Elena Vasquez

ADVANCED MANUFACTURING ENGINEER

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Summary

Advanced manufacturing engineer with 7 years bringing new automation into production, from concept and capital request to launch. Specifies robotics cells, edits PLC logic and validates new processes with statistical analysis before handoff to plant engineering. Has launched 9 automated cells worth $14M, each reaching its rate target within 90 days.

Skills

- **Robotics**
- **PLC**
- **NX**
- **Automation**
- **Statistical Analysis**
- **Six Sigma**
- **GD&T**
- **Project Management**
- **Excel**
- **Problem-Solving Skills**

Experience

Advanced Manufacturing Engineer 02/2022 - Present

Tennessee Valley Motorworks Huntsville, AL

Engine assembly plant with 1,400 employees and 3 production lines.

- Launch **9** robotic welding and assembly cells worth $14M, each reaching rate within 90 days of start of production.
- Design end effectors and cell layouts in NX and review GD&T on new parts for automation fit.
- Program Allen-Bradley PLC logic changes and robot paths with integrators, cutting cell cycle time 18%.
- Validate new processes with capability studies and statistical analysis, releasing each one at Cpk 1.33 or higher.

Manufacturing Engineer 06/2019 - 01/2022

Rocket City Fabrication Huntsville, AL

Precision sheet metal and machining shop for aerospace and defense customers.

- Programmed and tooled 3 new laser and press brake cells, adding $2.5M a year in capacity.
- Led 4 Six Sigma projects that saved $380K a year in scrap and overtime.
- Built Excel capacity models for 60 new part quotes that sales used to set lead times.
- Managed project management schedules for 2 plant expansions with contractors and the safety team.

Manufacturing Engineering Co-op 01/2018 - 08/2018

Lee County Components Opelika, AL

Co-op rotation in a stamping and welding plant.

- Collected weld cell downtime data for 3 months and charted the top causes for maintenance.
- Updated 25 work instructions for robotic weld cell operators after a fixture redesign.
- Measured 200 parts on a CMM to check a new fixture against the drawing.

Education

Bachelor of Science 05/2019

Auburn University Auburn, AL

Mechanical Engineering

Certificates

Certified Six Sigma Green Belt (CSSGB) 04/2021

ASQ

Project Management Professional (PMP) 08/2023

Project Management Institute