

### CREATING **Smart Electrical** Systems



# ABOUT US

**Kruti Group**, a customer centric, innovative & value-driven organization, offers a wide range of electrical & industrial automation solutions and services to its customers around the world. We aim to create values by not only offering the reliable & robust electrical systems but also differentiating our work by integrating them with the state of art automation & IT technologies.

At Kruti, we provide such systems which can ease the maintenance and operations, solutions which are intuitive enough to optimize the utilization of energy & are capable to generate customized reports for management information.

We have established ourselves, as an innovative resource in the field of Electrical Engineering, Designing, Manufacturing, Installation and Testing of:

- HT & LT power distribution systems,
- Process & Machine Control systems pertaining to various sectors and domains;
- Energy management systems.

We also undertake end to end electrical system and solution projects. The fundamentals of consistent effort, spot on resources, well experienced human resources, proactive attitude, regular training and motivation of our human resources are the key traits of Kruti. Quality assured & on time execution ensures the success of these Turnkey Projects.

To complement our personnel, we possess a comprehensive tooling resource. Our workforce and tooling resources allow us to accomplish the undertaken Turnkey Tasks of Installation & Commissioning with ease, quality and pace.

# VISION& MISSION

**To** propel our energies in the most comprehensive & innovative way by providing end to end solutions to the organisations in the field of electrical engineering.

It is our endeavour to offer services that have the highest priority for creative excellence, efficiency and economic viability.

**We** strive to deliver innovative technical solutions which allow our customers to achieve maximum success through:

- Optimized Engineering & Designs
- Value Addition
- Energy Conservation
- Total Integrated TOP + Quality systems
- Best Product to Price Proposition





### MANAGEMENT

### QUALITY POLICY

**The** management team at Kruti consists of great minds that have significant amount of experience in the field of industrial automation, engineering and control equipments. The entire team works in co-ordination to carry forth the procedures of the company profitably. The team, together, has led Kruti towards its present success.

**We** are committed towards excellence in designing, engineering, manufacturing, supply, installation, testing; and commissioning of electrical power distribution & control equipments with the maximum responsibility and professionalism through:

- Team Involvement
- Technological Up-gradation
- Value Additions

We review our quality management systems & resources periodically to achieve continuous improvements. This continuous process improvement is driven towards improved customer satisfaction and enhanced customer loyalty.

# FACILITIES

**Kruti Group**, has highly advanced and appropriately designed manufacturing facilities are equipped with latest & state of the artmachinery obtained from the leading manufacturer world over.

Our Manufacturing units & offices span across Delhi, Uttar Pradesh,Odisha, Chandigarh and Haryana with a floor space of 1 50,000 sq. feet.

KRUTI GROUP supports the households of its 250 employees which comprises of engineers, technical supervisors and trained technicians.

Our sheet metal fabrication shop is equipped with latest CNC Turret Punch & Press Brake solution from the house of world renowned manufacturer AMADA, Japan. The fabrication facility serves as a test-bed leading to development, demonstration and integration of advanced fabrication technologies. Type-AU-03 CRCA sheets are directly sourced from steel plants in order to maintain the excellent quality throughout the process.

Pretreatment plant with automatic transporter & Conveyorised Epoxy Power coat Painting facility provides excellent finish to the components.

Our two Assembly & wiring shop equipped with latest pneumatic tooling for fast and proper tightening of the components and terminations.

NC type Hydraulic Bus Bar Cutting, bending & punching machines enables of our team to design and produce maintenance friendly bus bar system.

All switchgears & raw materials are directly procured from the manufacturers for quality, genuineness & service backup.

Some of the routine tests conducted at production units of KRUTI GROUP are:

- Stringent QAP of Raw Material
- Structure Test for pre-treatment
- Salt Spray Test for paint durability and longevity
- Conductivity Test for authenticating the purity of the busbars
- Routine Di-electric & high voltage test
- Primary & secondary current injections
- Temperature Rise at our in-house laboratory for up to 8000A
- FAT for our automation systems
- Simulation test of automation hardware and software

Our Switchboards are type tested at 85 kA Short Circuit Withstand Capacity on 5000 A. They are also type tested for IP: 54 degree of protection and can provide up to FORM IV separation for the highest degree of safety. All these type tests are regularly performed at CRPI & ERTL, laboratories.





# WE MANIFEST ENGINEERING MARVELS

# ACTIVITIES AT A GLANCE

**Our** range of offerings falls under following 4 verticals:





PROJECTS (SITC BASIS) - Industrial

- Infrastructure



INDUSTRIAL **AUTOMATION** - Process Automation

- Machine Automation - EMS



**CONTROL PANELS**) - Cabinet Fabrication

- Assembly & Integration



#### IT SYSTEMS

- Web Integration
- Database & Reports
- Specialised Software

## **AREAS OF EXPERTISE**

**Kruti** has operated in and acquired the knowledge of vivid market sectors and the underlying domains. We have the requisite knowhow and capability to work with latest techniques in the field of Electrical Power Distribution, Industrial Automation & IT Systems. We have engineered and successfully executed various projects by implementing technologies like:

- Compact HT & LT Distribution & Control Boards
- Communication Capable Intelligent Distribution & Control Boards
- Total Integrated Automation
- Supervisory Control and Data Acquisition Systems
- Remote and Distributed IO Systems
- Distributed Control Systems
- Hardware and Software Redundancy
- Failsafe Systems
- Networking Protocols such as Profi-Bus, Industrial Ethernet, Mod Bus & Others
- Data Transmission Technologies such as Optical Fibre & Wireless (GSM)
- Servo Drive Solutions for Control & Positioning
- Common DC Bus Solutions for Energy Optimisation in AC Drives
- Conversion of DC Drive Systems to AC Drive Systems
- Computer Numerical Controls
- PC Software Assisted Automation with Visual Studio, ASP and HTML
- OPC Servers and Clients
- Database Handling and Reporting
- System Connectivity and Data Collection via Standard Protocols Including GPS
- Manufacturing Execution Systems
- Web Enabling of the Automation Systems





### DOMAINS

Kruti understands the needs and demands of the following domains and offers solutions:

- Iron & Steel
- Paper
- Airports & Logistics Management
- Sugar Plants
- Cement Plants
- Mining & Ore Extraction
- DG Sets & Load Management
- Energy Management System
- Prepaid Metering System
- Wires & Cables

- Cranes & Elevators
- Printing & Packaging Machines
- Boilers
- Ash Handling Systems
- Fire Fighting SystemsOxygen & Nitrogen Plants

## TURN KEY PROJECTS

**We** undertake projects in the field of electrical power distribution & control on engineering, design, supply, installation, testing & commissioning basis; e.g.

- Substations (Indoor/Outdoor)
- Distribution Main & Sub Main
- Electrification External & Internal
- Lighting Systems Plants Sheds & Commercial Complexes
- Earthing Systems

We also undertake turnkey automation projects from concepts to commissioning basis for various sectors and underlying domains.

#### **PROJECT EXECUTION METHODOLOGY**

**Kruti** Group undertakes solutions for electrical distribution systems, process & factory automations starting from concept to end-use of electricity; keeping in view the need for integrated system engineering and the most optimal and viable comprehensive solutions for various project requirements.

ENGINEERING CREATIVITY ACROSS ALL QUARTERS



### KRUTI'S WORK FLOW IN COORDINATION WITH CLIENT



## INDUSTRIAL AUTOMATION

**Kruti** provides Industrial Process & Factory Automation systems for a wide domain spectrum on concept to commissioning basis.

Our solutions are based upon the knowledge & experience of our team that not only understands the mechanical dynamics but also possesses the basic knowledge of the process. Correct price to product proposition always remains the basis of our proposals.

Our turnkey solutions span all phases, which start from understanding & study of the application, concept design, manufacturing, programming and testing with customer training and commissioning; i.e. from concept to commissioning.

#### **Turnkey Project Scope:**

- Project Management
- Functional Design Specifications (FDS)
- Engineering Drawings for Control Cabinet, MCC, PCC, Control Desk, etc.
- Creation of Drawings for Field Devices, Cable Tray Layouts, etc.
- Supply of Automation System, Field Devices, Sensors, Cables, Cable Trays, etc.
- Process Software Development (PLC, SCADA, HMI)
- Factory Acceptance Test (FAT)
- Field Installation
- Commissioning of the Entire System
- Site Acceptance Test (SAT)
- Client Trainings
- Documentation
- Support Services
- Maintenance Contract (if required)

#### Our Solutions are in accordance with:

- Professional Rules and Guidelines
- Valid Laws, Regulations and Technical Rules
- National Standards Valid in Our Clients' and End Users' Countries
- International IEC, ANSI/IEEE and EN Standards



Solution Partner

> Automation Drives

**SIEMENS** 

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### KRUTI'S FLOW CHART FOR TOTAL INTEGRATED AUTOMATION JOBS



## PRODUCTS

#### LT PANELS

By manufacturing excellent products, Kruti group has carved out a niche for itself. All its products are manufactured with utmost precision that ensures 100% customer satisfaction. Our quality products bear the identity of our company and reflect the expertise that we possess. Further, keeping pace with the needs of the customers, Kruti continuously improves its products to maintain its distinguished market position.

We have achieved a major milestone by assembling & commissioning the first intelligent switchboard project with the implementation of IT and web enabling of the reports.

The following design parameters are considered in detail before manufacturing of our LT switchboards.

- Safety
- Performance
- Reliability
- Customisation
- Aesthetic Appeal
- Ease of Operation & Maintenance
- Cost Effectiveness

#### LIST OF LT PANELS/PRODUCTS:

#### **Power Boards & Equipments:**

- Power Control Centre
- Motor Control Centre
- PMCC
- Power Distribution Board
- APFC Panel
- Bus-Ducts & Rising Mains

#### **Control Products:**

- Auto Mains Failure
- Load Management System
- DG & TG Synchronisation System (GENOP)

#### **AUTOMATION & DRIVE PRODUCTS**

Kruti Group has been associated with SIEMENS, in providing the PLC, HMI, DCS, SCADA, EEF class 1 motor & Variable frequency drives system, servo motors & drive systems, soft starters, and various other products in the field of industrial automation.

The cost effective, optimised & latest state-of-the-art control electrical & electronics solutions are admired and appreciated by many of the top industrial corporate houses. Our clients include process plants, product manufacturers, machine OEMs, LT Panels & switchboards integrators, builders & developers.



Licensed Partner

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**KRUTI ADDS VALUE** TO THE FOLLOWING RANGE OF SIEMENS **PRODUCTS:** 

#### **Programmable Logic Controllers:**

- Step 7 Systems (S7 200, S7 300 & S7 400 series)
  PCS 7 Distributed Control System
- WinCC SCADA Platform
- HMI & Touch Panels
- Sinamics AC Drives (G120, G130, S120 & G150)
- Simotion
- Sinamics DC Master Drive (6RA80 & CM)
- Simoreg DC Master Drive (6RA70 & CM)
- Micromaster 4 AC Drive (MM420, MM430 & MM440)
- Sinamics V 50 AC Drive

## IT SYSTEMS

**Our** in-house "Information Technology" team has been established to facilitate Kruti, for bridging the gap of information exchange between all cadres of employees and the management.

IT Team offers following expertise:

- We suitably integrate our Automation Systems (Process & Machine) with the applications like ERP or any centralised database.
- Provide customised MIS software using Dot-Net technology that is fully capable of reporting the information of shop floor level to the top level.
- Web enabling of electrical distribution system parameters can exchange the information, right from anywher<u>e over the Globe.</u>
- Emergency parameters can be even transferred automatically from System to Web or Mobile Sets.
- In house developed energy management software has been designed to fully optimise the use of energy.
- Prepaid metering systems, developed by us, sets an example of our enhanced capabilities.

# GLOBAL Standards of Excellence







#### KRUTI GROUP OF COMPANIES Kruti Technoengineering Pvt. Ltd.

1026, Bisrakh Road Industrial Area, Village Chhapraula, Gautam Budhnagar, UP, India. www.krutigroup.in l info@krutigroup.in l +91 8800091285



