

# Front End Loading (FEL) Services

BURROW GLOBAL



## Comprehensive Planning, Reduced Risks

Automation FELs move engineering effort forward to the planning and early phases of projects, enabling a managed approach to design, engineering and construction. **Burrow Global's** experienced automation team uses industry recommended best practices to optimize our design and engineering effort, identify key project risks and establish effective mitigation steps.

## Our Typical FEL Engineering Deliverables

- Complex, Multi-Discipline Scope of Work
- Risk Assessment Summary
- Inclusive & Accurate Cost Estimates to Client Preferred Granularity
- Comprehensive Schedules & Phased Timelines
- Vendor Evaluation & Selection
- Technical Options Evaluation & Recommendation Report
- Requirements & Functional Specifications (Hardware & Software)
- Design Guides (Graphics, Alarms, Panels & Cabinets)
- System Network & Architecture Drawings
- I/O Database & Loop Sheets
- Thorough Document Registry of Relevant Drawings
- Loop & Logic Narratives
- Organizational Training Plan
- Detailed & Customized Cutover Plan
- Constructability, Operability & Maintainability Reviews

## High-Risk Focus Items

As automation FEL specialists, **Burrow Global** understands where most automation projects are at highest risk. We focus our FEL efforts on ensuring we have a thorough and detailed design in place to reduce scope changes, schedule delays, and budget overruns during project execution, construction and startup. Common automation project risk areas include:

- HMI Design & Graphics Configuration
- Unforeseen Control System Logic Complexity
- Communication & Interfaces with Third-Party Systems & Applications
- Field Constructability, Operability & Maintainability Constraints
- Detailed Cutover Planning

## Broad Capabilities, Specialized Knowledge

In conjunction with our subject matter expertise in automation, **Burrow Global** has extensive capabilities in multi-discipline engineering and architecture to support automation projects. Our team will optimize your design and deliver a worry-free project from concept to operation.

**Take advantage of Burrow Global's FEL services to realize a complete automation design that streamlines project execution and reduces costly late-project deviations.**

## Start Your Project Off Right with Burrow Global's Automation FEL Services

- We leverage proven engineering standards and FEL best practices to provide premium quality, comprehensive project plans.
- Our experienced team identifies potential risks early in FEL and mitigates them through to completion of execution phase.
- Our extensive knowledge of industrial control systems enables us to develop optimal interface and integration strategies.
- Utilizing VIP's for contractibility, operability and maintainability in FEL and detailed design yields efficient and effective commissioning & startup.
- Our "Concept to Operation" capabilities provide seamless project workflow and single-source supplier through each project phase.
- Our "Meet-You-Where-You-Are" approach enables our team to join you at any project stage to drive the value of your project.



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