Midwest Engineered Systems, Inc.
WE USE DESIGN TO CREATE A BETTER FACTORY
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WE USE DESIGN TO CREATE A BETTER FACTORY.

Several ideals ignite our passions and keep us focused on what matters. Our core values are the building blocks of who we are and what we stand for.

Our Promise

We don’t compromise on quality
We innovate to create true value
We are ethical, fair, and honest
We take pride in our engineering and it’s reputation
We value diversity
We give to our communities
We strive for balance

Our Legacy

Midwest Engineered Systems provides equipment that stands the test of time. For more than 30 years, MWES has provided manufacturing equipment that our customer’s operators, maintenance, and engineering staff trust and depend on.
OUR MISSION

Our mission is dedicated to providing innovative automated solutions, highly technical expertise, and customer focused training and support.

OUR VISION

Our vision is to be the leading industrial automation systems partner. Through unparalleled design, build, and integration support for our customers, we will continue to lead the market and define new channels of growth.

OUR PROMISE

We don’t compromise on quality
We innovate to create true value
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We strive for balance
INDUSTRY FOCUS

AEROSPACE

AUTOMOTIVE

CONSUMER GOODS

HEAVY EQUIPMENT MANUFACTURING

LIFE SCIENCES

LOGISTICS

MILITARY

MINING & AGRICULTURAL VEHICLES

PAPER / FILM / FOIL

PLASTICS

RECREATIONAL VEHICLES
CERTIFIED INTEGRATION PARTNERS

ABB  LINCOLN ELECTRIC  DAIFUKU
Always an Edge Ahead

FANUC Robotics  Miller  SCHUNK

KUKA  Fronius  ria CERTIFIED Robot Integrator

UNIVERSAL ROBOTS
Certified System Integrator

OUR PROCESS

STEP 1 EVALUATION
Evaluate and question the current operation or process assumptions. This is the beginning of the product process plan.

STEP 2 REQUIREMENTS
Production and quality requirements are determined and identified. The risk is determined and a risk threshold is established.

STEP 3 RESEARCH
Areas of risk beyond threshold are identified. Research and brainstorm process methods. The outcome should result in 2-3 testing options.

STEP 4 TESTING
Process simulation testing is conducted on the chosen concept to ensure the desired results are met.

STEP 5 ANALYSIS
After testing is completed, report the data to analyze the production and quality capability.

STEP 6 RESULTS
The final report is an evaluation of the test performance results. This helps to determine whether to proceed to design & build or retest another concept.
OUR CAPABILITIES

ROBOTICS

ASSEMBLY

MATERIAL HANDLING

MATERIAL REMOVAL

WELDING

WEB HANDLING
ABOUT ROBOTICS IN AUTOMATION

From small, stand-alone systems to large integrated processes, Midwest Engineered Systems custom designs each robotic integrated system for your specialized needs.

Our design and build solutions can include: customized robots, specialized End-of-Arm-Tools (EOAT), cable solutions, vision systems, safety enclosures, process monitoring, control systems, and other technical equipment, to help you and your organization to improve your manufacturing process.

EXPERTISE

Bin Picking
Force / Torque Integration
High-Speed Vision Inspection
Picking & Packaging
Press Brake Automation

Robotic Assembly
Standard Machine Tending
Surface Treating
Vial Filling

TYPES OF INDUSTRIAL ROBOTS

**Articulated Robots**
With several degrees of freedom, these allow the articulated arms a wide range of movements.

**Cartesian Robots**
Cartesian robots can do 3 translations using linear slides.

**Cylindrical Robots**
Characterized by their rotary joint at the base and at least one prismatic joint connecting its links. They can move vertically and horizontally by sliding.

**Delta Robots**
Particularly useful for direct control tasks and high maneuvering operations.

**Collaborative Robots (Cobots)**
Capable of learning multiple tasks so it can assist with and work side-by-side with humans. Highly versatile and programmable.

**SCARA Robots**
Robots that can do 3 translations, plus a rotation around a vertical axis.
Industrial-scale automation in the 21st century is rapidly changing. With the current labor shortages along with rising labor costs, switching to robotic automation has become a crucial next step for a lot of businesses.

MWES has spent decades integrating automation products into existing production lines for businesses large and small. These automation solutions have provided our customers with increased production throughput, improved reliability and a great return on investment.

AUTOMATED SOLUTIONS FOR THE FUTURE OF MANUFACTURING

EXPERTISE

Automated Packaging
Fabrication Systems
Fixed Automation Systems
Full Production Lines

Heavy Fabrication Systems
Laser Processing
Manual Assembly Line Modernization
Part Assembly

COMPONENTS OF AUTOMATION TECHNOLOGY

**Conveyor Systems**
Conveyance forms the backbone of any large-scale production line or material handling operations. Conveyors can integrate with many automation products that require an infeed and outfeed of materials.

**High-Speed Vision Systems**
Vision systems are an important part of any automation solution. This technology ensures that material is identified and handled correctly by automation technology.

**End Effectors (EOAT)**
End effectors, also known as End-Of-Arm-Tools, are basically the hands of a robot arm. These end effectors can be made up of a combination of grippers, sensors, vision systems and custom material processing tools.
ABOUT AUTOMATED MATERIAL HANDLING

From the end of the production line to the edge of the dock, MWES can take your material handling processes to the next level, with fast and efficient automation solutions that increase throughput and reduce reliance on hard-to-staff positions.

MWES has over 30 years of experience designing and implementing automation systems that get results. No matter the industry, our dedicated staff of engineers are adept at understanding specialized and diverse processes from a variety of industries, to deliver systems that are designed to solve the unique problems each customer is looking to solve. MWES can be relied upon to provide a professional material handling system installation in manufacturing and distribution facilities.

EXPERTISE

AS/RS Buffer Systems
Automated Guided Vehicles (AGV’s)
Case Packing
Conveyor Systems
Palletizing & Depalletizing

COMPONENTS OF MATERIAL HANDLING

Robotics
Our design/build solutions can include: customized robots, specialized End-of-Arm-Tools (EOAT), cable solutions, vision systems, safety enclosures, process monitoring, control systems, and other technical equipment.

Vision Inspection
MWES builds and implements systems that take advantage of vision systems. Utilizing these systems provides our customers with greater cycle times and a great ROI.

Conveyor Systems
Our conveyor systems are focused on providing high-precision handling. Combining automated weight-scale verification, as well as code tracking, leads to better quality control & full digitally-recorded traceability on each product.
MATERIAL REMOVAL
Historically, material removal and finishing have been a manual and very labor-intensive process, and with labor shortages on the rise, robotic automation is the solution. Robotic material removal systems can be custom engineered to make this application safe, consistent and economical for businesses both large and small.

Automating metal removal, degating, and deflashing of castings, and even material handling applications can overcome a shortage of workers that many foundry and casting firms struggle with. Using cutting-edge technologies including the latest in robotic technology and machine vision, MWES can achieve desired casting finishing production and quality goals while producing more consistent parts while reducing reliance on manual labor.

**EXPERTISE**

**Deburring**

With a simple end-effector, a robot can be equipped with the tooling it needs to perform any deburring operations.

**Laser Drilling**

**Finishing**

MWES has become adept at automating a variety of finishing processes including casting, cutting, buffing, sealing, & grinding.

**Flash Removal**

Using many automated techniques, such as lasers, hot knives, nippers and routers, MWES has much experience with gate & flash removal.

**Plasma Cutting**

Robotic plasma cutting is a very efficient means of cutting both sheet and thick plate metals. The process is also useful for cutting glass, ceramic and plastic materials.

**Sanding**

Robotic sanders mounted on an end-effector are capable of high-speed response feedback, that can measure & adjust the pressure & force.
BRINGING PROCESSES TOGETHER WITH ROBOTIC WELDING

Whether your parts are simple, have complex geometries, or require heavy welding applications, MWES offers custom, turnkey, and automated welding systems for a variety of capability ranges and weld processes. Our experience and in-house capabilities allow us to design, build and install custom robotic welding systems. We also have a number of AWS Certified Welding Inspectors and Certified Robotic Arc Welding Technicians on staff to ensure high-quality results for your automation system.

Robotic welding systems can offer many distinctive benefits to organizations large or small. Advancements in the field of robotics have made automation of even a few processes, a productive and cost-saving innovation that companies of any size can benefit from and quality goals while producing more consistent parts while reducing reliance on manual labor.

EXPERTISE

Automated Weld Inspection
GMAW & GTAW Robotic Welding
Heavy Deposition Welding
Heavy & Light Gauge Welding
Laser Hybrid Welding

Resistance Arc/Spot Welding
Robotic Arc Welding
Tandem Welding Systems
Welding Positioners
Weld Upgrades & Retrofits

WELDING SOLUTIONS

**Standard Weld Cells**

Standard, robotic arc welding cells offer the best combination of price and performance. MWES provides complete robot systems, available in several flexible, modular packages.

**Custom Weld Cells**

Robotic weld cells can be custom designed for your operation and process goals. MWES provides custom robotic welding solutions.

**Welding Positioners**

Robotic welding positioners in a large range of models and capacities are one of MWES’ most popular welding capabilities.
ABOUT WEB HANDLING & CONVERTING

Midwest Engineered Systems supports all aspects of web handling equipment and control systems, including process development and improvement projects, new equipment design, and modifications or enhancements to existing machines.

We will reconfigure and upgrade your printing, packaging and web converting machinery utilizing existing equipment, 3rd party/OEM equipment, new designs, or complete integration of the three. Our experienced Web Handling system engineers will integrate a seamless package that will deliver improved operations from a variety of the best equipment options and combinations available.

EXPERTISE

Automated Roll Handling
Automated Splicing Equipment
Coating & Laminating
Equipment Retrofits

Flexo, Gravure & Digital Printing
Process Analysis
Slitting & Converting Systems
Unwinds & Rewinds

Roll Handling
We can provide any roll handling aspect, whether it be manual assisted solutions for smaller lines, or fully automated systems that manage the movement of rolls through a facility.

Splicing Equipment
MWES has a wide variety of splicing formats and capabilities: Single or dual direction, Zero speed, Flying splice, Synchronized splicing or Rewind carriage style.

Coating & Laminating
Whether it's film, foil or paper materials, MWES has the experience earned from decades of web handling and coating system development to guarantee high quality, efficient production.

Process Analysis
We use a variety of industry leading technology and techniques to understand your processes, in order to integrate into systems that keep your processes operating at their best.

Equipment Retrofits
With today’s rapidly changing technology, custom machines and systems often require upgrades, replacements, or additions. We have the know-how to analyze web production processes.

Unwinds & Rewinds
MWES offers many ways to enhance the winding process and providing dependable operation. From shafted and shaftless, single position to multi-position, and a variety of roll diameters.
Midwest Engineered Systems offers prompt service and support for all of its products. We also offer our highest quality support for systems developed by other automated production system integrators, regardless of industry.

MWES is a multi-vendor automation system integrator. Our deep automation knowledge extends across all the major automation vendors, so you can be sure that the system you have, is a system we have experience in. This means that you only need to contact MWES to service your entire system, rather than collect a number of vendor-specialized technicians.

**EXPERTISE**

- Technical Support
- Preventative Maintenance
- Replacement Parts
- Training Courses
- Offline Programming

- ABB Robot Servicing
- FANUC Robot Servicing
- KUKA Robot Servicing

**24/7**
Visit our new website!

Get In Touch

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