evapco

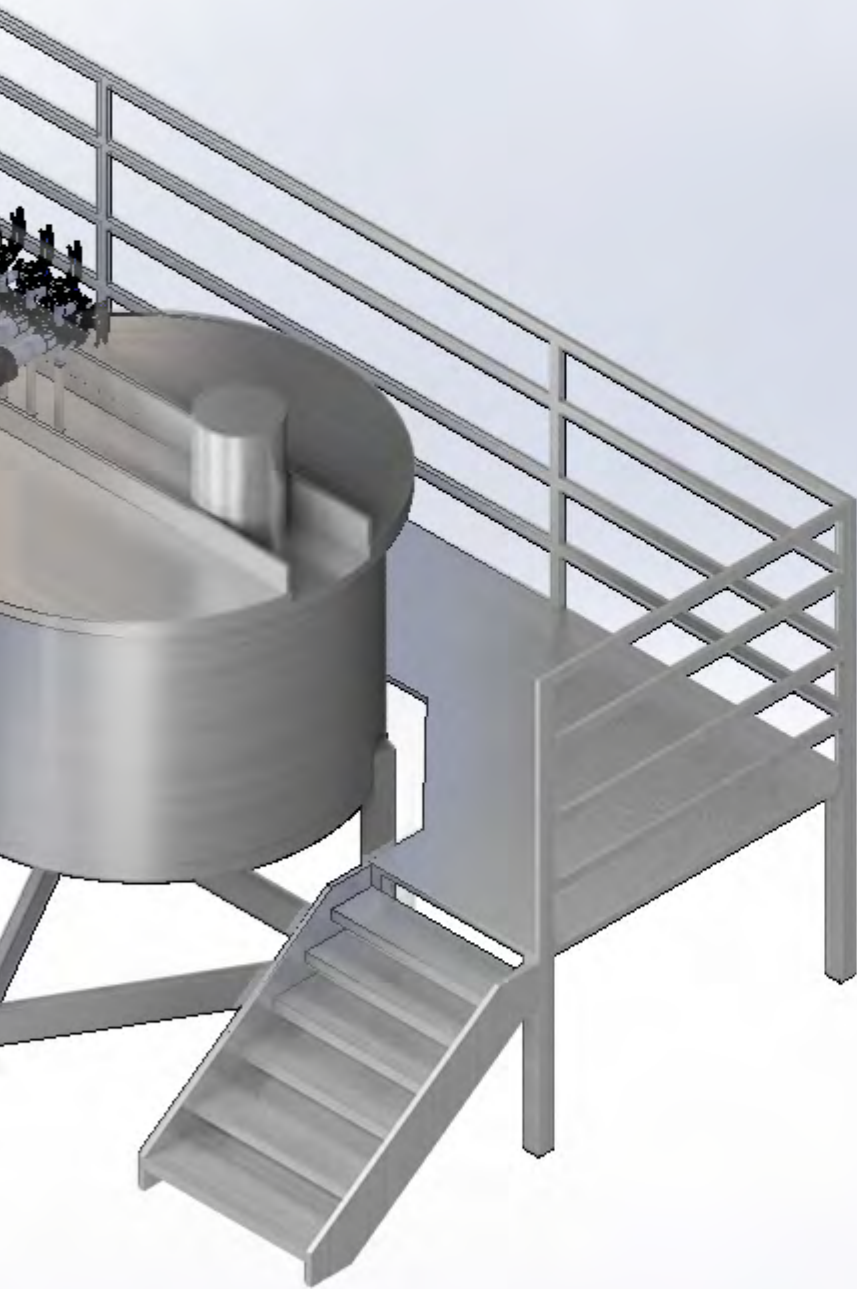## selectTECH

Processing

Packaging

Material Handling

Facility Control

Services

Meat • Dairy • Bakery • Snacks • Beverage • Prepared Foods

Plant Integration & Automation Solutions

About Evapco SelectTech

Evapco SelectTech is a systems integrator specializing in design-build-installation, production line automation, process systems, material handling, and plant facility/utility systems. Capabilities include mechanical systems design, production line layout, electrical design, automation, ammonia refrigeration, UL 508A panel building, and IT integration.

Evapco SelectTech delivers a total coordinated turnkey approach to projects. This thorough methodology creates a cost-effective, detailed, and reliable system even in the most challenging circumstances.

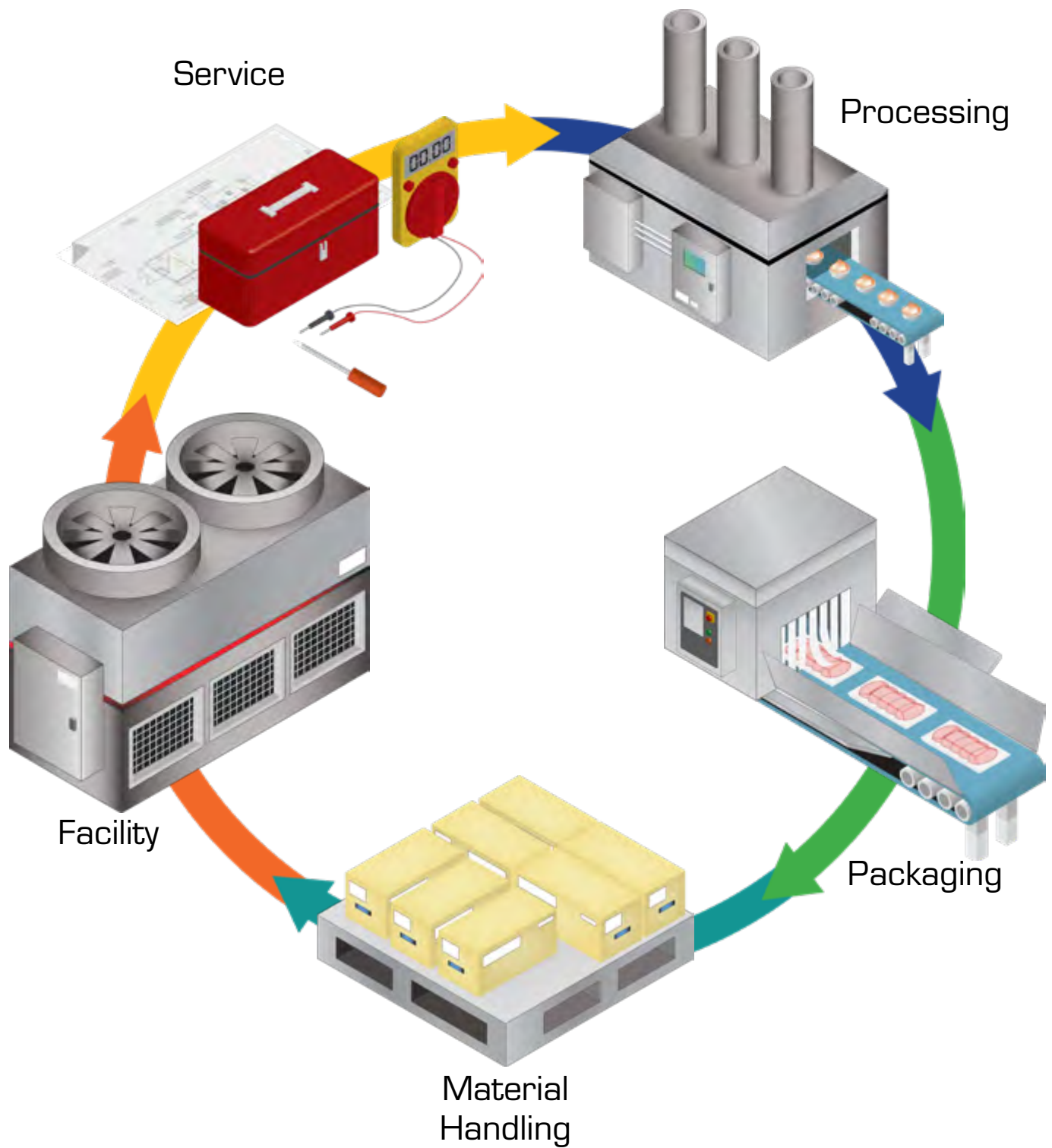Evapco SelectTech serves the following industries in the food sector:

- Meat
- Poultry
- Seafood
- Dairy
- Beverage

- Cold Storage
- Confectionery
- Cereal
- Bakery
- Prepared Foods

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Full Turnkey Philosophy

Evapco SelectTech offers a turnkey design approach to factory floor process automation and production line integration. By encompassing all disciplines of a project, Evapco SelectTech yields superior results on projects ranging from line integration to providing individual equipment installation and programming. The following phases describe some of Evapco SelectTech's capabilities:

Design Phase

- Site Visit & Project Evaluation
- Scope Development
- Production Line Layout
- Mechanical Design
- Electrical Design
- Equipment Design

Build Phase

- Project Management
- Procurement
- Equipment Fabrication
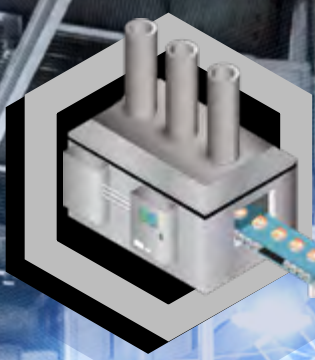- Control Panel Assembly & Testing

Installation Phase

- Equipment Installation
- Electrical Installation
- Mechanical Installation

Commissioning Phase

- System Start-Up
- System Tuning
- Follow-Up Services

Processing

As processes have become more complex, the need for automated systems are more prevalent than ever. Managed control and system stability are imperative during each stage of the process to ensure the output of an efficient and effective operation. The use of manpower to manage complex processes can create bottlenecks and inefficient operations while also creating safety concerns.

Evapco SelectTech is devoted to developing and designing automated control systems that provide highly efficient, safe and reliable solutions for processes. Evapco SelectTech accomplishes this through use of PLC, HMI, and SCADA based control systems, temperature controllers, in-line weight recording and / or verification, optical scanning, and other advancing technologies. Systems of this nature achieve the efficient, safe and stable operations required by the demanding needs of today and in the future.

CORE COMPETENCIES

Ingredient Processing
- Grinding
- Mixing (Brines, Marinades, Sauces)
- Blending (Pre-Blends, Final-Blends)

Batching
- Bulk Ingredient Addition
- Recipe Building
- Mixing and Blending Automation

Cooking
- Continuous Cook Ovens
- Batch Ovens
- Marking, Searing, Browning
- Impingement Ovens

Chilling & Freezing
- Spiral Freezers
- Blast Cells
- Brine Chillers
- WIP Coolers

Case Study

Project Scope:

A regional food processor turned to Evapco SelectTech's batch processing capabilities when needing assistance in upgrading their fully manual ham pickle making process. This customer's production throughput required numerous batches per shift, while also allowing the ability to revert to a complete manual backup process in the event of an emergency. In addition, their current hand-written methods for building and recoding batches had become cumbersome, error prone and difficult to examine post production.

Disciplines Utilized:

- Electrical and Mechanical Installation
- Total Project Management
- Phase Logic Programming
- Data Acquisition and Batch Reporting

Project Results:

Without downtime or interruptions to the customers production schedule, Evapco SelectTech delivered a system that streamlined user data input and provided precise material tracking. With the use of bar code scanning, RFID authentication and precision weighing instrumentation, process data could be digitized in near real-time on the factory floor. This data, coupled with modern back end server based batch reporting, provided the customer with accurate batch building and lot traceability for their process.

Batching

Standardizing and automating manual or operator intensive processes can have positive, dramatic effects on a manufacturing operation.

Creating consistency by utilizing proven batch techniques can yield outstanding results in a product, large cost savings from material losses, and easy access to regulatory data long after a product has been produced.

Designing these systems can be a challenge for manufacturers and end customers because projects often encompass a wide variety of analog and discrete disciplines. Evapco SelectTech's extensive experience in numerous aspects of a production plant allows for sharp scope definition and prediction of unforeseen project missteps.

Evapco SelectTech has designed many batching systems ranging from small, centralized PLC driven logic to fully integrated process automation controllers with ANSI S88 server based batch management systems.

CORE COMPETENCIES

- Bulk Ingredient Addition
- Data Collection and Reporting
- Lot Tracking via Barcode Scanning
- Validation via Barcode Scanning
- Recipe Building
- Temperature Monitoring
- CIP Automation
- Critical Small Volume Additions
- Mixing and Blending Automation
- Load Cell Integration
- RFID User Authentication
- Product Delivery Systems

Packaging

Packaging of product to end of line packaging has continued to place greater demands on producers to ensure quality of product in visually appealing packages. This has created challenges for producers as they painstakingly work to optimize their operations.

Successful automated packaging systems begin with a diligent review of the customer's requirements. Evapco SelectTech has extensive in-plant experience from start of line packaging to final packaging/palletizing. This includes raw material packaging, robotic or manual case packaging, and palletizing. Evapco SelectTech has comprehensive experience and resources for production.

CORE COMPETENCIES

Primary Packaging (RTE)

- Inline Scale Systems
- Vibratory Transport Systems
- Product Transport Conveyors
- Bagging Machines
- Form-Fill Sealing

Secondary Packaging

- Manual Case Pack-Off Systems
- Check Weighing Systems
- Label Verification/Rejection Systems
- Automatic Case Pack-Off Systems
- Vision Systems
- Case Erectors/Sealers

Case Study

Project Scope:

Evapco SelectTech was recently contracted by a large food processor to provide a custom automation solution for a primary packaging area to bulk package frozen meat products in bulk boxes for food service customers. Evapco SelectTech was involved in the production line layout, line rate calculations, facility design to accurately define project details prior to construction and equipment procurement. The following defines the equipment integrated to accomplish the production requirements:

- Upstream Logic to Spiral Freezing System
- Vibratory Conveyors
- Multihead Weighers
- Box Erector Machine
- Box Conveyors

- Bag Insertion Machine
- Indexing Conveyor
- Packoff Station
- Discharge Vibratory Case Settling
- Downstream Logic to Secondary Packaging

Disciplines Utilized:

- Production Rate Design
- Project Management
- SCADA Development
- Automation Logic Programming

- Startup Labor
- Production and Maintenance Training
- Electrical Installation Services

Project Results:

Critical to the project success, Evapco SelectTech was involved from the inception of the project, to the ultimate production of the completed line. As a result, the line started up on time, and exceeded the ramp up production schedule that was defined.

Primary Packaging (RTE)

As packaging types for retail continue to evolve, the challenges of effective and efficient systems to package the product are in lockstep. Systems that translate into increased throughput while not sacrificing quality, safety, and customer satisfaction are a necessity.

Paramount to Evapco SelectTech success is being able to integrate multiple manufacturers' machines on a production line to a single unified solution. Many difficulties arise during startup when the coordination between machines is not resolved beforehand. During the design phase, Evapco SelectTech works with each equipment manufacturer to identify operational parameters to insure a seamless startup.

Evapco SelectTech automated packaging solutions have achieved these goals across a variety of products by improving process reliability, speed of packaging and accuracy of filling processes while ensuring product quality, safety and traceability. This correlates to more product reaching store shelves faster, safer and in the form intended.

CORE COMPETENCIES

- Product Conveyance
    - ◊ Vibratory and Shaking
    - ◊ Belt or Chain Conveyor
    - ◊ Accumulation Conveyor
- Product Weighing/Scaling
- Form-Fill-Sealing Applications
- Metal Detection
- Reject Systems
- Centralized Automation Solutions
- Production Monitoring Metrics and Data Aquisition

Case Study

Project Scope:

Evapco SelectTech was recently contracted by a meat processor to provide case label verification for a secondary packaging area. Label data driven from the plant MES system to the case label printer are applied to the case which needed to be matched to the preprinted barcode on the case. If the printed label did not match the preprinted case bar code, the case would be rejected from the system. Evapco SelectTech was contracted to provide scanning technology, conveyor fabrication, reject systems, control panel design/fabrication, and system deployment. The following defines the equipment integrated to accomplish the production requirements:

- Scanning Hardware and Support Structure
- Case Conveyor with Reject Mechanism
- Sanitary Automation Panel

- Sanitary Pneumatic Panel
- Ethernet Connectivity

Disciplines Utilized:

- Project Management
- Operator Interface Development
- Automation Logic Programming
- Startup Labor

- Production and Maintenance Training
- Electrical Installation Services
- Mechanical Design and Fabrication
- Mechanical Installation

Project Results:

The system eliminated the possibility of production staff using the wrong case for the product being packaged. In the end, the customer had the correct case for the product being packaged and eliminated the rework involved in returning the product to the manufacturer. Evapco SelectTech also developed and designed a complete system that limited the plant engineering and maintenance resources required during the project.

Secondary Packaging

The essence of most secondary packaging areas is to insert the finished sealed product into a case which in turn will be palletized for shipment. Many processes are involved in order to achieve this phase. Evapco SelectTech has designed automated case packing systems for customers to reduce bottlenecks, resulting in increased productivity.

Packing systems have been designed to meet fluctuating production demands such as varying product mixes and the need for increased flexibility for ever-changing case sizes and types.

CORE COMPETENCIES

- Metal Detection/Reject Systems
- Accumulation
- Bar Code Scanning
- Vision Systems
- Pack Off Stations
- Check Weighing
- Product Cartoning
- Case Forming & Sealing
- Case Packing
- Label Detection

Material Handling

Evapco SelectTech has been engaged in numerous large and small scale material handling projects. These projects have included conveyor systems that transport material to the point of use in the production process, as well as a wide variety of supplemental material handling equipment to get the customers product from packaging to final storage.

Material handling systems often include equipment from multiple vendors and suppliers, each having its own set of integration challenges. Bringing these individual pieces of equipment under the control of a lead managing team is where Evapco SelectTech excels.

During the design and planning stages of a project, Evapco SelectTech can act as a single source for all vendors working the project. A single point of contact for the logic, permissive and critical control points of the fully integrated system ensures the material handling system works as a single unit from front to back.

CORE COMPETENCIES

- Material Handling
- Case Conveyance
- Accumulation Systems
- Standard & Robotic Palletizing
- Stretch Wrapping
- ID/Vision Systems
- Case/Pallet Scanning Systems
- Case Sortation
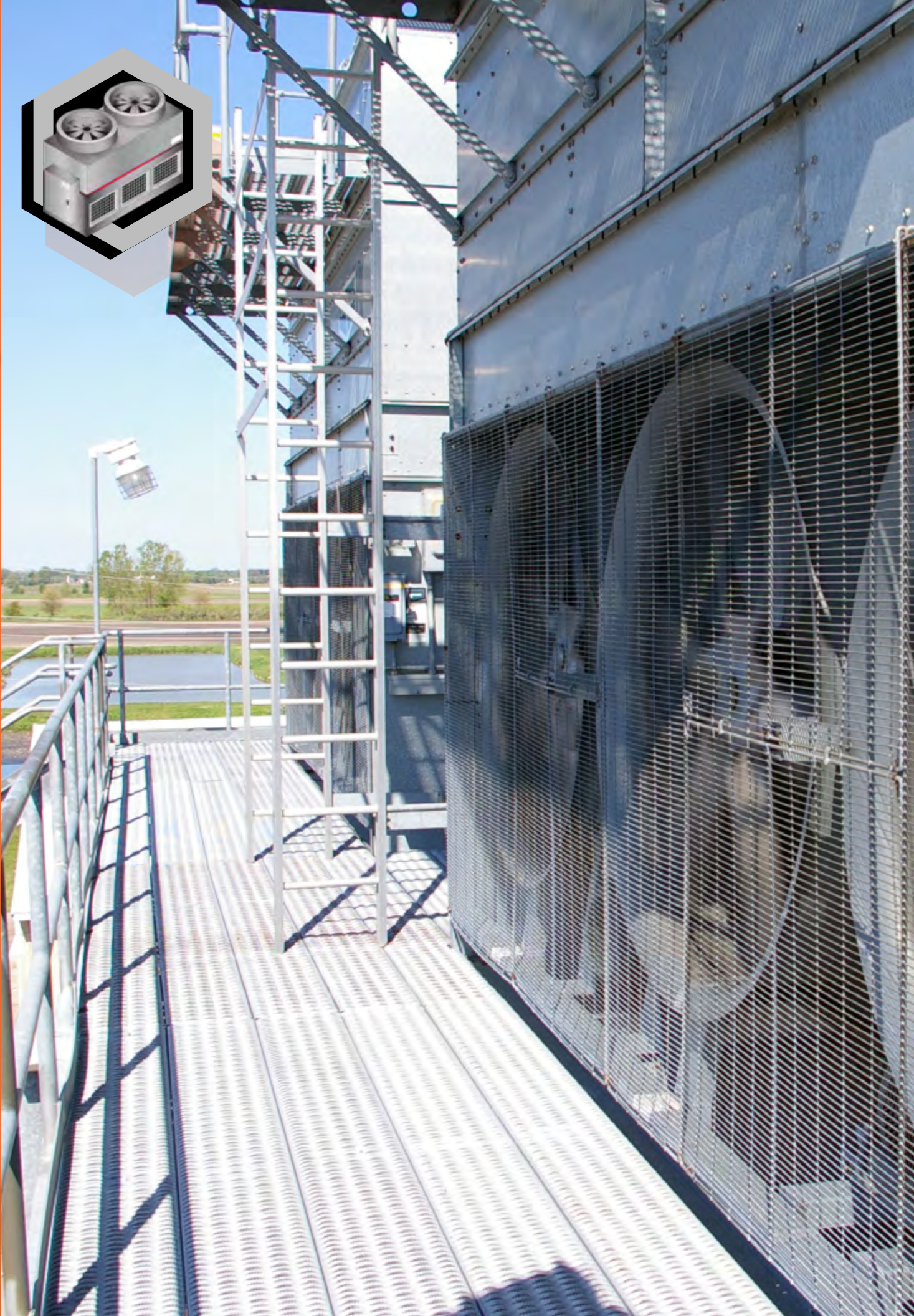
Facility Control

Evapco SelectTech is a single-source industrial facility control systems integrator. Evapco SelectTech personnel have extensive experience planning and implementing various facility applications, including centralized interfaces and interaction with legacy systems. With an all encompassing view, Evapco SelectTech will collaborate with a customer at every stage of a project.

Whether fully integrated or stand alone, Evapco SelectTech can design, program and implement user-friendly PLC and HMI systems with factory standard software.

CORE COMPETENCIES

Ammonia Refrigeration
- Evaporators
- Heat Exchangers (Plate and Frame, Shell and Tube)
- Compressors
- Pump Packages
- Vessel Packages
- Evaporative Condensers
- Chiller Packages
- Blast Cells
- Ammonia Detection Monitoring

Compressed Air Systems
- Compressors
- Air Dryers
- Pressure Monitoring/Flow Monitoring

Sanitary Air Handling
- Make-up Air
- Recirculated Air
- Desiccant Drying
- Cleanup/Sanitation

Hot Water System/High Pressure Sanitation System
- Hot Water Heaters
- High Pressure Pumps
- Pressure and Flow Monitoring

Oil Recovery
- Separators
- Decanters
- Edible and Non-Edible Solutions

Water/Waste Water
- DAF Systems
- Lift Stations

Case Study

Project Scope:

Evapco SelectTech was recently contracted by an OEM (Industrial Air Handling Manufacturer) to provide a control system for a large candy manufacturer seeking a sanitary air handling solution for the packaging area of the facility. The units were required to provide accurate humidity and temperature controls for the production area space. Static air pressure control was also paramount to provide positive pressure to the production area as well. Evapco SelectTech was contracted to provide control panel design/fabrication, standard operating procedures, programming, and system deployment. The following defines the equipment integrated to accomplish the unit control and implementation:

- UL508A Control Panel
- Temperature, Pressure, and Humidity Instrumentation
- Motor Controls (Variable Frequency Drives)
- Remote Operator Interface
- Ethernet Connectivity

Disciplines Utilized:

- Project Management
- Standard Operating Procedure Development
- Operator Interface Development
- Automation Logic Programming
- Startup Services
- Production and Maintenance Training

Project Results:

The system provided accurate and reliable temperature, humidity, and pressurization controls for the production areas. In the end, the customer's product quality improved because of the tight tolerances that were held. Evapco SelectTech developed and designed a complete system that passed critical data to the existing plant SCADA system to alarm and display critical control points within the system.

Critical Process Air Handling

Evapco SelectTech has engaged in many critical process air handling projects over the last two decades. The scope of these projects has ranged from 2,000 CFM to 100,000 CFM running as standalone or multiple coordinated units.

Evapco SelectTech has worked directly for handling unit manufacturers to ensure new construction or retrofit installations will seamlessly integrate with new and/or existing automation architectures. By acting as the lead management team, Evapco SelectTech can ensure the control panels are built to strict UL508A standards, to meet and exceed even the largest corporations' internal standards.

In addition to new installations, Evapco SelectTech has done numerous retrofits and upgrades to bring aging units up to new technology levels. A high-efficiency burner retrofit or a drop-in backplate replacement is an easy way to increase ROI in energy bills and maintenance costs.

CORE COMPETENCIES

- Air Balance
- Instrument & Sensor Calibration
- High Efficiency Burner Retrofit
- PLC & HMI Programming Updates

Case Study

Project Scope:

Having expertise as a PSM contractor, Evapco SelectTech was recently contracted by a refrigeration contractor to upgrade two ammonia engine room control systems in the same facility. One system was a fifty year old electro-mechanical system while the other was a 15 year old proprietary system. Both systems were upgraded with a Rockwell ControLogix system running an Ignition SCADA software platform. During this process, the hardwire safety systems were evaluated and subsequently replaced to correct previous misunderstandings of how the system was supposed to operate when originally installed. Evapco SelectTech was contracted to provide system evaluation services, control panel design/fabrication, standard operating procedures, programming, electrical installation, and system deployment. The following defines the equipment integrated to accomplish the unit control and implementation:

- UL508A Control Panel
- Temperature, Pressure, Amperage, and Humidity Instrumentation
- Hardwire Piping and Wiring Materials

- Ignition SCADA Software
- Remote Operator Interface
- Ethernet Connectivity
- Custom Serial Connectivity

Disciplines Utilized:

- Project Management
- Standard Operating Procedure Development
- Operator Interface Development

- Automation Logic Programming
- Ignition Development Programming
- Startup Services
- Production and Maintenance Training

Project Results:

The system provided accurate and reliable pressure, temperature, and emergency ventilation for the engine room areas. In the end, the overall compressor and condenser sequencing was achieved to reduce energy costs and deliver consistent temperatures to the facility production processes. Subsequently, customer product quality improved because of the tight tolerances that were held. Evapco SelectTech developed and designed a complete system that passed critical data to the existing plant SCADA system to alarm and display critical control points within the system.
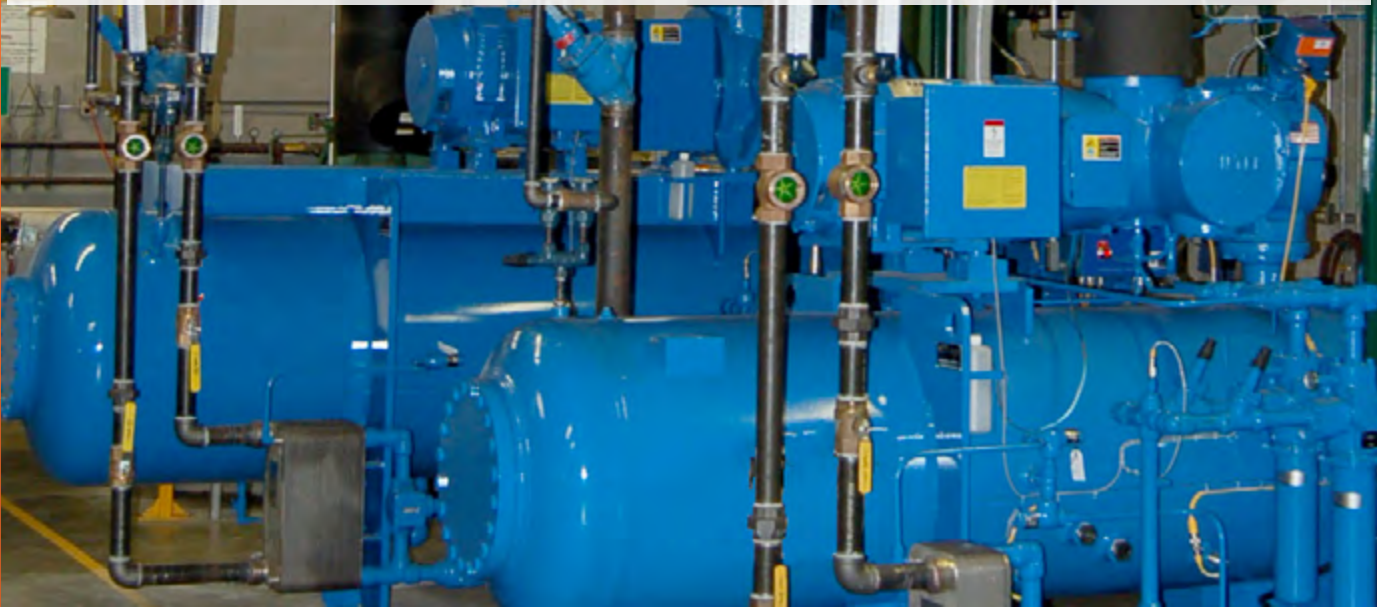
Refrigeration, Ammonia

Refrigeration control and automation has been a core competency of Evapco SelectTech since its inception in the early 1990's. Since then Evapco SelectTech has designed, installed and upgraded many ammonia refrigeration control systems. These systems have ranged in size from a single evaporative coil to large expansive engine rooms governing the refrigeration system of an entire plant.

With a vast understanding of refrigeration fundamentals, coupled with an extensive use of modern control systems, technologies and techniques, Evapco SelectTech delivers an effective and comprehensive control via automatic and manual means.

In addition, Evapco SelectTech builds every system with a manual backup system that allows the technician to operate the system if the automation system goes down for any reason. This allows for virtual constant uptime in terms of the refrigeration operation. Large cost savings can also be realized by modernizing obsolete control systems, replacing aging equipment and re-evaluating legacy procedures. New possibilities for energy savings are exposed by utilizing modern automation controllers and communicating with various refrigeration equipment via industrial networks.

CORE COMPETENCIES

- Ammonia, Freon, CO2
- Life Safety Detection Systems
- Automation System (New & Legacy Upgrades)
- Electro-Mechanical Solutions

Services

Production facilities can be costly to maintain and operate. Technical labor resources have become limited, so companies look to external resources to keep production flowing.

Evapco SelectTech has the technical support and experience necessary to fully support modern production and facility systems.

PROVIDED SERVICES

- Machine Upgrades
- Project Management
- Information Technology
- Control Panel Design & Build
- PLC Platforms
- Post Project Support

SYSTEM CHECKOUTS

- Air Balancing
- Air Handling Service Work
- High Efficiency Burner Retrofit
- Instrument and Sensor Calibration
- Ammonia Refrigeration Service Work
- PLC & HMI Programming and Updates
- System PID Tuning
- Factory Acceptance Testing (FAT)

Case Study

Project Scope:

A worldwide food manufacturer wanted to create an industrial automation software platform for their aging SCADA system.

Evapco SelectTech was able to provide technical guidance and complete implementation. Evapco SelectTech designed a fully virtualized infrastructure for their SCADA server and customer environment, along with a centralized iSCSI storage area network.

Disciplines Utilized:
- Network Design
- Total Project Management
- Programming

Project Results:

The customer was able to move away from failure-prone distributed desktop and laptop computers to a modern, datacenter-driven hardware and software base.

Information Technology Support

Evapco SelectTech employs a team of full time IT personnel to meet the constantly changing and challenging landscape of industrial networks, devices and users. With manufacturers, customers and end users continually pushing the envelope for connectivity it is critical to be up to date on new and emerging technologies, protocols and implementation methods.

As the proliferation of industrial Ethernet based protocols increases over the years, the line between Information Technology and Operational Technology will continue to blur. This can create confusion, misdirection and interruptions in large and small projects alike.

Being able to bridge this "communication gap" between the integrator and customer, and/or the customer and their own IT department becomes critical. Evapco SelectTech is in a unique position to act as a liaison to translate, advise, and direct a customer's needs to ensure all team members - internal or external - are working toward the same goal.

CORE COMPETENCIES

- IT & OT Network Design
- Hardware Selection
- Software Selection
- Virtualization
- Documentation
- Industrial Protocol Knowledge
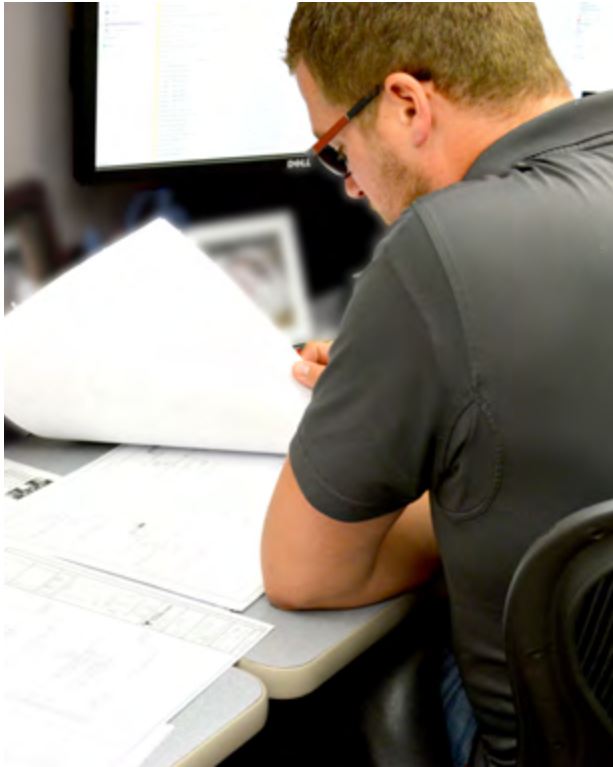
Design Phase
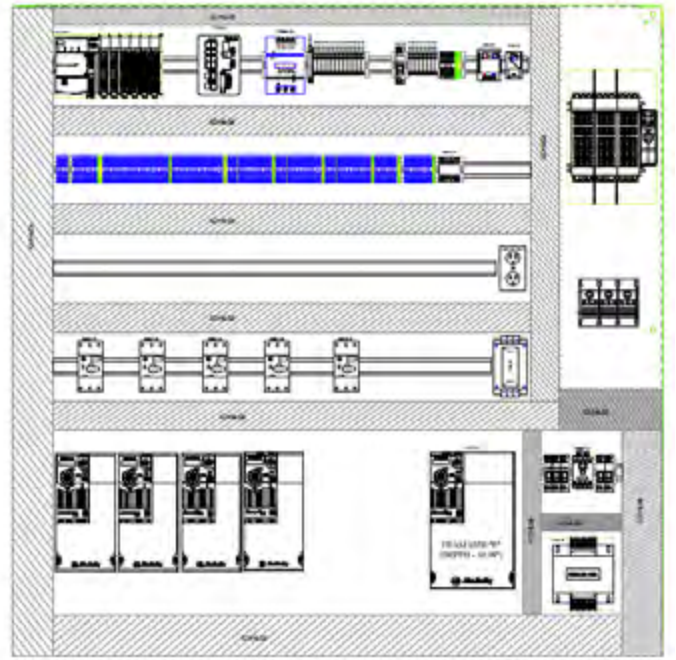
Layout

Assembly

Complete

Complete System Design & Build

Evapco SelectTech employs a full-time staff to design and build control panels. Evapco SelectTech holds safety standards to the utmost importance, and all installations are compliant with current UL© Certification.

Evapco SelectTech's extensive experience allows a wide variety of custom projects to be tackled. Large or small, all panels are carefully designed and documentation is created to satisfy all needs of a project. Evapco SelectTech keeps an extensive spare parts inventory on hand, and if a part is not in stock, will quickly procure it. Every panel is thoroughly inspected, powered up and all points tested to meet Evapco SelectTech's rigorous standards before shipping.

CORE COMPETENCIES

- Complete System Design
- Electrical Installation
- Mechanical Installation
- UL 508A & ULC Certified Manufacturing
- Flame Safety Supervision
- Indoor/Outdoor Enclosures and Cabinets
- Retrofit of Existing Control Panels
- Process Control Panels
- Motor Starter Panels
- VFD Control Panels
- Hydraulic Control Panels
- HMI / Panelview Control Panels
- Rigorous Inspection & Testing
- Panel Documentation including Schematics & PLC Programs
- Extensive Inventory On-Hand
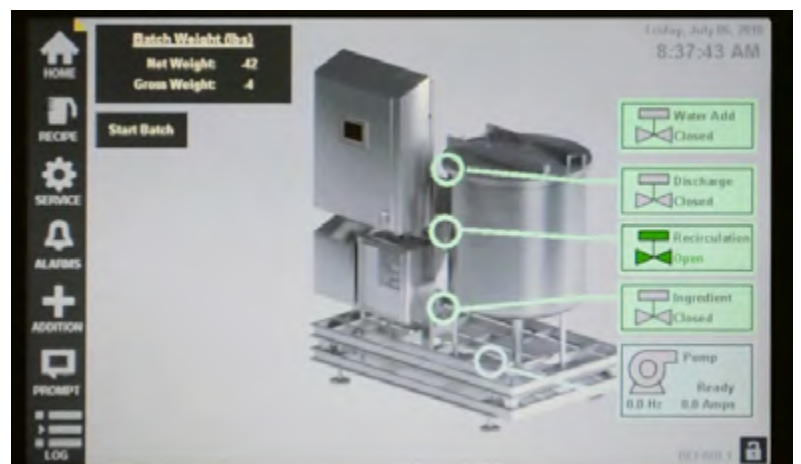- System Maintenance
- Continuing Support After Installation

In-House Programming Test Area

Live Testing

Extensive Inventory

Visualization Interface

PLC Platforms

Technology is a constantly changing and evolving space. It can be difficult to keep pace with the continuous advance of new terminology and innovation. Evapco SelectTech technicians are well versed in all the major automation platform supplier's software and services. We are also continually researching and training to understand best practices, implementation techniques and industry trends to stay in step with an ever changing and evolving industrial automation sector.

Evapco SelectTech uses the latest in automation SCADA and PLC software and hardware. Evapco SelectTech uses industry standard leading brands such as Rockwell Automation©, Wonderware© and Inductive Automation©

CORE COMPETENCIES

- Installation of New Systems
- Upgrade/Retrofit of Existing Systems
- Network Design
- Data Acquisition, Storage and Reporting
- Plant Network Interfacing
- Remote Access and Monitoring

HARDWARE

- Allen Bradley
- Siemens
- Schneider Electric

SOFTWARE

- Rockwell Software
- Wonderware
- Inductive Automation Ignition

LEGACY PLATFORMS

- AB PLC5
- Modicon
- Sy/Max

Documentation & Revisions

Onsite Field Support

Post Project Support

Once the dust settles from the often rapid commissioning and closeout phase of a project, Evapco SelectTech continues to deliver top level assistance with an extensive parts inventory and a range of ongoing support services.

Evapco SelectTech houses a large inventory of common and uncommon components used in every project or solution it engages in. Strategic decisions are made to stock long lead parts or hard to find components. This allows Evapco SelectTech to deliver parts with quick a turnaround, to keep systems up and running.
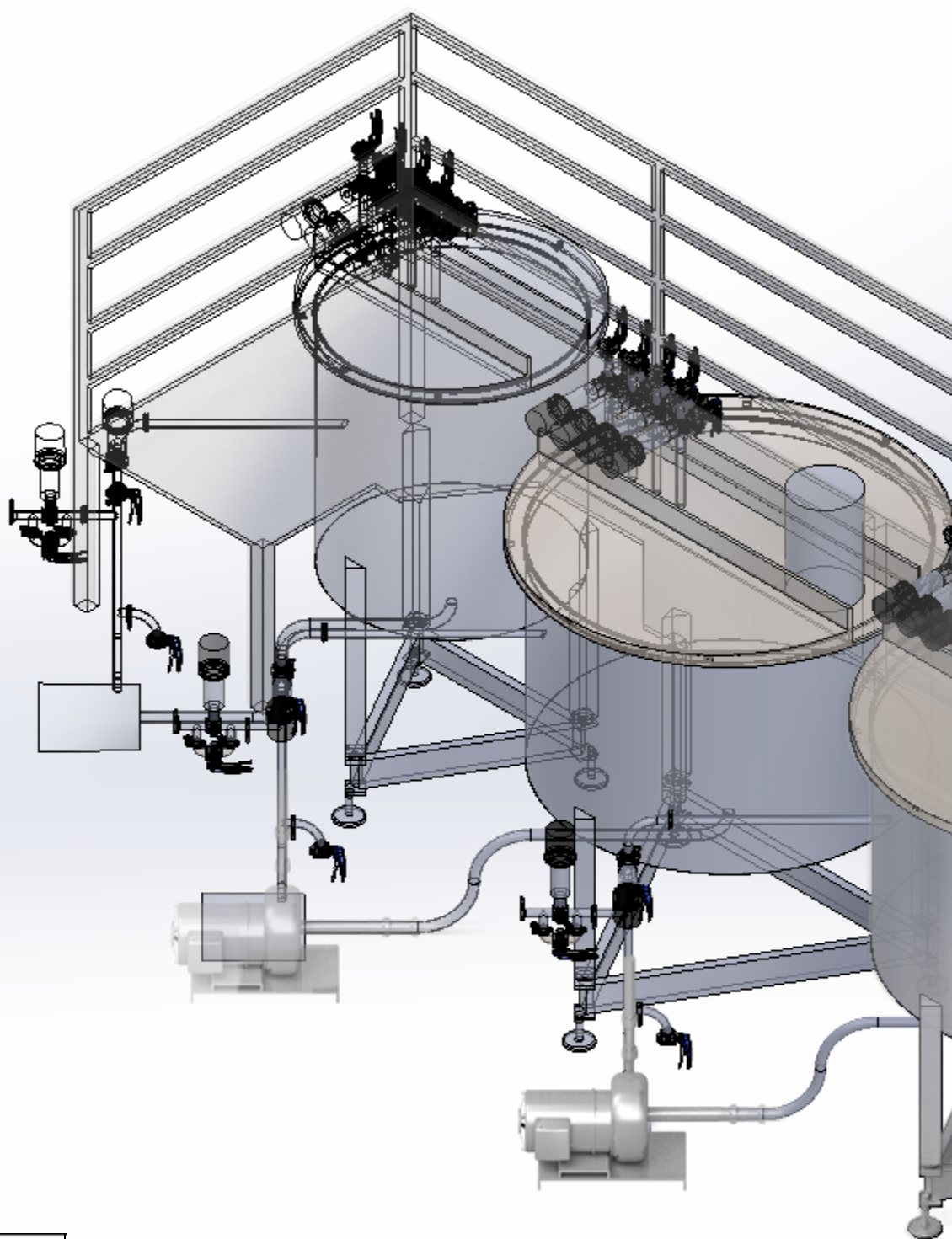
In addition to service on equipment and solutions provided in-house, Evapco SelectTech also offers mechanical and technical assistance for equipment and systems installed by other manufacturers and system integrators. From complete rebuilds of equipment, to smaller procedural or safety adjustments to bring a system up to modern safety standards, Evapco SelectTech can help assure your upgrade and retrofit projects are executed smoothly.

Evapco SelectTech understands that systems rarely stay static after the commissioning phase. Slight changes, tweaks and procedural changes are always required to fine tune the operation of a system. Evapco SelectTech works with our customers to make these changes and updates seamless and cost effective.

PROVIDED SERVICES

- Ongoing Field Support
- Online Field Support Via VPN
- Onsite Field Support
- Extensive Inventory of Components
- Lessons Learned
- Review After Commissioning
- Ongoing System Support
- Continuous Improvements & Revisions
- System Upgrades

Notes

Notes