REQUEST FOR PROPOSAL (RFP)

Valencia Ltd

PROJECT OVERVIEW

Name: Tech Meganmouth Automation Retrofit
Type: Automation Retrofit
Location: Meganmouth, MA (Refinery Zone)
Industry: Manufacturing
Value: $1,682,615
Complexity: 1/5
Date: April 09, 2025
Disciplines: Industrial Automation, Process Engineering, Electrical Engineering
Regulations: ISO 9001

SCOPE OF WORK

Scope of Work: Generic Automation Retrofit in Refinery Zone

Project Goal: Upgrade the existing control system of a specific unit within the refinery zone to improve efficiency, reliability, and safety. This project focuses on a low-complexity retrofit, targeting straightforward replacements and minor modifications.
1. Industrial Automation:

*** Task 1.1: PLC Replacement and Programming: Replace the existing Programmable Logic Controller (PLC) with a newer model, Siemens S7-1500T (or equivalent), with identical I/O configuration. This includes migration of the existing PLC program to the new platform, rigorous testing, and documentation of the updated logic in accordance with IEC 61131-3 standards. All changes must be documented using the client's standard change management process.**

*** Task 1.2: HMI Upgrade: Replace the existing Human-Machine Interface (HMI) with a modern, touch-screen operator interface (Siemens WinCC OA or equivalent) using existing visualization templates as a basis. Configure the new HMI to connect seamlessly with the upgraded PLC and ensure consistent data presentation and alarm management. The new HMI should be ergonomically designed for operator ease of use.**

*** Task 1.3: Basic Network Upgrade: Replace obsolete fieldbus communication components (e.g., Profibus DP) within the targeted system with PROFINET, ensuring seamless integration with the new PLC and HMI. This includes cabling changes up to 100 meters for all affected field devices. Network topology documentation adhering to ISA-95 standards must be delivered.**
2. Process Engineering:

*** Task 2.1: Process Loop Verification: Validate the existing process control loops by reviewing P&IDs and performing on-site loop checks for the targeted automation system. Identify any discrepancies between the as-built documentation and the current process behavior. Prepare a report summarizing findings and recommendations for any process adjustments for optimal performance.**

*** Task 2.2: Safety Instrumented System (SIS) Review: Conduct a review of the existing SIS for the targeted area to ensure it remains compliant with relevant safety standards (e.g., IEC 61508) after the automation upgrade. This review will verify that the SIS functions remain unaffected and meet the minimum safety requirements; documented findings will be reported to the client.**
3. Electrical Engineering:

*** Task 3.1: Power Supply Upgrade: Replace existing power supplies for the control system with redundant power supplies, including appropriate breakers and surge protection devices. The new power supplies should be sized to handle the upgraded system's current requirements and meet NEC standards, with specific calculations detailed in the deliverables. All work will be performed following Lockout/Tagout (LOTO) procedures.**

*** Task 3.2: Cabling and Termination: Replace any outdated or damaged cabling within the control system's area using 24 AWG shielded twisted pair cable, conforming to industry best practices. This includes proper termination techniques and cable labeling, adhering to relevant safety and electrical codes. All termination points must pass continuity and insulation resistance tests.**
Cross-Disciplinary Tasks:

*** Task 4.1: Joint Site Survey and HAZOP (Hazard and Operability Study): All three disciplines will collaboratively perform a site survey to assess the existing conditions and identify potential hazards. A HAZOP study will be conducted for the upgraded system, identifying and mitigating potential risks associated with the retrofit. A detailed HAZOP report and mitigation plans will be created and signed off by all disciplines.**

*** Task 4.2: Integrated System Testing and Commissioning: All three teams will participate in the integrated testing and commissioning phases, ensuring seamless operation of the upgraded system. This involves comprehensive testing of the PLC, HMI, and process control loops, followed by thorough documentation and sign-off.**

Complexity Impact: The project is classified as Level 1 complexity due to the nature of the relatively straightforward replacements and upgrades involved.

REQUEST FOR QUOTATION

Request for Quotation (RFQ): Tech Meganmouth Automation Retrofit

Project Name: Tech Meganmouth Automation Retrofit

Project Location: Meganmouth Refinery Zone, Meganmouth, MA

Industry: Manufacturing

Issued Date: April 09, 2025

Response Due Date: May 13, 2025
Project Start Date: May 02, 2025

Project Duration: 5 months

Contact: procurement@manufacturing.com
1. Project Description:
This RFQ seeks proposals for a low-complexity automation retrofit (Complexity Level 1/5) of a specific unit within the Meganmouth Refinery Zone. The project involves upgrading the existing control system to improve efficiency, reliability, and safety. The scope includes PLC and HMI replacement (Siemens S7-1500T/WinCC OA or equivalent), basic network upgrade from Profibus DP to PROFINET (up to 100m cabling), process loop verification, SIS review, power supply upgrade with redundancy, cabling replacement, a joint site survey/HAZOP study, and integrated system testing and commissioning. Detailed scope of work is attached.

2. Scope of Work: See attached detailed scope of work document.
3. Qualifications:
Bidders must demonstrate at least 3 years of experience in industrial automation retrofits within the manufacturing sector, with a proven track record of regulatory compliance.
4. Proposal Requirements:
Proposals should include:
* Technical Design: A concise technical design (1-2 pages) outlining the proposed approach and addressing all aspects of the scope of work.

*** Cost Breakdown: A detailed cost breakdown outlining all labor, materials, and other expenses.**
* Project Schedule: A clear project schedule outlining key milestones and deliverables.
5. Evaluation Criteria:
Proposals will be evaluated based on the following criteria:
* Technical Approach (50%)
* Cost (30%)
* Experience and Qualifications (20%)

6. Contract Type: Fixed Price
7. Important Dates:

*** RFQ Release: April 09, 2025**

*** Questions Due: April 16, 2025**

*** Proposals Due: May 13, 2025**
Please submit your proposals electronically to procurement@manufacturing.com. All questions regarding this RFQ must be submitted by April 16, 2025.

CONTACT

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TIMELINE

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