the grid as electrical energy when necessary. ESS is installed with control and management systems to support a reliable operating process. The aim is not only to provide local control, but also to provide coordinated control of equipment throughout the national grid. ESS can charge and discharge itself to reduce energy costs and control demand load.

Some of the prominent features of the offered systems are as follows:

- Separability: ESS responds to daily, weekly or seasonally changing load profile and demand load and works according to need.
- Intermittent Operation: ESS responds rapidly to the intermittent generation profile of distributed generation units based on renewable energy such as wind and solar energy sources, and fluctuations in the output power of other generation units.
- Efficiency: ESS minimizes the losses in the charge/discharge process.
- Long life: ESS has a longer life than its counterparts with its advanced battery management system.
- Environmentalist: It has a more environmentally friendly and safe technology with its lithium iron phosphate battery cell.

Energy Storage Systems have many applications and those are;

- Hybrid Power Plants
- Arbitrage
- Demand/Capacity Control
- Load Switching
- Peak Smoothing
- Microgrid Applications
- Frequency Control
- EV Charging Support
- House/Residential Usage
- On-Grid / Off-Grid Applications

Mobile energy solutions

With its solutions, Kontrolmatik completes all systems from planning and engineering to installation and commissioning in its factory and offers "plug and use" solutions in the field.

The advantages of the mobile energy solutions are:

- It can be completed in a shorter time than conventional solutions
- Decreases the engineering and design phase
- Easy integration (plug-and-use) reduces installation time in the field
- It can save space instead of buildings
- Can be designed in ISO standard or custom sizes
- Site conditions do not affect the delivery time

E-House

Kontrolmatik manufactures domestic compact mobile electricity distribution centers especially for facilities such as power plants, factories and mines in its Ankara factory. The system, called e-house, depends on the specific application. It is a prefabricated electrical room pre-commissioned as a standardized or customized mobile unit. It is a sub-system in the electrification infrastructure of a facility, consisting of various products, all electrically and mechanically interconnected.

E-House are modular systems that include medium voltage AIS/GIS switchgears, distribution transformers, MCC and LV switchboards, variable frequency drives, HVAC, fire fighting, lighting and all internal connections.

Mobile Substation

Kontrolmatik manufactures turnkey mobile substations from its engineering, equipment supply, installation and integration, factory and on-site testing and to commissioning.

These systems are an electrical substation mounted on one or more trailers. Mobile substations are generally preferred in the following situations:

- When an emergency power supply is required
- In military camps
- Reserve unit in case of war or natural disaster
- When continuity of service is required for planned construction, maintenance and inspection programs
- For over-capacity needs

Designed by the experienced engineering teams of Kontrolmatik, mobile substations contain all the necessary components for a substation to supply power and offer easy and flexible solutions to customers. Centers can be designed according to the needs of the projects. There are different types of centers such as 220/33kV, 170/36kV, 132/33kV, 132/11kV (16-45MVA), 33/11kV (5-16MVA). The systems that are generally used when a temporary power supply is required and their longevity also add value to companies.

- It can be transported after the facility's useful life is completed.
- Reduces cable cost between integrated equipment
- Test and commissioning time is shortened with pre-commissioned e-houses

Mobile Hybrid Power Generation Units

The electricity generated from the sun and wind in the environment with mobile hybrid power generation units can be used instantly if desired, or stored in lithium batteries to be used when needed.

Hybrid power generation units developed by Kontrolmatik provide off-grid power generation under all conditions.

Kontrolmatik offers sustainable energy production anywhere with its mobile hybrid power generation units developed by the engineering department, which enable off-grid energy production under all conditions.

Mobile hybrid power generation units enable you to have decentralized and off-grid power generation units with sustainable and renewable resources for our energy needs. These containers are integrated mobile power generation systems with movable solar panels, wind turbines that can rotate according to the wind direction, high efficiency diesel generator-assisted and lithium battery cells.

The electricity produced from the sun and wind in the environment is used instantly if desired, or stored in lithium batteries to be used when needed. The units, which are supplied as plug and play, can start production within minutes after reaching the field, and can be used as needed. Systems that do not need an additional connection become ready for electricity use at the desired voltage level.

The units produced at the Mobile Solutions Factory in Ankara are presented with a turnkey approach from engineering to testing and commissioning.

The most common usage areas of mobile hybrid power generation units are:

- Fast electricity supply at construction sites and mine sites
- Uninterrupted electricity for villages, towns and sites that are not connected to the national grid.
- Year-round use in agriculture and animal husbandry, as well as pumping stations
- Feeding of electric vehicle condition units where infrastructure is not supported
- Meeting the sudden electricity needs of individuals, institutions and countries in natural disasters and extraordinary situations.

Test and commissioning

We are proud to provide testing and commissioning services of all power plants and facilities worldwide, with our expert staff and wide equipment options.

As Kontrolmatik, we provide all test and commissioning works by our experienced engineers with our own test devices which are appropriate to international standards. Also, Kontrolmatik has own mobile test truck for test and commissioning works for high voltage substation and underground power cables.

AIS Switchyard Tests

- HV switchyard test, maintenance and repair
- Current Transformer maintenance and control
- Isolator maintenance and control
- Isolator maintenance

GIS Switchyard Tests

- Circuit breaker electrical tests;
- Voltage transformer electrical tests;
- Voltage transformer maintenance and controls;
- Protection & IED Tests
- Protection and control relays set and tests;

Power Plant Tests

- Rotating machines test and maintenance;
- Generators / Motors
- All MV/HV Tests

Scada & Communication Tests

- Protection systems
- SCADA adaptation
- SCADA projects
- Load rejection automation
- Integration of electric infrastructure and automation systems
- Monitoring and reporting
- Communication Test

HV Cable Test Systems

- High voltage tests
- DC resistance tests
- Capacity measurement tests
- DC insulation tests
- Zero sequence tests

HV Cable Mobile Test Truck

- On-site commissioning, diagnostics and maintenance
- Tests on high voltage cables
- AC resonant test system for on-site testing of extruded HV cables
- The test system is able to perform tests on extruded cables according to IEC 60840 and 62067
- Up to 400 kV voltage level

GIS HV Mobile Test Truck

- On-site commissioning, diagnostics and maintenance
- Tests on high voltage GIS systems
- AC resonant test system for on-site testing of GIS
- Up to 500 kV voltage level

Research and development

Kontrolmatik works on systems designed with the wave of the future, such as the internet of things, collaborative robot arms, floating platforms for solar power plants.

Kontrolmatik's R&D works focus on energy storage solutions, internet of things, collaborative robot arm technologies and renewable energy. These efforts will reduce foreign dependency in critical sectors and bring competitive advantage to the country and the Company.

Allocating a minimum of 3% of its turnover to research and development, Kontrolmatik has been carrying out its R&D studies by taking into account the demands coming from domestic and foreign markets since its establishment.

Kontrolmatik has adopted an innovative and entrepreneurial firm model. As a result, it attaches importance to research. For this purpose, it develops policies, makes strategic planning, allocates resources for the development of the research ecosystem, and takes the necessary precautions. These works are carried out in line with the directive for the regulation of incentives related to the support and development of scientific research. Specific incentive themes are determined for Kontrolmatik's research works, it has focused on these themes.

Within the scope of R&D activities, works are carried out on four subjects in particular:

- Production of Lithium-Ion Batteries (Lithium Iron Phosphate Battery Cells)
- Communication, information security and internet of things - IoT industrial communication systems
- Robotic technologies – development and production of collaborative robot arm and user interface
- Renewable energy systems – floating platforms for solar power plants

All R&D activities carried out are regularly documented and stored as know-how in order to ensure efficiency and permanence. Kontrolmatik is aware that the most basic source of development and progress is employee development. In this sense, investment plans and incentives are provided for the development of employees. All employees are encouraged to continue their postgraduate education in R&D activities.

Sustainability

Kontrolmatik uses technologies that are productive and have the least adverse impact on the environment in every field it operates. The Company reduces its carbon footprint with the solutions it develops, and provides the technological infrastructures that can operate with high efficiency in the facilities of its customers.

Kontrolmatik is committed to developing transparent, innovative and sustainable solutions that help its customers and partners to conduct business with a sustainable way in all aspects.

The mission of the company is to integrate sustainability into its business model while supporting its customers and partners with products, services, tailor-made and turnkey solutions, sales and marketing & innovations as a 360- degree service.

Kontrolmatik's Sustainability Approach

Since its establishment in 2008, Kontrolmatik has a very strong mission to provide special turnkey services, sustainable technological products services that will enable its customers and stakeholders to reach ultimate sustainable solutions.

For this reason, the company feels responsible for adopting a 360° sustainability approach in its business and partnerships.

- It is committed to act environmentally and socially accountable at facility & office indoors, for communities outdoor, and for our planet beyond.
- While performing all its operations and activities, it committed to act transparent and trustable to all our customers, partners, stakeholders, and consumers, by demonstrating all our operations and activities, and putting effort to enhance our products and services with globally recognized certifications, analyses, systems, which have tangible sustainable metrics.
- It supports sustainable design and blend sustainable inventions through all innovations and technologies it develops.
- It dedicates to extent its sustainable brand values to all partners, customers, stakeholders, and consumers, via its transparent, sustainable and effective communication at all media channels, where it does business and where the brand physically or virtually takes place.
- It strives to impose our sustainability values at all levels, to inspire al industries with its sustainability approach, by the help of its ever-growing technological sustainable solutions.

Kontrolmatik's Sustainability Values

Kontrolmatik's Sustainability Values are based on four main approaches:

- Productivity: responsible production for our customers, partners, stakeholders, employees, and communities indoor, outdoor, and beyond.
- Planet: protect planet & ecosystem health, biodiversity by our sustainable products and services.
- People: respect to human rights, diversity & fair working condition; improve the quality of living standards of our employees and the community in the areas we operate.
- Partnership: carrying out sustainable, transparent and effective marketing activities and establishing partnerships for a better environment and healthy societies.

Kontrolmatik
Technologies

Power
Generation

Transportation

Process
Industry

Mining

Kontrolmatik
Technologies

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