



American Lightweight Materials
Manufacturing Innovation Institute

Position: Automation Technician/Engineer

Department: Manufacturing Engineering

Reporting To: Senior Manager, Cyberphysical Systems

Job Location:

LIFT ALMMII Headquarters

1400 Rosa Parks Blvd

Detroit, MI 48216

Scope of Work & Purpose:

We are seeking a hands-on Automation Technician/Engineer with direct experience in automated manufacturing systems. This role involves direct responsibility for the installation, programming, maintenance, troubleshooting, and continuous improvement of robotic and automated systems throughout the manufacturing facility. This role ensures optimal performance, safety, and uptime of robotic work cells and integrated automation systems in support of production goals.

KEY RESPONSIBILITIES & DUTIES

Robotic Systems Maintenance & Troubleshooting

- Perform daily inspection, diagnostics, and repair of robotic systems (including arms, sensors, controllers, and end-effectors).
- Monitor robot performance and respond promptly to equipment malfunctions or alarms.
- Conduct preventative and predictive maintenance to minimize downtime.
- Maintain accurate records of maintenance activities and technical issues.

Robotic Cell Implementation & Integration

- Support the installation, wiring, and calibration of new robotic systems.
- Assist in the integration of robotics into existing manufacturing cells.
- Configure safety systems such as light curtains, interlocks, and emergency stop circuits in compliance with ISO 13849.
- Collaborate with engineering team during robot startup.

Automation & Controls Support

- Troubleshoot and repair electrical systems including control panels, sensors, relays, PLCs.
- Maintain and service mechanical components such as conveyors, pneumatic/hydraulic actuators, and gear-driven assemblies.
- Develop and adjust HMI (Human-Machine Interface) screens for user interaction.

Continuous Improvement & Efficiency Optimization

- Analyze root causes of recurring faults or process inefficiencies.
- Optimize robot motion paths and routines for cycle time improvements.
- Participate in Kaizen and Lean manufacturing initiatives related to automation.
- Implement process control improvements to minimize variation and defects.

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PREFERRED QUALIFICATIONS AND COMPETENCIES:

Education and Experience:

- A minimum of 5 years of experience in industrial automation, ideally within a manufacturing setting, is required. A formal degree is not required; a bachelor's degree or equivalent technical education in Robotics, Automation, Electrical Technology, Mechatronics, or a related field is preferred.
- Hands-on experience with PLC programming, including familiarity with PLC platforms from manufacturers such as Allen-Bradley/Rockwell, Siemens, Beckhoff, and their associated programming and configuration software.
- Strong mechanical aptitude with proven troubleshooting experience in a manufacturing setting.
- Working knowledge of robotics systems.

Safety and Compliance: A thorough understanding of automation safety protocols, OSHA regulations, and ANSI/RIA robot safety standards is essential.

Leadership Skills: This position has no direct reports; however, candidates should demonstrate the ability to inspire and motivate team members, foster a culture of collaboration, and support continuous improvement initiatives.

Communication and Problem-Solving: Strong communication skills are vital for effectively coordinating with production teams, addressing technical challenges, and liaising with internal stakeholders and external partners. Candidates should also possess excellent problem-solving abilities to troubleshoot issues and implement effective solutions in a dynamic manufacturing environment.

Adaptability and Resilience: The advanced manufacturing industry can be subject to fluctuations in demand, technological advancements, and regulatory changes. A good candidate should be adaptable and resilient, capable of managing change and driving innovation to maintain competitiveness and sustainability.

About LIFT:

LIFT, operated by the American Lightweight Materials Manufacturing Innovation Institute (ALMMII), is a nonprofit, public-private partnership, national advanced manufacturing innovation institute. As the national advanced materials manufacturing innovation institute, LIFT is an accelerator convening and connecting government, industry and academia in the fields of advanced materials, manufacturing processes, systems engineering and talent development to enhance America's manufacturing competitiveness, national economy and national security.

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