

Applied Automation Systems Private Limited

The Company

With the primary focus to provide quality process automation systems for the textile spinning industry came the inception of Applied Automation in the year 1991. Applied has established itself since then as a solution provider to the industry in areas of PLC PC-based controls systems for Process Control and Monitoring. Applied has also become a OEM supplier in this area for a few Machine builders by developing solutions for machine controls and monitoring applications. Since 2005 Applied has been executing projects for the overseas utility companies in the Oil and gas industry with more than a dozen projects completed to customer satisfaction in this area.

Applied's industry expertise of providing quality solutions has resulted in a trusted client base of over 400 companies. Applied is currently generating revenues based on repeat business, besides the growing market for our process automation systems. Applied has a specialized presence by way of providing solutions in industries like

- Textile Machinery, Spinning, Weaving, Dying Industries
- Oil and Gas Utility Distribution Industries
- Oil reprocessing Machinery Automation and Control Systems
- Paper Manufacturing
- Power and Distribution

Applied Capabilities

A development team with hands on expertise in deploying process control systems with a excellent understanding of the end-user needs is Applied's strength. Engineers with core competencies in two broad areas, viz process of the domain on one hand and instrumentation & process control using PLC/PC/SCADA and on-line computer techniques on the other help in understanding the applications requirement.

Over the years Applied has built a multi-disciplinary team of about 25 Engineers and Technical Staff with varied specialized knowledge personal in diverse areas like Mechanical, Electrical , Instrumentation, Automation Software and team of project managers to ensure quality service delivery to the end users.

Range of Services Offered

Applied has already executed several projects outlined below and therefore can extend its expertise and experience in the areas of

1. Building Complete Automation Industrial Electrical Control Panels with PLC, AC Drives, Servo Drives and PC based Control Systems to International Specifications and conformance to UL, CSA and IEC Standards. Panels built to International Norms of Safety for Arc Protection.

2. Services in the Selection, Supply and Integration of Instrumentation Sensors for Temperature, Flow, Pressure, Vacuum, Displacement, Volume, Speed, Load, torque and Vision based Sensing applications. We have also worked with UltraSonic, RF, Linear Array Sensors, Pyrometers and InfraRed Sensors and can offer them if the user application demands.
3. Design, Development and Implementation of SCADA with interface support to any PLC complying with OPC standards of Communication.
4. Design, Development and Integration with SCADA a customized Data Acquisition Software in areas where SCADA functionality does not meet the user applications requirement.
5. Selection, Supply and Integration with Control System and Implementation of Wireless systems for remote monitoring and control of the above Automation Systems.
6. Design, Develop and implementation Vision Inspection Applications for using Line Scan, Smart Cameras where such applications can be used for inspection.
7. Build simple 2 axis and 3 Axis pick and place automation systems using Pneumatic, Hydraulics and Servo Drives.

Applied Capabilities in Specifics with Leading Automation Elements

1. Automation HW/SW

PLC	Rockwell Allen-Bradley Range of Micro/Compact and Control Logix Simatic PLC's S7 and VIPA Speed 7 PLC BeckOff range of PLC's including SoftPLC's
HMI	Rockwell Allen-Bradley Range of Panel View HMI's and IPC's Simatic OP's. Entire ranges of operator Panels Siemens ESA HMI's and Industrial PC's Beckoff Range of WinCE HMI's
Programming Tools	Rockwell Allen – Bradley Advanced Programming Software. RSLogix 500 Software, Panel Builder Software, RSNetworks Simatic Programming tools for S7-200, S7-300, and S7-400 Beckoff TwinCat
SCADA	RS-View32, WinCC, Movicon
Communication Networks	Profibus-AS, Profibus-DP, Devicenet, Industrial Ethernet for Remote IO GPRS, GSM based Remote Data Access, DH485, ASI, Beckoff Twin Cat IEC 618850, Ethercat
Special Areas	Win32 API, MFC based dot net Application Software Image Processing using Basler, Tattile Software API's. DVT Framework for Vision System application in Inspection applications Communication with RS232/RS485/Ethernet devices. Process automation with ADVANTECH

2. Automation Components

Pneumatics	SMC/FESTO range of products
Hydraulics	Dowthy, Bosch, Vickers
Transducers	Loadcells, Flow/Pressure / Temperature Transmitters, Encoders
Sensor	Laser, Infrared, UltraSound and Vision Sensors
Drives	AC Frequency Convertors, AC /Linear Servo
Panels	Rittal

3. Mechanical

CAD	A team of design engineers for design of Mechanical Structure of Machines, Motion control Simulation. Tools used Acad, SolidWorks and Finite Element Analysis.
-----	--

Applied Projects

A. Textile Industry Solutions have subsequently become standard products

1. **Applied FibreScan XPDS** – Foreign Fibre Contamination removal system in Blowroom using Vision Cameras and U-Sonic Sensors - Over 100 units installed
2. **ProMise –ProWin** – Online Production Monitoring and control system for the entire spectrum of Equipment resources in a Spinning Mill with a customer base of over 150 Installations
3. **ProWin Power Monitor** - Online Energy Monitoring and Management system for Spinning mills to identify the distribution of Units/Cost per kg of end product manufactured. We have 5 installation for this product in the last one year.
4. **Cascade** - Computer Aided Wrapping System including Count and Strength with over 400 Installations

B. Oil and Gas Industry

1. **Tank Farm Automation for United utilities, UK** is an project which Applied implemented for facilitation of a functioning of a tank farm. The operations of a tank farm is to collect oil from tankers and store into huge storage tanks used oil and dirty oil. The store Oil is then purified and transferred to a clean oil storage tank for re-distribution and tankers collect the same. The entire operation were implemented by Applied using a Rockwell Automation System – Compact Logic PLC over distributed IO and RSView Scada. Flowmeters, Pumps, Ac Drives, Thermocouples, Differential Pressure Sensors, Vacuum transducers, Pneumatic activated vales with feedback were integral part of this project.
2. **Oil Regeneration RIG Automation, Redragon Canada** is a project for automation of a Regeneration process plant on a 60Ft Mobile RIG. The RIG consisted of monitoring and control of about 590 IO including 220 Analogue IO's besides AC Drives , heater controls. This process also had Flowmeters, Pressure sensors, Vacuum Sensors and was implemented using Rockwell Control Logix on distributed Device network concepts with a Touch Panel IPC as a HMI.

C. Power Industry and Distribution Automation

1. **Power Monitoring and Power Distribution billing** implemented for Nethaji Apparel park, Tirupur is for Automation of Electricity consumption billing application through Networking of Energy meters through a Telephone lines and over Ethernet on to a centralized Server running Applied's Power Monitoring Server for Power Monitoring and Billing.

D. Other Industry Solutions including OEM Supplies**OEM Solutions**

- Centralised Production Monitoring and Control Software for a Textile OEM Machine Builder
- TIMES – Transformer Insulation Moisture Estimation System – Networked system
- Control System Online Transformer Dryout System (Velcon Systems USA)

Other Solutions which have become Standard Products

- Pick and Place 3 axis Robot for Plastic Injection Molding
- Dye stuff storage Automation for Dye selection in a Dyeing Plant

Control Systems for OEMs

Control System for Yarn Conditioning Machine
Yarn Loading Robot for a Yarn Mercersing Machine
Control System for complete automation of Yarn Mercersing Machine
Traverse Servo Motor Control for a Yarn Winding Machine
Machine Automation for a Carding Wire Manufacturing Company

Other Industry

Control Systems for Plastic Injection Moulding Machines
Control Systems in Automotive Industry for
Heat Sealing Machine control system,
Automatic Tube Feed system,
Dunk Tank Leak Test System,
Speedometer Calibration system,
Fuel & Temperature Gauge Calibration system,
Radiator Cap Press system,
Radiator Crimping Press automation.
Inspection of Auto components using Vision Systems
Control System Hydraulic Press for Heavy Engineering Industry
Control System for functioning of Amusement Park equipments
Control Systems for Effluent treatment Plant