REQUEST FOR PROPOSAL (RFP)

Byrd-Ferguson

PROJECT OVERVIEW

Name: Tech Jaimeborough Facility Upgrade
Type: Facility Upgrade
Location: Jaimeborough, CT (Refinery Zone)
Industry: Manufacturing
Value: $8,405,989
Complexity: 2/5
Date: April 09, 2025
Disciplines: Industrial Automation, Mechanical Engineering
Regulations: ISO 9001, OSHA Regulations

SCOPE OF WORK

Scope of Work: Automated Pallet Handling System Upgrade

Project Goal: Upgrade the existing pallet handling system in a manufacturing facility to increase throughput and improve efficiency. The system will handle pallets of varying sizes (up to 1.2m x 1.0m x 1.5m) and weights (up to 1000 kg).

I. Industrial Automation

1. PLC Programming and HMI Design: Develop and implement a Rockwell Automation PLC program (using RSLogix 5000) to control the automated guided vehicle (AGV) system, conveyor belts, and robotic arm for pallet movement and stacking. This will include designing a user-friendly HMI (Human Machine Interface) using FactoryTalk View SE, providing real-time monitoring and control capabilities. All programming will adhere to IEC 61131-3 standards.

2. Safety System Integration: Integrate a safety system, compliant with ISO 13849-1 PLd category, incorporating emergency stop buttons, light curtains (Siemens type 3SF7 safety light curtains), and area scanners to ensure operator safety during operation. This will involve creating a safety relay circuit and integrating it with the main PLC program, with detailed documentation included in a safety manual.

3. Network Communication Setup: Configure a Profinet network to connect all automated components, including AGVs, PLCs, and HMI. This includes setting up IP addresses, configuring network devices, and testing communication speeds and reliability. The network setup should be documented according to company network standards.

II. Mechanical Engineering

1. Conveyor System Design & Fabrication: Design and fabricate a new 20-meter roller conveyor system using 50mm diameter steel rollers and a modular aluminum frame to transport pallets between the AGV and stacking area. This will include detailed CAD drawings (SolidWorks), bill of materials, and fabrication specifications adhering to relevant ANSI standards.

2. Robotic Arm Integration: Integrate a KUKA KR 6 R900 six-axis robot to automate pallet stacking. This involves designing and fabricating a custom mounting fixture for the robot, integrating the robot control system with the PLC, and conducting testing to ensure safe and accurate pallet placement. The design should incorporate collision detection and avoidance protocols.

III. Cross-Disciplinary Tasks

1. System Integration and Testing: Both the Industrial Automation and Mechanical Engineering teams will collaboratively integrate all components of the system, performing extensive testing to verify functionality and safety compliance. This includes conducting thorough testing of safety systems, network communication, and pallet handling processes. A comprehensive testing report and documentation will be provided.

2. Documentation and Training: Both teams will collaborate to develop comprehensive system documentation, including operational manuals, maintenance procedures, and safety guidelines. This will ensure a smooth transition to operational status and provide appropriate training to plant personnel for optimal operation and maintenance.

Complexity Impact Note: The project's complexity is rated 2/5 due to the moderate integration challenges involved.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): Tech Jaimeborough Facility Upgrade

Project Name: Tech Jaimeborough Facility Upgrade

Project Location: Refinery Zone, Jaimeborough, CT

Industry: Manufacturing

Date: April 9, 2025

1. Introduction:
This RFQ seeks proposals for the upgrade of the existing pallet handling system at our Jaimeborough manufacturing facility. The project, "Tech Jaimeborough Facility Upgrade," involves an automated pallet handling system upgrade to increase throughput and efficiency. The system will handle pallets up to 1.2m x 1.0m x 1.5m and weighing up to 1000 kg. Complexity rating: 2/5.

2. Scope of Work: Automated Pallet Handling System Upgrade (detailed scope below)
I. Industrial Automation: PLC programming (RSLogix 5000), HMI design (FactoryTalk View SE), safety system integration (Siemens 3SF7 light curtains, ISO 13849-1 PLd), Profinet network setup.
II. Mechanical Engineering: Conveyor system design & fabrication (20m, 50mm rollers, modular aluminum frame), KUKA KR 6 R900 robot integration (including custom mounting fixture).
III. Cross-Disciplinary Tasks: System integration & testing, comprehensive documentation (operational manuals, maintenance procedures, safety guidelines), and training for plant personnel.

3. Requirements:

*** Qualifications: Minimum 3 years of experience in manufacturing automation projects, proven record of regulatory compliance (IEC 61131-3, ISO 13849-1, ANSI standards).**

*** Proposal: Include detailed technical designs (1-2 pages), a comprehensive cost breakdown, and a project timeline aligning with the proposed project start date.**
4. Evaluation Criteria:
* Technical Approach (50%)
* Cost (30%)
* Experience & Qualifications (20%)
5. Project Timeline:

*** RFQ Release: April 9, 2025**

*** Questions Due: April 23, 2025**

*** Proposals Due: May 6, 2025**

*** Project Start: June 1, 2025**

*** Project Duration: 7 months**

6. Contract Type: Fixed Price

7. Contact:
Submit proposals electronically to: procurement@manufacturing.com

CONTACT

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TIMELINE

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