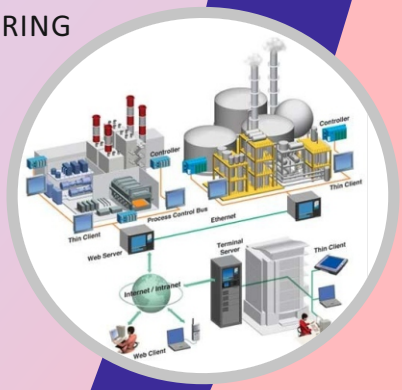
PRG AUTOMATION

EMBRACE AUTOMATION RESOLUTION

Our Services

- ❖PROJECT ENGINEERING
- ❖ CONTROL PANEL DESIGN & MANUFACTURING
- ❖ INSTRUMENTATION & DESIGN
- ❖ PLC & DCS PROGRAMMING
- ❖ HMI & SCADA DESIGNING
- ❖ MOTION CONTROL PROGRAMMING & CONFIGURATION
- ❖ INDUSTRIAL NETWORKING
- ❖ SITE COMMINSSIONING &SUPPORT



Complete Turnkey Project & Automation Solution's

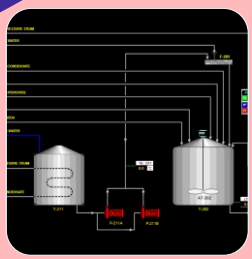
Domain & Capability

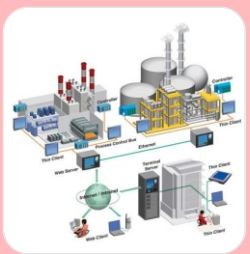
- ❖Pharmaceutical
- ❖Robotic Cell & SPM
- ❖Chemical & Process Industry
- ❖Steel & Cement
- ❖Sugar
- ❖Water & Waste Water Treatment
- ❖Power Plant
- ❖Food & Beverage
- ❖Machine Automation
- ❖Oil & Gas
- ❖Factory Automation

ABOUT PRG AUTOMATION

Quality, Engineering, Integrity, Innovative, and the pursuit of continuous development

In the complex environment of factory and process automation we are the technology leader focused on a customer-centered approach. We develop solutions that meet the unique requirements of each customer's application. or customers who know their exact needs, we listen, understand, and deliver a quality product that meets their exact specifications. For customers looking to start from a beginning concept, we foster a consulting relationship, pulling upon our experience to develop automation interface to the most challenging industrial needs. we have served several industries and provided time tested technological breakthroughs. We take on distinct challenges, accepting each project as an opportunity to enhance our eye for innovation. We put customer relationships at the forefront of everything we do.

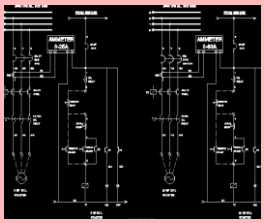




ELECTRICAL ENGINEERING SERVICES

ELECTRICAL DESIGN & DEVELOPMENT

- Understanding customer standards and requirements Si'
- Electrical Design basis
- Single Line Diagram
- Earthing Layout
- Cable Trey Layout
- Power Cable Schedule
- Lighting Calculation
- Lighting Layout
- Control Panel Design & Construction
- Supply, Commissioning, Operation & Maintenance of control panels



With the increasing complexity of electronic devices, computers have become imperative in **electrical design**, so we are designing electrical layouts by using E-plan & AutoCAD.

PCC PANELS

Owing to our expertise in this domain, we are engaged in offering a supreme quality PCC Panel that is used to supervise and control the voltage of power systems. Power Control Center panels for various industrial applications to provide reliable and effective distribution service. They are used to supervise and control the voltage and reactive power of the power system. The panels will undergo pretreatment for Decreasing, Water rinsing & De-rusting/ Phosphating, It will be painted with Powder Coated or Synthetic enamel as per the requirements Bus Bars I Internal Wiring uniform cross section and supported by SMC /DMC bases. Earthing Bus Bars will be running all along the Panel.

MCC PANELS

We design & manufacture low voltage switchgear panels & motor control center. Our in house design & good engi-neering practices in manufacturing combined together forms the ideal solution to the most demanding motor control applications throughout the industrial market.
A motor controller is a device or group of devices that serves to govern in some predetermined manner the perfor-mance of an electric motor. A motor controller might include a manual or automatic means for starting and stopping the motor, selecting forward or reverse rotation, selecting and regulating the speed, regulating or limiting the torque, and protecting against overloads and faults. Every electric motor has a controller. The motor controller will have dif-fering features and complexity depending on the task that the motor will be performing on.

- CNC construction
- Safe and reliable operation
- Labelled and colour coded wiring
- 3D-CAD (Auto-CAD & E-Plan Design)
- Easy operation
- Controlling heavy starting currents.

APFC PANEL

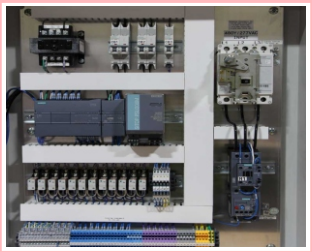
* Modular to upgrade, up to 500 KVAR
* Capacitors : L&T, ABB, Epcos, Subhodhan, Shreem
* IVt* PF controllers : Epcos , L&T, Schneider
* Thyristorised or contactor based
  Designed with the concept of modularity.
* Easiness in operation, very low
  manual intervention.
* Avoid power factor penalty.

Designed with the concept of modularity which allows upgrading of kVAR rating as and when required. Advanced microprocessor based relay used to ensure real time power factor correction in the installation Current limiting contractors are used which are specially designed for capacitor switch. They are used to Supervise and Control the voltage and reactive power of the power system. We manufacture and supply a qual-itative range of APFC panels, that are extensively used in various industries. These automatic power factor control panel are designed and developed using advanced techniques and are capable of saving maximum power and energy. These APFC Panel are highly efficient and accurately monitor the re- active power in power systems for saving energy and can alter the system voltage as well as current.

PLC PANELS

We are a reckoned organization engaged in manufacturing and supplying a comprehensive range of PLC Panels.These panels are highly appreciated for their longer functional life, easy installation and low maintenance. Our professionals make optimum utilization of the resources and develop excellent quality range of panels for the clients. Our professionals make sure to deliver effective range of panels at nominal prices to the clients.

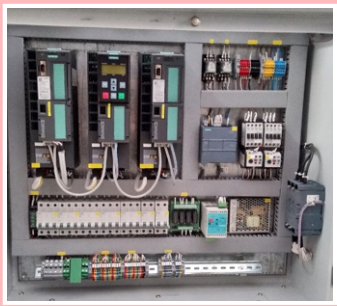
- ❖ Integrated with PLC, HMI , Barriers, VFD etc.
- ❖ HMI's with screen size 3.5' to 22"
- ❖ PLC's from siemens/AB/Delta/Mitsubishi/ ABB/Schneider/Delta,etc.
- ❖ Desk type I Floor standing / Wall mount
- ❖ Customised as per requirement



VFD PANELS

VFD Panels are designed to control the speed and torque of electric motors by varying input frequency and voltage to motors. VFD Panels are used as energy saving devices as they adjust motor speed under no load conditions or as required by the process. Such energy cost savings are especially pronounced in variable torque centrifugal fan and pump applications where there is large power reduction for a relatively small reduction in speed. We design and manufacture a diverse range of VFD panels for varied applications (closed-loop and open-loop applications).

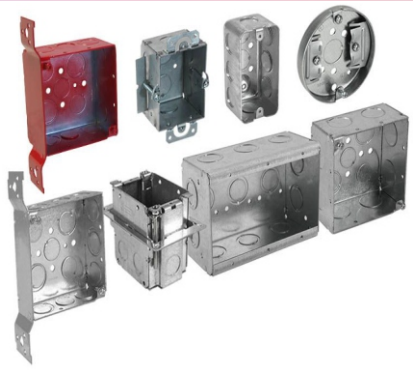
- ❖ AHU/ Chiller Control
- ❖ Pump/ Motor/ Blower Speed Control
- ❖ Reactor Control
- ❖ Converyor/ Crane System
- ❖ Remote/ Local/ Bypass Control Options
- ❖ 1-400 HP (0.7457KW-298.28KW) drive panel
- ❖ Siemens/ AB/Danfoss/ Mitsubishi/ ABB/ Yaskawa/ Delta

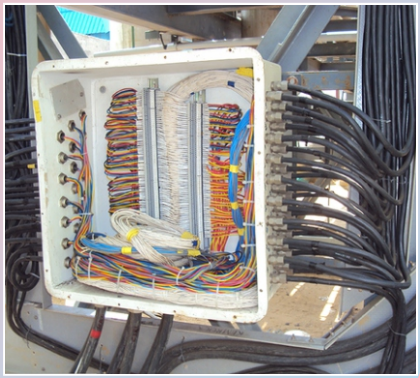


JUNCTION BOXES & PDBs

Leveraging on our state-of-infrastructure, we are able to present Junction Boxes. These products are accessible for the customers in distinctive sizes and measurements, with a mean to suit their varied demands.Offered products are easy to install and maintenance freethat increase their demand in the market. In order to meet varied demands of our customers, we are offering quality assured Power Distribution Boxes. These products are profoundly acknowl-edged in electric wiring in household and business places. These distribution boxes are made up of quality assured parts and sophisticated technology. Our expert's team designed these distribution boxes by utilizing their skills and years of experience.

Ss316 / SS304 / MS JB with gasketed trims
FLP Junction boxes
S Top / bottom / side cable entry
Aluminium / copper bus option





ELECTRICAL ACCESSORIES

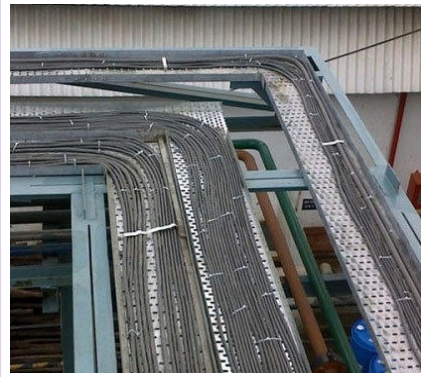
- ❖ Cable Trays
- ❖ Cables
- ❖ Street light poles
- ❖ Earth Strips
- ❖ Earth Pit Material
- ❖ Switch Gear
- ❖ Lighting Access.
- ❖ DB's & JB's
- ❖ Power cables

SOLAR SYSTEM

A PV module is an assembly of photo-voltaic cells mounted in a frame work for installation. Photo-voltaic cells use sunlight as a source of energy and generate direct current electricity. A collection of PV modules is called a PV Panel, and a system of Panels is an Array. Arrays of a photovoltaic system supply solar electricity to electrical equipment.

FIELD ENGINEERING SERVICES

- Factory wiring
- Break down services
- Electrical maintenance
- Cable laying, Termination, Installation of electrical equipment etc.

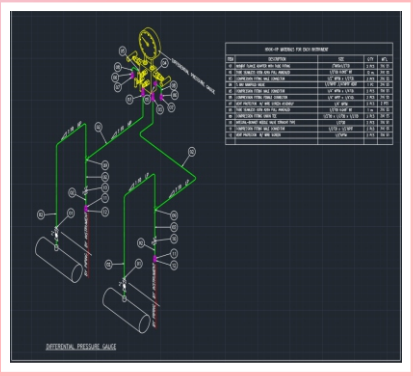
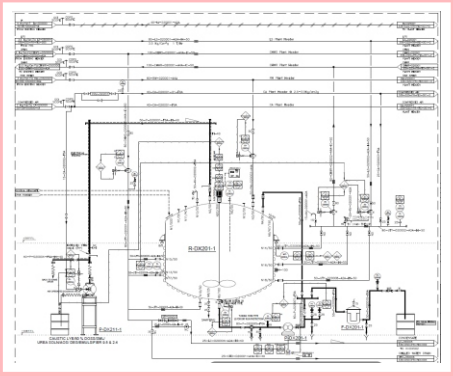


Instrumentation Engineering Services

Instrumentation Design & Development

Design, Engineering, Documentation, Manufacturing, Supply, Calibration, Testing & Commissioning

- Instrumentation Design Basis
- Data Sheets Preparation
- Instrument Index
- Loop-Up Drawings
- Hook-UP Drawings
- Instrument Cable Schedule
- Cable Tray & Trench Routines Layout
- JB & Gland Schedule
- Instrument Earthing Layout
- IO Database
- Control Room Layout
- Heat Load Calculation
- UPS Calculation
- Erection BOQ

INDUSTRIAL COMPONENTS

Whether it's instrumentation, controls, sensors or valves,
we have the products you need to keep your plant running.

SENSORS & TRANSMITTER

- Analog Gauges
- Digital Gauges
- Pressure & Temperature Transmitter Switches
- Flow Meter & Transmitter
- Steam Traps & Accessories
- Recorder Supplies
- Level Transmitter & Switches
- Radar, Ultasonic
- Energy Meter

INDUSTRIAL VALVES

Industrial Controls is one of the leading industrial valve providers in the country. Our factory-trained technicians assemble a wide variety of valve and actuator combinations.

- ❖ Ball:- Manual & Automated
- ❖ Butterfly:- Manual & Automated
- ❖ Gate:- Globe & Check
- ❖ Electrically & Pneumatically Actuated For Standard & Severe Service

PROCESS INSTRUMENTATION

Industrial Controls has the top lines to measure and control pressure, temperature, flow, level, humidity, pH, gas detection and more. Our team of engineers can help you design and implement the solution that best meets your needs.

Temperature, Pressure & Flow
pH, Conductivity & Humidity Sensors/Transmitters
Single & Multi-Loop Controllers
Paper & Paperless Recorders
Digital Indicators

Automation Services

Design, Engineering, Documentation, Development, FAT, SAT & Commissioning

- ❖ Automation Design Basis
- ❖ Io's List Preparation
- ❖ Io's Tagging
- ❖ System Architecture Design
- ❖ BOM Preparation
- ❖ Io's Distribution
- ❖ PLC/DCS Programing Development
- ❖ HMI/SCADA Development
- ❖ Cold & Hot Loop Testing
- ❖ Risk Analysis

Design of automated systems

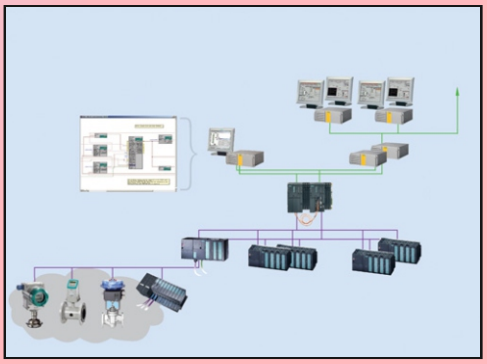
PRG Automation provides integrated design of automated systems. Our expertise covers the full spectrum of disciplines required to develop the necessary equipment for clients' applications, including mechanical, electrical and instrumentation designs, PLC, DCS, HMI and movement control systems programming, as well as SCADA and MES applications.

More specifically, PRG Automation provides engineering, design, and troubleshooting services for systems to ensure quality and proper integration of system components, motor control circuits, power supplies, PLCs and mechanized systems. We are on the lookout for new technologies to ensure that we apply contemporary solutions that will provide greater longevity.

Our mechatronics experts can design complete production equipment tailored to clients' needs by combining several disciplines, such as mechanical and electrical design, as well as any other discipline required for its implementation.

Control System Design, Programming and Implementation - SCADA

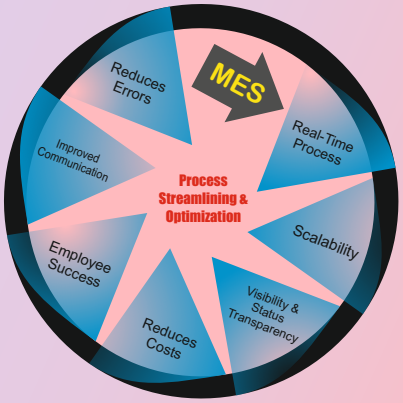
Automation and controls are at the heart of PRG Automation's activities. We have the experience with all of the major PLC and DCS system providers on the market, as well as axis control systems. We are committed to broadening our knowledge and keeping it up to date through investment in training for our experts and continuously adding qualified resources to our team.



Our expertise:

- ❖ Highest standards in terms of design and programming.
- ❖ Diverse and versatile knowledge leading to integrated solutions that eliminate the need to use multiple resources or companies to successfully complete projects.
- ❖ Implementation of controls and SCADA systems.
- ❖ Revenue management and operations planning.

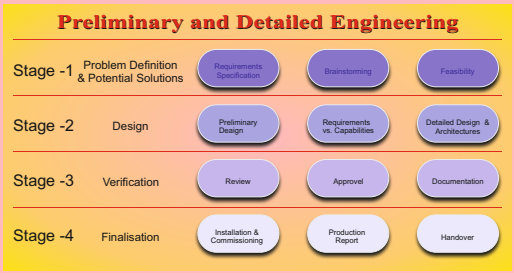
Business Process Streamlining and Optimization – CAPM (MES)



PRG Automation can analyze processes and suggest ways to streamline them to manage the information required and generated through the entire product workflow in the plant. Whether to validate operations, guide or inform the operators, monitor parts on the plant floor or record manufacturing or quality data at the various stages of manufacturing, the success of teh systems we build depends on the combination of people, processes and technology.

Preliminary and Detailed Engineering

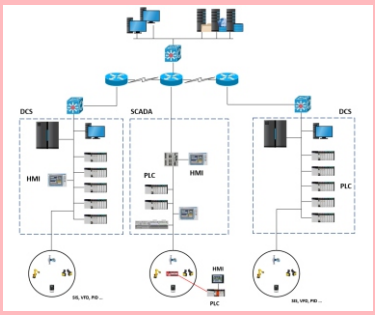
For some projects, it is advantageous to start with a preliminary engineering phase to fully determine the project scope and feasibility. Specifically, PRG Automation can help clients determine what will be included in the project goals, what will be excluded, and whether the project should be launched or not. Thus, for a fraction of the project's overall cost, we provide a comprehensive document outlining the project parameters that can be used, for instance, to obtain the budget required for implementation and to accurately assess the risk related with carrying out a specific project. The project can therefore be redefined, postponed or cancelled if the findings of the preliminary engineering phase are not acceptable, thus avoiding unnecessary expenses. Detailed engineering includes the production of all required documents for installation, calibration and start-up of control equipment, as well as staff training. PRG Automation's engineers and technicians take responsibility for generating deliverables while allowing clients to remain in control of the scope and budget of the project. PRG Automation engineers can produce the following documents as part of the preliminary engineering phase:



- ❖ Accurate definition of scope of work
- ❖ Choice of appropriate technologies to be used on the project
- ❖ Definition of design standards to be met
- ❖ Development of basic engineering documents required for cost assessment
- ❖ Estimation of project costs
- ❖ Calculation of the return on investment
- ❖ Prduction of the detailed project schedule

Systems and Equipment Programming and Configuration

The programming and configuration of equipment gives life to the detailed engineering developed in a project's early stages. Whether clients need a new control system, a replacement or an upgrade of an existing system, PRG Automation's engineers and technicians have extensive experience in most common PLC and DCS equipment. They apply their knowledge using the latest engineering and programming tools to convert logic diagrams and generate standard codes to write custom applications.



Project Management

Project management is one of the most important factors or a successful project, and PRG Automation adheres to the recognized principles in this field. We promote the use of project management milestones: Definition, Design, Development, Deployment, Direction and Documentation. Our approach, based on the WBS (Work Breakdown Structure), ensures monitoring that focuses on all of the levels while the project is being carried out, eliminating many problems that might interfere with the schedule.

Consulting

With so many years of experience in industrial automation, PRG Automation provides consulting services to solve expansion problems and the associated headaches.Our consulting teams can help clients identify and eliminate the operational restrictions that impact profitability, such as inefficiencies; obsolete, under-utilized, or unsuitable technologies; capacity bottlenecks; and manufacturing, planning and resource levelling problems, as well as a lack of strategic vision.
With the help of PRG Automation, clients can turn problems into benefits for the company.

Risk Analysis – Machine Safety

PRG Automation has machine safety integrated into its genetic code.
All the machines it designs meet the appropriate safety standards. Thus, it is with the safety of workers in mind that we intervene in any application, whether designed by us or by third parties. Our advanced knowledge and our proven work methods ensure adequate protection and clear procedures.
With clients' cooperation, we are able to identify, measure, assess and monitor risks, and make the necessary adjustments in order to comply . All robotic projects at PRG Automation meet safety requirements under current laws and regulations.
Thus, each application is reviewed by our machine-safety experts and a risk analysis is performed and validated.
Safety is designed to maximize productivity while minimizing risks to employees and equipment.

Motion Control Technology

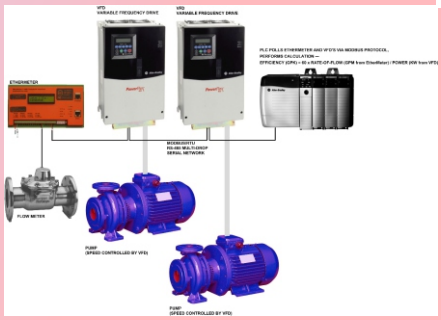
- ❖ Motion Technology Selection
- ❖ Safety Function Consideration
- ❖ VFD/Servo Parameterisation
- ❖ Integration with PLC & HMI
- ❖ Testing

Multi-axis control

- ❖ PLC modules with 1, 2 or 4 axis motion
- ❖ Network ready multi-axis controllers
- ❖ Interpolated (linear and circular) motion control

Integrated solutions

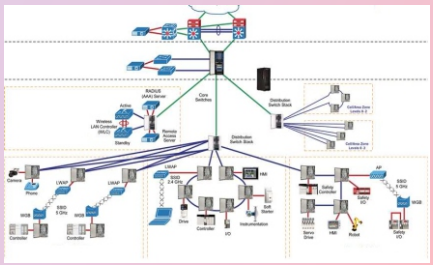
- ❖ Network ready indexer/drive combos
- ❖ Integrated drive and motor packages
- ❖ Easy setup and operation



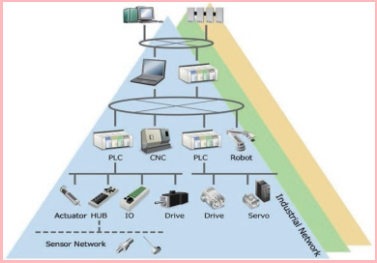
Drives and motors

- ❖ AC and DC powered microstepping drives
- ❖ NEMA frame sizes 23 to 42 stepper motor.
- ❖ Siemens/AB/Delta/Mitsubishi/ABB

INDUSTRIAL NETWORKING & IIOT IN AUTOMATION

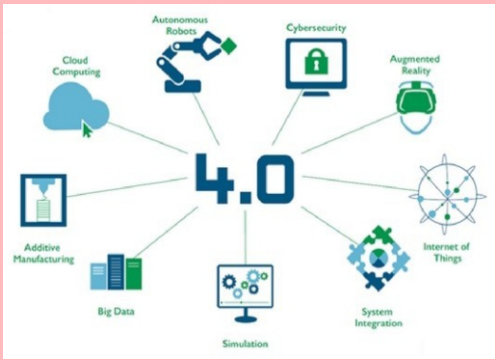


Seamless real-time communication is the core prerequisite for al l Industry 4.0 and Industrial Internet of Things (IIoT) implementations. PRG offers best-in-class communication components for all leading industrial communication protocols such as EtherCAT, EtherNet/IP, PROFINET, Modbus, IO-Link, and more. All of these silicon solutions come with comprehensive software support



Factories and production facilities today are becoming more advanced in order to improve productivity and safety. These advances are based on converting to open or Ethernet network communication.
Several technical requirements demanded by equipment used inside factories are ;

- ❖ Support for an open network communication protocol : PROFINET, EtherCAT, Modbus, and OPC UA
- ❖ High-speed real-time performance and low power consumption to achieve high productivity : EtherCAT, PROFINET IRT, and TSN
- ❖ Support for functional safety to realize safety operation equipment. Industrial equipment vendors need to develop equipment that satisfies these requirements, and users will implement and use these equipment. PRG provide ICs for Industrial Ethernet to easy to realize these functions



CUSTOMIZED SOFTWARE's &VISION SYSTEM

Analysis, Design Coding, Testing, Display

- ❖ Software Design Basis
- ❖ Feasibility Checking
- ❖ System Architecture Design
- ❖ Software Coding & Development
- ❖ Installation & Operational Manuals Preparations

MACHINE VISION SYSTEM

- ❖ Proprietary Developed Machine
- ❖ Vision Software using PC
- ❖ Smart/PC Less Camera
- ❖ Useful in Pattern & Shape Matching
- ❖ Color Recognition
- ❖ Finding missing parts
- ❖ Dimensions checking
- ❖ Sorting
- ❖ Crack Detection
- ❖ Barcode /QR Code Reading

INDUSTRIAL SOFTWARE DEVELOPMENT

- ❖ Customized Industrial Software's
- ❖ Graphical visualization using latest technology
- ❖ Report Generation / Data Logging
- ❖ Controlling Monitoring & Analysis

PRODUCTION MONITORING & REPORTING SYSTEM

Features of Andon :-

- ❖ Fault Identification
- ❖ Visual Production Monitoring
- ❖ Data Logging
- ❖ Reporting - by SMS of or via Email
- ❖ User Configurable

SHIFT2	PRODUCTION DISPLAY				09:22:21 PM 19-Jul-17
Target (Nos)	Realtime (Nos)	Actual (Nos)	Loss Qty (Nos)	Cycletime (Sec)	Efficiency (%)
9000	18	0	18	61	0%

HOURLY OUTPUT

	1st hour	2nd hour	3rd hour	4th hour	5th hour	6th hour	7th hour	8th hour
Actual (Nos)	0	0	0	0	0	0	0	0
Loss Qty (Nos)	0	0	0	0	18	1	0	0

OUR MENTORS


ChemDist
PROCESS SOLUTIONS


Bonfiglioli
Forever Forward


AVERY
DENNISON


KALYANI
TECHNOFORGE


TM
MSP
GROUP
AN INTEGRATED STEEL PLANT


STRENGTH OF SUCCESSES


TOX®
PRESSOTECHNIK


FORBES


KVUL


PAPL
The Spirit of Automation


Godrej


PAYPER


DANA
SPICER
Drivetrain Products


seapl


GARTECH
ENGINEERING POULTRY


Atlas Copco

SIEMENS
Ingenuity for life

Rockwell Automation

Schneider Electric

DELTA

MITSUBISHI

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