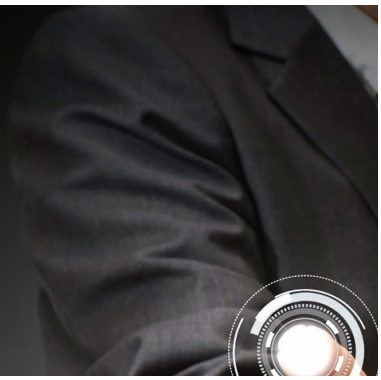
koremec

Autosys™



END TO END
PLANT AUTOMATION
FOR
AGILE MANUFACTURING

vjk@koremec.net
www.koremecgroup.com

Koremec Group
Excellence in Automation

OVERVIEW

We provide end to end plant automation and turnkey project execution in a wide variety of industries and processes. We combine our multi-disciplinary engineering and technology expertise (mechanical, electrical, electronics, instrumentation, PLC, SCADA, IOT, telemetry, computers, software, cloud, mobile, data and analytics) with deep domain knowledge to undertake fixed price contracts for projects costing Rs 100 lacs to Rs 2500 Lacs each.

Implementation of MES and Analytics Software, modernization of existing plants and automation of specific processes are also undertaken.

The leadership team at Koremec Group have been working together for 25+ years, and have a cumulative experience of over 100 years in Instrumentation, Process Control, Automation and Software for Manufacturing sector. The team has executed over 500 projects for industry leaders and global MNCs, exceeding customer expectations every time, on performance, reliability and quality.

CONSULTING AND ENGINEERING SERVICES

We provide consulting and engineering services in areas such as

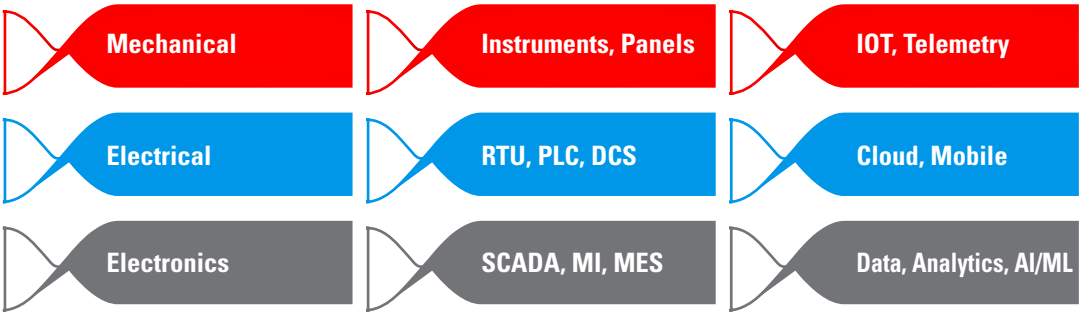
- Industry 4.0, MES Software, OEE, Traceability, Data Analytics, AI/ML
- OEE improvement, De-bottlenecking, Process Optimization
- Material handling, Batching, Weighing, Dispensing and Dosing
- Fluid Automation, Instrumentation, Control and Telemetry
- Control and MCC Panels

This includes Engineering, Documentation, Procurement assistance, Vendor management, Verification of supplies, Quality checks, Standards and Testing compliances, Supervision of erection and commissioning, Integration of vendors and Project management.

By engaging us, clients achieve cost reduction, improved quality and timely completion.

FIXED PRICE ADVANTAGE

Whether it is software or automation, our unique value proposition is the ability to offer fixed price turnkey contracts. We take the entire risk of cost and time escalation, even in pure software projects. We will source, manufacture, integrate, deliver and commission everything required for a project across multiple disciplines:



BOT (Build – Operate – Transfer) model is also offered on select projects.

CAPABILITIES

- Consulting & Engineering
- Turnkey Project Management
- Software Development and Implementation
- Automated Material handling (IN gate to OUT gate)
- Automatic Weighing and Batching (Grams to Tons, Solids & Liquids)
- Automatic Dosing Systems (up to 1 gram accuracy, BD upto 0.15)
- Fluid Automation

SOFTWARE FOR AGILE MANUFACTURING

Today's business leaders demand detailed and accurate information on capacities, utilization, cycle times, supply chains and asset efficiencies. Live data and information coming from the shop floor, expertise and knowledge accumulated over the years, innovation and insights that perish fast - all these are scattered across disparate layers and levels in the organization. At each level, the people, the systems and the underlying IT software – all speak their own language. Integrating all these is challenging and expensive.

LEVEL	PEOPLE	SYSTEMS
0	Shop floor operating staff	Physical processes
1, 2	Supervisory staff	Machines, Process Control Systems, PLCs and SCADA
3	Managers, Operations	**MES Software,** Production scheduling and Optimization
4	Plant Management	Business Planning and Logistics, Traceability and genealogy
5	Top Management	ERP, Financial & Inventory Systems

Level 3 and 4 MES Software

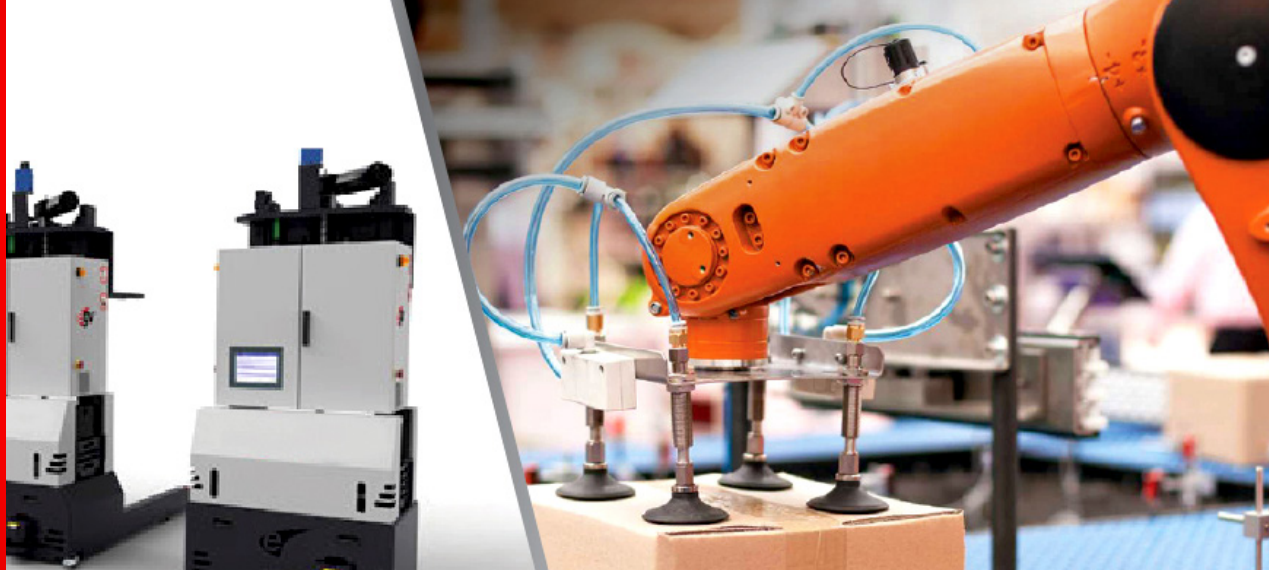
We focus on mid-level MES solutions (Level 3 and 4, between ERP and PLCs) for the manufacturing sector. Sandwiched between two seemingly incompatible worlds of machine language and business language, between operations and business leadership, we bridge this chasm with ease.

From proprietary hardware controlled imported machines, to industry standard PLCs and DCS systems, from M2M communication protocols to nation-wide networking of multiple plants, from stand-alone MES software to ERP integration – we can understand and appreciate the nuances of each system and level.

Our USP

The most expensive part of a software project in manufacturing is not the coding skills or tech skills. It is the ability and the time taken to understand the domain and the top level business drivers. Translate the operational and process requirements in to IT models. Harvest information from disparate machines and control systems. And most importantly the ability to sieve through a deluge of data, curate them in to relevant information and present them in a format that is tailor made to each level of management.

With a strong background in Industrial Automation and Turnkey project execution, We are uniquely positioned to meet these challenges and more. All projects follow and comply to ANSI / ISA 95 standards.



HUMAN TASK AUTOMATION

We focus on automating human tasks with the help of electropneumatics, robotics and automated guided vehicles (AGVs).

From simple tasks such as nailing, glazing and spray painting to complex tasks such as packing a washing machine, We can provide custom built HTA solutions for any industrial application.

Our USP

Automating a human task is not as simple as buying a robot and fixing it. Many times, it involves integration of multiple electromechanical- pneumatic sub systems, off the shelf robotic arms, custom made grippers and handlers, presentation stacks, SPMs, AGVs and so on. Designing, engineering and integrating these sub systems require strong multi-disciplinary expertise. With a strong background in Industrial Automation and Turnkey project execution, We are uniquely positioned to meet these challenges and more.

ROBOTIC SOLUTIONS

We provide custom solutions using industry standard 4-axis and 6-axis robots that can handle pay loads of up to 190 Kg running on a single control platform. Specialized robots for painting, clean room, plastics, machine-tools, etc. are also used.

INTELLIGENT AGV SYSTEMS

AGV's or Automated Guided Vehicles are Mobile Robots that provide a cost efficient internal transport solution for industries & applications where flexibility, accuracy, reliability & safety are required. Our ability to integrate cost effective solutions using plug and play products, takes AGVs from a "nice to have" to a "must have" automated material handling solution.

SPECIAL PURPOSE MACHINES

SPMs can be developed for any application – combining mechanical, pneumatics and drives, controlled by industry standard PLCs.

APPS

APPS are the new SOFT ROBOTS that can cost effectively automate many a human task on the manufacturing floor. From a Java / embedded application that can pull data from a micro controller based OEM machine to an Android App that a QC inspector uses to fill up Quality / Defect data, there are many opportunities for APPS to improve productivity in the manufacturing sector. We combine our software capability and manufacturing domain knowledge to build apps that substitute any time consuming human task.

PARTNERS

We are an Authorized System Integrator of Rockwell Automation for PLCs, SCADA, Drives and Software. We provide MCC and Control panels incorporating switchgear components from various reputed vendors like Rockwell, Siemens, Schneider, L&T and ABB. We provide weighing solutions from world leaders such as Metler and Diniargeo.

Instruments like flow meters, level transmitters, pressure transmitters, special purpose instruments, analyzers, vibration equipment etc. are sourced from world's leading manufacturers, as per project/customer requirements.

WEIGHING & BATCHING

- Accurate and precise dosing of liquids / powders as low as 1 gram within time limits
- Weighing under dynamic conditions with stirrer and vibrating tank in formulation systems
- Mobile weighing
- Weigh feeders
- Batch weighing with screw feeders and Vibro feeders
- Monorail weighing
- Weighing with compliance to S88 Standards
- FDA regulated traceability standards in batching and weighing
- Batching and dosing of difficult to flow materials with very high / very low bulk density
- Custom design of multi-speed feeders after determining flow characteristics of materials

MATERIAL HANDLING

- Complete Batching Plants and Packing Plants with Silos, Conveyors, Bucket Elevators, Skip Hoists etc., integrated with OEM Equipment and PLCs.
- Customized Material handling systems for storage and movement of Bulk Materials and Finished Goods.

FLUID AUTOMATION

Water – Treatment and Distribution

- Telemetry, RTU, PLC and SCADA Systems
- Control Systems for WTPs, RO Plants, UFRO, BWRO, Desalination
- OHT / GSR monitoring and control
- Water Quality Monitoring
- Pumping Station monitoring
- Leak Detection

Waste Water – Effluent and Sewage Treatment

- Telemetry, RTU, PLC and SCADA Systems
- Control systems for ETPs, STPs
- Discharge Quality and Quantity Monitoring

Smart Cities

- Telemetry, RTU, PLC and SCADA Systems
- OHT / GSR monitoring and control
- Water Quality Monitoring
- Pumping Station monitoring
- Leak Detection
- Water network analysis and optimization
- What if Analysis and Predictive Controls
- Energy and Efficiency monitoring
- Centralized Command and Control with WDMS
- Village and Urban Water distribution Management
- Domestic Metering, Bulk Metering, Automatic readings
- Man hole sensors
- Monitoring of sewers and gutters
- GIS System for Vehicle Tracking
- Consumer Portal, Complaint Management system

FLUID AUTOMATION

Irrigation

- Telemetry, RTU and PLC Systems
- Reservoir monitoring and control
- Canal automation
- Lift and piped irrigation control system
- Drip irrigation control system
- Outlet monitoring system
- Pressure and surge monitoring system

Dairy / Food / Pharma

- Instrumentation
- PLC / SCADA

Oil, Gas, Power

- Cooling Tower Automation
- Balance of Plant Automation
- Farm Tank Management System
- Terminal Automation System
- Effluent Treatment
- C&I Systems meeting ATEX and CCOE Standards

Chemical

- Reactor Control
- Temperature Control
- Dosing Systems (Flow or Weight based)
- Simulation Systems for lab model
- Distributed Control Systems (DCS)

Technical Expertise

- Instrumentation : Flow (Up to 1600 mm Dia), Level, Pressure, Analyzers, IOTs
- Control : Motors, Valves, Actuators, VFD Drives, MCC & Control Panels
- SCADA : PLCs Dual Redundant systems, DCS Systems, 5000+ IO Systems, RTUs
- Networking : Remote WAN networking of IOTs, RTUs and PLCs (300+ locations)
- Technologies : GPRS-2G-3G, RF-Radio, VSAT, Fibre
- Protocols : Ethernet IP, Device net, Modbus TCP-IP, Profibus, Profinet, ASCII, 485/RS23

PANEL MANUFACTURING

Apart from manufacturing panels for our own projects, We also undertake outsourced contract manufacturing of CPRI certified panels for large OEMs and EPCs.

- MCC panels, Drive panels, Drawout MCCs, Intelligent MCCs
- Control panels, PLC desks, RTU, MMI and SCADA panels
- DG Sync panels, APFC panels, LT and MV panels

PRODUCT DIVISION

Our product division is focused on providing standardized products for many applications such as :

- Fibre dosing for Roofing Sheet, Concrete and Cement industries
- Preform dosing for friction material industry
- Bagging machines for open mouth bagging of 25 to 75 Kg Bags
- Jumbo bag filling machines
- Lorry loading systems.

EXECUTION TEAM

More than 90% of our employees have technical / engineering background in disciplines such as Electronics, Instrumentation, Software and Mechanical.

The following are the various processes that we follow in executing a project.

- System Study, Sizing, Scoping
- Roadmap for phased implementation
- Statement of Work, BOM, Costing, Proposal
- Design, Engineering & Detailed Drawings
- Procurement, Manufacturing
- Software Development and Integration
- Inspection & Testing
- Installation&Commissioning
- Software implementation & Training
- Service & Annual maintenance contracts

KOREMEC GROUP

Autosys Engineering and Autosys Control Systems are associate companies of Koremec. Koremec handles the Marketing, business development and pre-sales for all the 3 companies.

These individual companies have been created separately to provide focus and depth to their respective specialization areas.

Autosys Engineering, specializes in weighing, batching, dosing, storage, movement, processing packing, loading, unloading and bulk material handling across a wide variety of process industries.

Autosys Control Systems, specializes in Fluid automation, Large Scale Instrumentation, Telemetry, Control, PLC and DCS projects across domains such as Water, Waste Water, Power, Oil and Gas, Chemical, Food, Dairy, Pharma etc.

Kore Mechatronics specializes in consulting services, Industry 4.0, MES software, traceability, OEE metrics, manufacturing intelligence, IOT, Cloud & Mobile apps, Data Analytics, AI/ML etc.

We are proud to have worked with the following clients

vjk@koremec.net
www.koremecgroup.com

Autosys™

koremec

Kore MECHATRONICS (P) LTD
Autosys CONTROL SYSTEMS INDIA (P) LTD
Autosys ENGINEERING (P) LTD

Marketing Office:

Odessey Building, 2nd Floor,
No.45 & 47 Ist Main Road Gandhi Nagar,
Adyar, Chennai 600020, Tamilnadu India
Phone +91 44 43533557

Factory:

167 A,B,C Developed Plots Estate,
Perungudi, Chennai 600096, India
Phone +91 44 43533555/56

vjk@koremec.net I www.koremecgroup.com
www.indiaautosys.com | www.ael-india.com | www.koremec.com
Mobile : +91 98401 58512