

Robotics



Sometimes a Robot Really is the Best Answer

Robotic systems are often key components in automating and improving a customer's processes. There can be multiple reasons (some examples below) for why robotics are sometimes the best solution for a company to implement into their operations. From receiving to the production line to packaging and then shipping; AFi Systems can implement either base mounted or gantry-suspended robotics systems to fit your needs. We work with multiple robot brands, and can easily install all new or re-purpose existing system components.

The options for what we can do for you are limitless.

Why Robotics with AFi Systems?

Robotic systems are often the ideal solution for automating repetitive, labor-intensive, or hazardous tasks. AFi Systems tailors each robotic implementation to maximize your operational efficiency, offering:

- **Measurable Return on Investment (ROI):** Clear cost savings through reduced labor, minimized waste, and increased throughput.
- **Increased Productivity:** Flexible systems that adapt to varying production demands, ensuring consistent output.
- **Reduced Operating Costs:** Elimination of product waste and mitigation of labor shortages or inconsistencies.
- **Improved Health and Safety:** Robots handle dangerous tasks, reducing workplace injuries and ensuring compliance with safety standards.
- **UL 508 Compliance:** All designs meet rigorous industry standards for safety and reliability.
- **Comprehensive Documentation:** Detailed drawings and operating manuals for all system components.
- **Transparent Planning:** Detailed quotations and timelines for predictable project execution.
- **End-to-End Support:** Complete installation, commissioning, and operator training to ensure seamless integration.



Robotic System Applications

AFi Systems deploys robotic solutions across the entire production lifecycle, addressing diverse operational needs:

- **Receiving and Material Handling:** Automated unloading, sorting, and transport of raw materials to streamline warehouse operations.
- **Production Line Automation:** Precision tasks like welding, assembly, or machining, performed with speed and accuracy.
- **Packaging:** High-speed pick-and-place, palletizing, and packing to optimize end-of-line processes.
- **Shipping:** Automated labeling, sorting, and loading for efficient order fulfillment.
- **Specialized Tasks:** Custom applications like quality inspection, surface treatment, or hazardous material handling.

We work with leading robot brands (e.g., FANUC, ABB, KUKA) and can integrate electromechanical, hydraulic, or pneumatic systems to suit your requirements. Whether you need a compact base-mounted robot or a large-scale gantry-suspended system, AFi Systems delivers tailored solutions.

Implementation Process

AFi Systems follows a structured process to ensure successful robotic system deployment:

Customer Success Story

A mid-sized automotive parts manufacturer struggled with labor shortages and inconsistent output on their assembly line. AFi Systems designed a base-mounted robotic system using FANUC robots, integrated with a custom UL 508-compliant control panel. The implementation included automated material handling to feed parts to the robots, reducing waste and improving cycle times. After full installation and operator training, the manufacturer achieved a 30% increase in productivity and a 25% reduction in operating costs, with an ROI realized within 18 months. Met compliance with strict regulatory standards.

- **Needs Assessment:** Our engineers collaborate with you to understand your operational challenges, production goals, and budget.
- **System Design:** Using advanced tools, we design a robotic solution that integrates with your existing infrastructure, adhering to UL 508 standards.
- **Component Selection:** We choose the best robot brand and components, or repurpose existing systems, to optimize performance and cost.
- **Installation:** Our technicians handle all aspects of setup, ensuring minimal disruption to your operations.
- **Commissioning:** Rigorous testing and calibration to verify system performance under real-world conditions.
- **Training:** Comprehensive operator and maintenance training to empower your team.
- **Ongoing Support:** Post-installation support, including preventive maintenance recommendations and upgrades.

Related Automation Solutions

In addition to robotics, AFi Systems enhances your operations with complementary automation services:

- **Safety System Integration:** Incorporating safety sensors, light curtains, and emergency stops to protect workers and comply with regulations.
- **Material Handling Systems:** Custom conveyors, lifts, or automated guided vehicles (AGVs) to streamline material flow.
- **Machinery Upgrades:** Retrofitting existing equipment with robotic or automated components to extend lifespan and improve efficiency.
- **Control Panel Design:** Custom UL 508-compliant control panels with PLCs, HMIs, and advanced connectivity for seamless robot operation.

