CONSUMER GOODS
FULL MANUFACTURING SYSTEMS
AND SOLUTIONS

Polytron, is a CSIA-Certified Full Manufacturing Systems and Solutions Integrator and 2015 System Integrator of the Year. Applying 35 years of manufacturing engineering expertise, we deliver full manufacturing systems and solutions from process to material handling, to packaging and warehousing.

Polytron is uniquely positioned and fully qualified with certified best-in-class systems integration talent and industry expertise to deliver the special requirements of the Consumer Goods / Personal Care industry.

This enables us to provide you with application solutions that help you meet your business objectives while reducing risk and improving overall performance in:

- Process Systems and Utilities
- Industrial Network and Security Solutions (INSS)
- Manufacturing Intelligence / MES
- Smart Manufacturing Solutions
- Packaging Systems and Material Handling
- Automation and Controls
- Machinery Safety
- Project Management

Polytron maintains GMP guidelines for engineering standards and 21 CFR 11 for control, data handling and validation compliance.

Polytron offers a full set of engineering capabilities from start to finish: front end engineering discovery efforts; detailed design; construction installation packages; network integration; operator interface design; and, system traceability.

Grounded in a Partnership and Trusted Advisor approach, our project delivery methodology provides your company with the value of a strong partnership based on trust – open and honest communications, collaboration, a focus on success for all parties, and a commitment to develop the most appropriate solutions. It is this approach that has established long-term relationships with the majority of our global clients.

APPROACH TO FULL MANUFACTURING SYSTEMS AND SOLUTIONS DELIVERY

Polytron is your one-stop provider - whether you're in need of strategy, systems, automation, equipment, processes, or training for manufacturing. We deliver project success at a lower risk.

Project Management provides the cornerstone of risk mitigation for your manufacturing projects. When the Project Delivery Team — a cross-functional team of project stakeholders — create the shared vision, promote a "common purpose" through defined project success criteria that align the project team with the business goals, you are able to realize project success: lower risk, shorter startup, and a sound ROI for your business.

Through a clear definition of your needs and priorities from both the business and plant perspective, we develop and deploy your solution through an appropriate blend of system engineering, automation, manufacturing intelligence, and people development – *Putting Performance in the Hands of Your People.*

Clients: Fortune 500 companies - majority retained over 20 years.

Our Employees: 65 Certified Project Managers, Electrical and Mechanical Engineers, IT Professionals, Training professionals and support staff.

Areas of Expertise
Process, Packaging, and Material Handling
Industrial Network & Security
Manufacturing Intelligence/MES
Smart Manufacturing
Automation and Controls
Workforce Development & Training
Machinery Safety
Project Management

Industries Served
Consumer Packaged Goods
Food
Beverage
Chemical
Automotive / Tire
OTC / Med Device / Pharma

CONSUMER GOODS PRODUCT TYPES

- Personal Care
- Household cleaning chemicals
- Household detergents
- Corrugated paper
- Molded Pulp products
- Blow Mold for plastic containers
- Tissue and Towel products
- Non-woven products

Rebuilding the Plant
A Case Study

Polytron was engaged to support a consumer goods plant rebuild after a catastrophic event closed the plant.

New Stock Prep Process System: Developed logic narrative for process systems operation. Created new control system using PlantPAX for HMI and PLC programming. Validated programming with PolySim℠ for 95% accuracy prior to startup.

Comprehensive ARC Flash audit and plan: Conducted ARC Flash Audit of 225 power distribution control panels to identify level of energy going to each control panel. After inventory and determination of component parameters, special software was used to build a model for each of the 225 control panels. Appropriate labeling was applied throughout the plant.

Standardize Lock Out/Tag Out procedures: Conducted assessment of over 100 pieces of equipment for hazardous energy points. A LOTO procedure was created for each machine and each hazard point. Placards were created and placed on machines outlining standardized LOTO procedures

Created system architecture drawing and installation information for the new network: Configured Ethernet switches and programmed PLC IP addresses to match the new network mapping plan for the process system and plant floor

Results: The plant was back up and running in 4 months. Polytron saved time during startup using PolySim resulting in 95% accuracy of the Process Control System programming prior to startup. Visual control system of process systems and monitoring of energy usage via HMI displays throughout the plant were implemented. Safety audits and signage for standardized LOTO and Arc Flash.

CONSUMER GOODS PACKAGING

Polytron delivers innovative Full System Packaging Solutions. Our comprehensive solutions offering includes:

- Multi-format, High-speed Packaging Lines
- Multi-product Packaging
- Tablets, Caplets, Liquids, Gels, Suspensions, Powders
- Cans (normal atmosphere and pressurized)
- Bottles - plastic and glass (round & non-round)
- Cartons, Blister packs, Bags and boxes
- Bundling / Wrapping
- Case Packer
- Palletizer
- Stretch wrapping
- Bucket, Barrel, Tote
- ASRS, AGV, Manual, Robotic and Conventional Palletizing
- Warehouse Capacity and Automation Optimization

NEW AND EXISTING SYSTEMS

- Complete and Specific Project Management
- Construction Management
- Equipment Procurement
- Line Layout Detail Designs
- Line Integration
- Add systems to existing lines
- Add new equipment to existing lines
- Conveying
- Line and facility consolidation
- Dry/Liquid Ingredient Storage, Blending, and Mixing
- Advanced Process Control - Internal Model Control / Coordinated Control / Modular Multivariable Controls
- Efficiency improvements / increase capacity
- Startup Management

TURN-KEY OPERATIONS SOLUTIONS

Polytron provides a single point of contact for your projects. with a comprehensive solutions offering including:

• Collaboration with your team to create the Functional Design Specification
• Development of the Electrical / Controls and Mechanical design based upon the Functional Design Specification
• Machine/System Integration and Programming
• OEM procurement and management
• Supply of electrical and mechanical hardware and installation
• Onsite support for construction management, debug and system validation
• Documentation and Training for performance continuity

Our certified Project Management Professionals apply a collaborative team approach aligning a comprehensive project team with your project objectives. Using our expert knowledge in best-practices and standards we ensure the highest degree of project success in all areas of the project.

A customized approach to your engagement addresses all the possible variables, and through our project management methodology – the glue that holds everything on the project together – we are able to deliver within project scope, on time and within budget.

Cracking the Code on Standardization - Case Study

A consumer goods plant has a complex system representing millions of dollars in capital investment. But, it is running slowly, creating bottlenecks, and racking up downtime. The code used to control the entire system has been changed so many times by so many different people that nothing is standard. Polytron was engaged to assess and design new standardized code for the whole plant.

Four key goals and benefits of standardization were:
1. **Major reduction in downtime:** Conveying systems were backing up and stopping production. Standardization would dramatically reduce downtime. Operations goals were 0.5% downtime.
2. **Major reduction in partials:** Productivity was suffering because the system was creating partials. A goal was set to reduce partials from 23% to below 10%. Standardization would allow for an effective reduction in partials and increase productivity.
3. **Faster, more accurate troubleshooting:** Without common programming, troubleshooting had become difficult causing excessive downtime to identify real cause of productivity problems. Standardization would eliminate excessive downtime needed to fix problems in the system.
4. **Easier optimization and scalability:** Code was modified so many times, it varied significantly from its original intent. It made it difficult to revamp packaging lines and warehouse conveyors to support new systems. Standardization would not only optimize the current system, but would also support future growth more easily.

Polytron followed a 7-step process leading to a robus new solution with nearly vertical start-up.
1. Identify the standard that the client required.
2. Develop a logic narrative for the system
3. Develop the code using the agreed-upon standard.
4. Create the emulation model - to eliminate program-related risks during startup
5. Conduct in-house FAT with the customer to allow the client to fully test new standardized code.
6. Field installation and testing- download logic and put it through a rigorous validation process.
7. Formal training and documentation

Spreading the Success
The newly standardized system is delivering higher throughput, greater realiability and faster speeds. Partials are less than 15% and falling. Downtime is cut in half. Decrease in disruption to warehouse workforce.
Troubleshooting now utilizes the standardized code to identify real cause of productivity problems
Customer estimates that emulation-based FAT cut onsite validation time by 50%

Putting Performance in the Hands of Your People

No matter which company I work for or the manufacturing, packaging, or process solution I need, Polytron is my first choice and the preferred partner to which I turn to help me and my employer be successful. Their project management methods are the best in the market. Risk management, design issues, procurement, engineering, start-up issues, everything that goes into a project, is identified, managed, confirmed, documented, and delivered.

Instrumentation and Controls Manager,
Global Manufacturing Company

INDUSTRY CERTIFICATIONS AND AFFILIATIONS

Rockwell Automation Solution Partner
Control • Process • Information

THINMANAGER PLATINUM INTEGRATOR

Gold Partner PARSEC

CISCO Integrator Partner

Invensys Wonderware CERTIFIED
SYSTEM INTEGRATOR
SYSTEM PLATFORM

SIEMENS

Microsoft CERTIFIED Partner | Data Management Solutions

CISCO CERTIFIED CCNA ROUTING & SWITCHING

BEDROCK CERTIFIED SOLUTION PARTNER
A REVOLUTION IN INDUSTRIAL CONTROL

GE Partner Intelligent Platforms

Mtell

Cisco Digital System Integrator

Control Engineering
System Integrator HALL OF FAME
Plant Engineering

Institute of Packaging Professionals

csia CERTIFIED

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