Division Automation Engineer – Level III – M&T

PURPOSE:

This position commonly reports to the Division Automation Manager.

Incumbent provides expert judgment and analysis for the design, development and implementation of automation processes, including robotic systems, automation systems, computer systems, and controls systems. Works with either in-house or with an outside vendor to improve efficiency in production, reduce process variability and assure compliance with approved methods and quality standards exercising discretion and independent judgment in the evaluation of possible courses of conduct and acting or making decisions after the various possibilities have been considered.

Effective decisions will typically result in: successful implementation of automation equipment and considerable financial benefit to the company, including projects finished on time and within budget

ESSENTIAL JOB FUNCTIONS:

- Identify new techniques, technologies, and systems to be applied using robotics and automation
- Conduct research into the feasibility, design, and operation of robotic systems for an identified manufacturing process.
- Develop new process maps, process requirements, and system specifications
- Provide technical support for robotic systems
- Develop and maintain technical documentation for robotic systems. This includes but not limited to, process control procedures, work instructions, and training materials, electrical/mechanical drawings, and other system documentation as necessary
- Establish systems and standards for FMEA’s and risk assessments
- Perform or update a Risk Assessment for robotic systems during the design phase, implementation phase, or when a system change has been made.
- Identify and address safety considerations using industry standards
- Develop training materials for new and existing automation systems used in the manufacturing process
- Assist with the development of systems for the control of program changes, modifications, and updates
- Assist with the development of robot standards including I/O naming, program and tag convention standards
- Direct responsibility for annual cost savings projects defined by direct report including project milestones and metrics for each project
- Direct responsibility for updating monthly department metrics on time
- Coordinate and communicate with teams to complete projects on time and within budget
- Be able to prioritize projects based on impact to production.
- Be willing to investigate new solutions but also have technical know-how of how to direct project.
- Be able to handle long-term, multi-year projects with short-term, high pressure projects.
### Required Hardware/Software Skills

<table>
<thead>
<tr>
<th>Computer Programming Skills:</th>
<th>CAD Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>C/C++ .NET</td>
<td>Solidworks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Robotics Programming Skills:</th>
<th>Standards:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABB S4C+, IRC5</td>
<td>RIA 15.06-2012</td>
</tr>
<tr>
<td>FANUC RJ3ib</td>
<td>ISO 12100</td>
</tr>
<tr>
<td>KUKA KRC2, KRC4</td>
<td>Other:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Controls Engineering:</th>
<th>Microsoft Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB ControlLogix</td>
<td>Microsoft Visio</td>
</tr>
<tr>
<td>Ignition</td>
<td>Microsoft Project</td>
</tr>
</tbody>
</table>

### Required Soft Skills:

- Must possess strong technical writing skills
- Must be able to work to deadlines, and have the ability to communicate priorities to direct manager and upper management
- Knowledge and demonstrated ability in engineering principles and disciplines; employed manufacturing processes; technical report and article preparation; preparing specifications; ability to define, plan, and complete major projects; ability to supervise/direct activities of professionals with diverse expertise.
- Experience using Microsoft Office Suite
- Ability to work individually and/or contribute to team initiatives.
- Ability to calculate financial benefit of projects
- Strong prioritization skills
- Time management of multiple projects.
- Ability to interact with automation and robotic system vendors.
- Ability to interact with customers.
- Excellent problem solving skills, ability to work with minimum supervision, and collaboration with peers are expected
- Candidate must be willing to apply a hands on approach to all aspects of research and development
- Experience validating complex systems involving hardware, software, and mechanical components.
- A solid engineering background with hands-on design and development experience.
- Excellent verbal and written communications skills.
- Strong problem solving and analytical skills.
- Ability to learn quickly.
- Ability to build/assemble/modify electronic assemblies or robots into various configurations for test purposes
- Hands-on design and development experience of software and hardware products
- Experience validating consumer or robotics products

### Preferred Skills
Six Sigma Training- as demonstrated by the achievement of a “belt” or completed projects towards the completion of a “belt”.

Experience with machine vision, including: Cognex, Keyence and FANUC IR vision

Python

Oracle

Other Technologies:

- 3D Scanning
- Reverse Engineering
- Statistical Programs
- CAD Software AutoCAD, Solidworks, Unigraphics, or Catia
- Robot Simulation Packages (ROBOGuide, RobotStudio, etc.) preferred.

Qualifications:

- Requires BS degree in Engineering Science with 3-5 years experience in Supplier Quality Control, Quality Engineering, OR equivalent experience. Technical degree preferred
- Broad general knowledge of materials science engineering manufacturing processes and investment casting technology.
- Knowledge and demonstrated ability in engineering principles and disciplines; employed manufacturing processes, technical report and article preparation, specification preparation; ability to define, plan and complete major projects, ability to supervise/direct/coordinate activities of professionals with diverse expertise.
- Excellent communication skills verbal and written. Capable of interacting with various levels of the organization. Must demonstrate a high degree of objectivity and integrity in the evaluation of people and problems.
- Must be able to work well with the hourly work force to understand first the request or idea from the operators. Then be able to translate that request into meaningful fixture and tooling improvements that help the operators. It is important the operators feel that the project has been successfully completed