

# REQUEST FOR PROPOSAL (RFP)

Williams-Bryant

## PROJECT OVERVIEW

Name: Indust Strongview Facility Upgrade  
Type: Facility Upgrade  
Location: Strongview, KS (Refinery Zone)  
Industry: Manufacturing  
Value: \$7,751,385  
Complexity: 3/5  
Date: April 09, 2025  
Disciplines: Industrial Automation, Mechanical Engineering, Electrical Engineering  
Regulations: ISO 9001

## 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 efficiency and throughput by 25%, while adhering to safety regulations and ISO 9001 quality standards where applicable.

#### 1. Industrial Automation:

\* **Task 1: PLC Programming and HMI Development:** Program a Siemens S7-1500 PLC to control the automated guided vehicles (AGVs) and conveyor system, integrating with existing warehouse management system (WMS). This includes developing a user-friendly HMI interface with real-time monitoring and alarm functionalities, adhering to IEC 61131-3 programming standards and providing complete documentation.

\* **Task 2: AGV Navigation System Implementation:** Implement a laser-based navigation system for three AGVs (model: KUKA KMP 1500) to navigate the warehouse floor autonomously, ensuring collision avoidance and optimal route planning using a map created with AutoCAD software. This includes integrating the navigation system with the PLC and testing the system for accuracy and efficiency within the defined warehouse area (100m x 50m).

\* **Task 3: Safety System Integration:** Integrate a comprehensive safety system compliant with ANSI/RIA R15.06-2012, including emergency stop buttons, light curtains, and laser scanners, into the existing PLC control system. This includes generating a safety risk assessment report demonstrating compliance and outlining all emergency shutdown procedures.

#### 2. Mechanical Engineering:

\* **Task 1: Conveyor System Modification:** Modify the existing roller conveyor system (length: 50m) by installing 2 new 5m sections of heavy-duty steel conveyor belt (material: 304 stainless steel, load capacity: 1500 kg) to accommodate increased throughput. This includes designing and fabricating the necessary supporting structures, ensuring alignment with existing infrastructure and generating detailed fabrication drawings adhering to ASME Y14.5M standards.

\* **Task 2: Pallet Stacker Design and Integration:** Design and integrate a new automatic pallet stacker (payload: 1000 kg, lift height: 6m) with the conveyor system to automate the stacking process. This involves generating 3D CAD models (Solidworks), selecting appropriate hydraulic actuators and motors based on performance requirements and providing detailed assembly drawings for the manufacturing team.

\* **Task 3: AGV Docking Station Design:** Design and fabricate 3 AGV docking stations (dimensions: 2m x 1.5m x 1m), ensuring safe and reliable docking procedures. Materials should include reinforced concrete for stability and impact resistance. Fabrication should adhere to relevant welding standards (AWS D1.1) and incorporate proper safety features.

#### 3. Electrical Engineering:

\* **Task 1: Power Distribution System Upgrade:** Upgrade the existing 480V 3-phase power distribution system to support the additional load from the automated equipment. This includes sizing and installing new cabling (Copper, AWG 6), circuit breakers (Square D), and transformers according to NEC standards, ensuring proper grounding and creating updated electrical schematics.

\* **Task 2: Motor Control Center (MCC) Design and Installation:** Design and install a new MCC to house the motor starters and control devices for the AGVs, conveyors, and stacker. This involves selecting appropriate motor starters (Allen-Bradley) and creating a wiring diagram according to NFPA 79. The MCC will be housed in a NEMA 12 enclosure.

\* **Task 3: Network Infrastructure Implementation:** Implement a robust industrial Ethernet network (PROFINET) to facilitate communication between the PLC, HMI, AGV navigation systems, and other devices. This includes selecting appropriate network switches, cabling, and configuring network settings for reliable and secure data transmission, adhering to relevant IT network standards.

#### Cross-Disciplinary Tasks:

\* **Task 1: System Integration Testing:** All disciplines will collaborate to perform rigorous system integration testing, addressing any conflicts or issues related to PLC programming, mechanical design, and electrical installations. This testing will involve scenarios simulating peak throughput to ensure the system operates smoothly and efficiently, documenting all tests and their results.

\* **Task 2: Safety and Risk Assessment Review:** All disciplines will jointly review the safety risk assessment, ensuring all identified hazards are adequately mitigated, and safety protocols are effectively implemented. This will involve reviewing the safety system integration plans, testing protocols, and operating procedures.

**Complexity Impact Note:** The project's moderate complexity (3/5) is primarily driven by the integration of multiple systems and the need for careful coordination between different engineering disciplines.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): Indust Strongview Facility Upgrade

Project Name: Indust Strongview Facility Upgrade

Location: Refinery Zone, Strongview, KS

Industry: Manufacturing

RFQ Release Date: April 09, 2025

Response Due Date: May 05, 2025

Project Start Date: June 05, 2025

Project Duration: 14 Months

Contract Type: Time & Materials

1. Project Overview:

This RFQ seeks proposals for upgrading the existing pallet handling system at our Strongview, KS facility. The goal is to increase efficiency and throughput by 25%, while maintaining compliance with all relevant safety regulations (ANSI/RIA R15.06-2012, NEC, NFPA 79, AWS D1.1) and ISO 9001 quality standards. The upgrade involves significant automation, mechanical, and electrical engineering components (detailed scope below).

2. Scope of Work: Automated Pallet Handling System Upgrade (Detailed Scope provided separately)

3. Qualification Requirements:

- \* Minimum 3 years of experience in manufacturing facility upgrades, specifically involving automated material handling systems.
- \* Proven track record of regulatory compliance (safety and quality).
- \* Demonstrated expertise with Siemens S7-1500 PLCs, KUKA AGVs, and relevant industrial automation technologies.

4. Proposal Requirements:

- \* Detailed technical design (1-2 pages max), including system architecture diagrams and specifications for all proposed components.
- \* Comprehensive cost breakdown, clearly outlining all labor, materials, and other expenses.

5. Evaluation Criteria:

- \* Technical Approach (50%)
- \* Cost (30%)
- \* Experience and Qualifications (20%)

6. Timeline:

- \* RFQ Release: April 09, 2025
- \* Questions Due: April 28, 2025 (Submit questions to procurement@manufacturing.com)
- \* Proposals Due: May 05, 2025
- \* Project Start: June 05, 2025

7. Contact Information:

Submit proposals electronically to: procurement@manufacturing.com  
(Detailed Scope of Work available upon request)

CONTACT

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TIMELINE

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