

# Automation

## System Design, Instrumentation & Controls

With new technologies in Process and Building Automation being introduced at accelerated speeds, it is increasingly difficult to select the most appropriate system for your application. Decisions regarding both the systems selected and your project management approach must have the future in mind to ensure that precious resources are spent in the most optimal manner.

CRB will assist you in determining your system requirements and day-to-day operations of your systems. We provide control solutions that meet your technical, budgetary and scheduling requirements. From full-scale design of a new system to modification or expansion of existing systems, we are here to assist you in obtaining smoother and more efficient control operations. Large or small, simple or complex, qualified or non-qualified, your project will be completed professionally and efficiently.

### CRB Engineers Will:

***Put you in control faster.*** Our engineers are experienced professionals that keep pace with the rapidly changing instrumentation and automation technologies. We can quickly provide system alternatives and move a project through design in a timely manner. An expedient design process puts your system into useful operation and control faster.

***Recommend the best investment for your project and operations and maintenance budget.*** We realize the cost of automation is an important issue. We believe it is an investment that will impact the quality of key processes and final products for years to come. At CRB, we do not evaluate systems by initial cost alone: we look at the cost of validation, training, maintenance, spare parts, and more to provide you with the best long-term investment. Our solutions are designed to fit your needs.

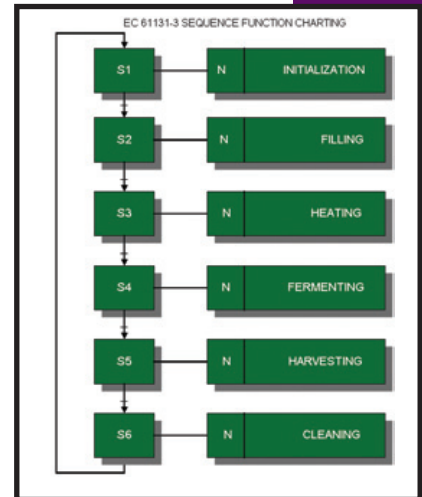
***We listen and understand the first time.*** We specialize in listening to your needs and concerns. It is the cornerstone of our business and sets us apart from the others. During the investigation stage of your project, we will ask specific questions that reflect our experience and the fact that many of our people have operating client-side company backgrounds. With this solid foundation, we will then formulate the optimal solution – giving you a system that operates consistently, reliably and efficiently.



# AUTOMATION SYSTEM DESIGN, INSTRUMENTS & CONTROLS

## Services

- Consulting
  - System Selection
  - System Integrator Selection
  - Integration Plans
  - System Studies
  - Automation Management
- Site Work
  - Commissioning
  - Loop Testing and Start-up
  - Construction Support
- System Design
  - User Requirements
  - Functional Requirements
  - System Architecture Design
  - Detail Design Documentation
    - Control Panel Design
    - Control Networks
    - Schematics & Loop Sheets
    - Field Bus Segments



## Control Systems Engineering

- Detailed Control Analysis of Processes
- Control System Optimization
- Control System Design Criteria Development
- Control System Network Architecture
- Control Strategy Optimization
- Data Acquisition and Archiving
- Continuous and Batch Processing
- Coordination of Equipment Vendors
- Develop Equipment Integration Solutions
- PLC/SCADA Based Systems
- Distributed Control System (DCS)
- Building Systems
  - BMS
  - BAS
  - EMS
- Interfaces to Other Systems (MES, LIMS, ERP, etc).
- Develop Plant Integration Plans
- Instrumentation

