

REQUEST FOR PROPOSAL (RFP)

Lee-Hamilton

PROJECT OVERVIEW

Name: Tech Gonzalesfort Facility Upgrade
Type: Facility Upgrade
Location: Gonzalesfort, LA (Factory Complex)
Industry: Manufacturing
Value: \$12,118,803
Complexity: 3/5
Date: April 09, 2025
Disciplines: Industrial Automation, Process Engineering, Mechanical Engineering
Regulations: ASME Standards

SCOPE OF WORK

Scope of Work: Automated Pallet Handling System for Food Processing Plant

Project Goal: Design, build, and integrate an automated pallet handling system for a food processing plant to improve efficiency and reduce labor costs. This system will involve automated guided vehicles (AGVs) and a robotic palletizer.

Disciplines & Tasks:

I. Industrial Automation:

1. AGV System Design & Programming: Design a fleet of three AGVs with a payload capacity of 1500 kg each to navigate the existing plant layout (provided in CAD format). Implement a collision avoidance system using laser sensors and develop a control system integrating AGV navigation software with the warehouse management system (WMS) using ROS (Robot Operating System). Deliverables include system schematics, AGV control software, and integration testing documentation.
2. Robotic Palletizing System Integration: Integrate a 6-axis robotic palletizer (Fanuc R-2000iB/165F) with the AGV system, using a high-speed vision system for accurate pallet placement. Develop and implement a safety system compliant with ANSI/RIA R15.06-2012, including light curtains and emergency stops. Deliverables include the integrated robotic control program, safety assessment report, and system commissioning documentation.
3. Human-Machine Interface (HMI) Development: Develop a user-friendly HMI to monitor and control the entire automated pallet handling system. This will include real-time status displays, error logging, and remote diagnostics capabilities. The HMI will be designed for ease of use by plant personnel and will be integrated with the existing plant SCADA system. Deliverables include the HMI software, user manuals, and operator training materials.

II. Process Engineering:

1. Material Flow Optimization: Analyze the existing material flow within the plant and optimize the layout to integrate the automated pallet handling system seamlessly. This will involve mapping the current process flow, identifying bottlenecks, and proposing adjustments to the facility layout to maximize throughput. Deliverables include a revised plant layout diagram, process flow charts and simulations of the improved workflow.
2. Hygiene and Sanitation Design: Design the automated system considering hygienic standards for food processing environments (e.g., stainless steel construction, easy-to-clean components, IP65 rating for all electrical components). The design must adhere to relevant FDA and USDA regulations for food safety. Deliverables include a detailed sanitation plan and a materials specification document outlining all materials used in the system.

III. Mechanical Engineering:

1. Custom Fixture Design: Design and fabricate custom fixtures for securing pallets during AGV transport and robotic palletizing. These fixtures must be durable enough to withstand the rigors of industrial use and designed to minimize pallet shifting and damage. The material of construction will be high-strength aluminum alloy (6061-T6). Deliverables include detailed CAD drawings, material specifications and fabricated fixtures.

Cross-Disciplinary Tasks:

1. System Integration Testing: All three disciplines will collaboratively conduct comprehensive system integration testing. This will involve testing the interaction between the AGVs, the robotic palletizer, the HMI, and the overall process flow to identify and resolve any integration issues before final commissioning. Testing should cover various scenarios including unexpected events like pallet misalignment or AGV malfunctions.
2. Risk Assessment and Mitigation: Conduct a thorough risk assessment collaboratively to identify potential hazards related to the automated system, including both mechanical and electrical hazards. Develop and implement a mitigation strategy to address identified risks according to OSHA standards. This will include procedures for safe system operation and maintenance.

Complexity Impact: The project's complexity is primarily due to the integration of multiple sophisticated systems (AGVs, robotic palletizer, HMI, WMS) requiring careful coordination between disciplines.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): Tech Gonzalesfort Facility Upgrade

Project: Automated Pallet Handling System for Food Processing Plant

Location: Gonzalesfort, LA Factory Complex

Issued: April 09, 2025 Due: May 03, 2025

Contact: procurement@manufacturing.com

1. Project Overview: This RFQ seeks proposals for the design, build, and integration of an automated pallet handling system for a food processing plant. The system will utilize three 1500 kg payload AGVs, a Fanuc R-2000iB/165F robotic palletizer, and a custom HMI, integrated with existing WMS and SCADA systems. The system must meet all relevant FDA, USDA, ANSI/RIA R15.06-2012, and OSHA standards. See attached detailed Scope of Work for complete specifications.

2. Scope of Work: The project encompasses Industrial Automation (AGV & Robotic Palletizer integration, HMI development), Process Engineering (Material Flow Optimization, Hygiene & Sanitation Design), and Mechanical Engineering (Custom Fixture Design). Critical tasks include system integration testing, risk assessment, and operator training. (Full details in attached document).

3. Qualifications: Respondents must demonstrate at least 3 years of experience in manufacturing automation projects, with a proven track record of regulatory compliance in the food processing industry.

4. Proposal Requirements: Proposals must include:

- * A detailed technical design (1-2 pages max), illustrating the proposed solution and addressing all aspects of the scope of work.
- * A comprehensive cost breakdown.

5. Evaluation Criteria: Proposals will be evaluated based on:

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

6. Project Timeline:

- * RFQ Release: April 09, 2025
- * Questions Due: April 21, 2025
- * Proposals Due: May 03, 2025
- * Project Start: May 11, 2025
- * Project Duration: 9 months

7. Contract Type: Time & Materials

8. Attachments: Detailed Scope of Work (attached separately).

CONTACT

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TIMELINE

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