REQUEST FOR PROPOSAL (RFP)

Villa-Chan

PROJECT OVERVIEW

Name: Indust Gloria Automation Retrofit
Type: Automation Retrofit
Location: Lake Gloria, AS (Industrial Park)
Industry: Manufacturing
Value: $3,481,504
Complexity: 2/5
Date: April 09, 2025
Disciplines: Electrical Engineering, Process Engineering, Mechanical Engineering
Regulations: ASME Standards

SCOPE OF WORK

Scope of Work: Generic Automation Retrofit Project

Project Goal: To upgrade the automation systems of existing machinery within an industrial park facility, improving efficiency, safety, and maintainability. This project focuses on a specific, pre-selected machine.

1. Electrical Engineering

*** Task 1: PLC Upgrade and Programming: Replace the existing Programmable Logic Controller (PLC) with a modern Siemens S7-1500 PLC, incorporating enhanced safety features per IEC 61131-3 standards. Develop and implement a new PLC program to control the machine's automated functions, including HMI integration with a Siemens KTP700 panel. Thorough documentation including ladder logic diagrams and I/O list shall be delivered.**

*** Task 2: Motor Control Center (MCC) Upgrade: Upgrade the existing MCC with a new unit featuring solid-state relays and variable frequency drives (VFDs) for precise speed control of all three primary machine motors (1 x 75kW, 2 x 22kW). Ensure compliance with NEC standards and implement appropriate safety interlocks. All wiring diagrams and loop drawings must be provided.**

2. Process Engineering

*** Task 1: Process Optimization Study: Conduct a detailed study of the current manufacturing process to identify bottlenecks and areas for improvement. This includes analyzing production data, developing process flow diagrams (PFDs) and creating an optimized process flow for improved efficiency. The deliverable will be a revised process flow diagram and a report outlining the proposed changes and projected improvements.**

*** Task 2: Safety System Integration: Integrate existing Emergency Stop (EStop) mechanisms with the new PLC system ensuring compliance with relevant safety standards (e.g., ANSI/RIA R15.06). Develop a detailed safety risk assessment report and implement appropriate safety measures in the PLC program to mitigate any identified hazards. All safety system documentation and certifications are required.**

3. Mechanical Engineering

*** Task 1: Actuator Replacement: Replace three existing pneumatic actuators (specifications to be determined on-site) with electric servo actuators. The new actuators must be compatible with the new PLC system and chosen for their improved precision and repeatability. Detailed dimensional drawings and specifications for the new actuators, including mounting brackets, will be provided.**

*** Task 2: Sensor Integration: Integrate new proximity sensors (10 units, M12 connector type, IP67 rating) at strategic locations on the machine to monitor process parameters. These sensors will be linked to the PLC for real-time monitoring and data acquisition. Accurate sensor placement drawings specifying locations and cabling details will be provided.**

Cross-Disciplinary Tasks

*** Task 1: System Integration and Testing: Conduct thorough system integration testing to ensure seamless communication between all components from the different disciplines (electrical, process, mechanical). This includes functional testing, safety testing, and performance testing to verify the upgraded system meets the project goals. A comprehensive test report documenting all test results shall be delivered.**

*** Task 2: Handover and Training: Provide comprehensive training to the client's maintenance personnel on operation, maintenance, and troubleshooting of the upgraded automated system. Prepare detailed operation manuals and troubleshooting guides. Final handover documentation shall include as-built drawings and system specifications.**

Complexity Impact: The project complexity is appropriate for a Level 2 rating, given the scope and the required integration.

REQUEST FOR QUOTATION

Request for Quotation: Indust Gloria Automation Retrofit

Project Name: Indust Gloria Automation Retrofit

Location: Industrial Park at Lake Gloria, AS

Industry: Manufacturing

Date: April 9, 2025

Introduction:
This RFQ seeks proposals for a generic automation retrofit project at our Lake Gloria facility. The project involves upgrading the automation system of a pre-selected machine to improve efficiency, safety, and maintainability. Complexity is rated 2/5.

Scope of Work:
The project encompasses electrical, process, and mechanical engineering aspects (detailed scope attached as Appendix A). Key deliverables include: PLC and MCC upgrades (Siemens S7-1500, KTP700 HMI), process optimization study, safety system integration, actuator replacement (electric servo), sensor integration (10 x M12 IP67 proximity sensors), system integration testing, and comprehensive training and documentation.
Appendix A (Summary):

*** Electrical: PLC & MCC upgrade, HMI integration, documentation (ladder logic, I/O list, wiring diagrams).**

*** Process: Process optimization study, safety system integration (risk assessment, compliance), documentation.**

*** Mechanical: Actuator replacement (3 units), sensor integration, documentation (drawings, specifications).**
* Cross-Disciplinary: System integration testing, handover, training, documentation (as-built drawings, manuals).

Qualifications:
Bidders must demonstrate at least 3 years of experience in manufacturing automation projects and proven compliance with relevant safety and regulatory standards (e.g., IEC 61131-3, NEC, ANSI/RIA R15.06).
Proposal Requirements:
Proposals must include:

1. **Company qualifications and relevant project experience.**
2. **Detailed technical design (1-2 pages maximum).**
3. **Comprehensive cost breakdown.**

Evaluation Criteria:
Proposals will be evaluated based on:
* Technical merit (50%)
* Cost (30%)
* Experience (20%)

Timeline:

* **RFQ Release: April 9, 2025**
* **Questions Due: April 22, 2025**
* **Proposals Due: April 30, 2025**
* **Project Start: May 31, 2025**
* Project Duration: 3 months

Contract Type: Fixed Price

Submission:
Submit proposals electronically to procurement@manufacturing.com.

CONTACT

Kerri Boone, RFP Coordinator
Phone: 718-500-2225x218
Email: kerri@villa-chan.com

TIMELINE

Include key dates such as submission deadlines, inquiry deadlines, and project start dates.