

# 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 its 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

We are ethical, fair, and honest

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# 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



## OUR PROCESS



# OUR CAPABILITIES



**ROBOTICS**



**ASSEMBLY**



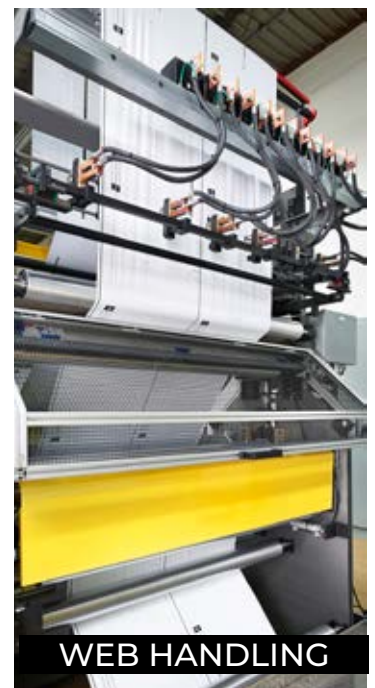
**MATERIAL HANDLING**



**MATERIAL REMOVAL**



**WELDING**



**WEB HANDLING**

# ROBOTICS





# 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.

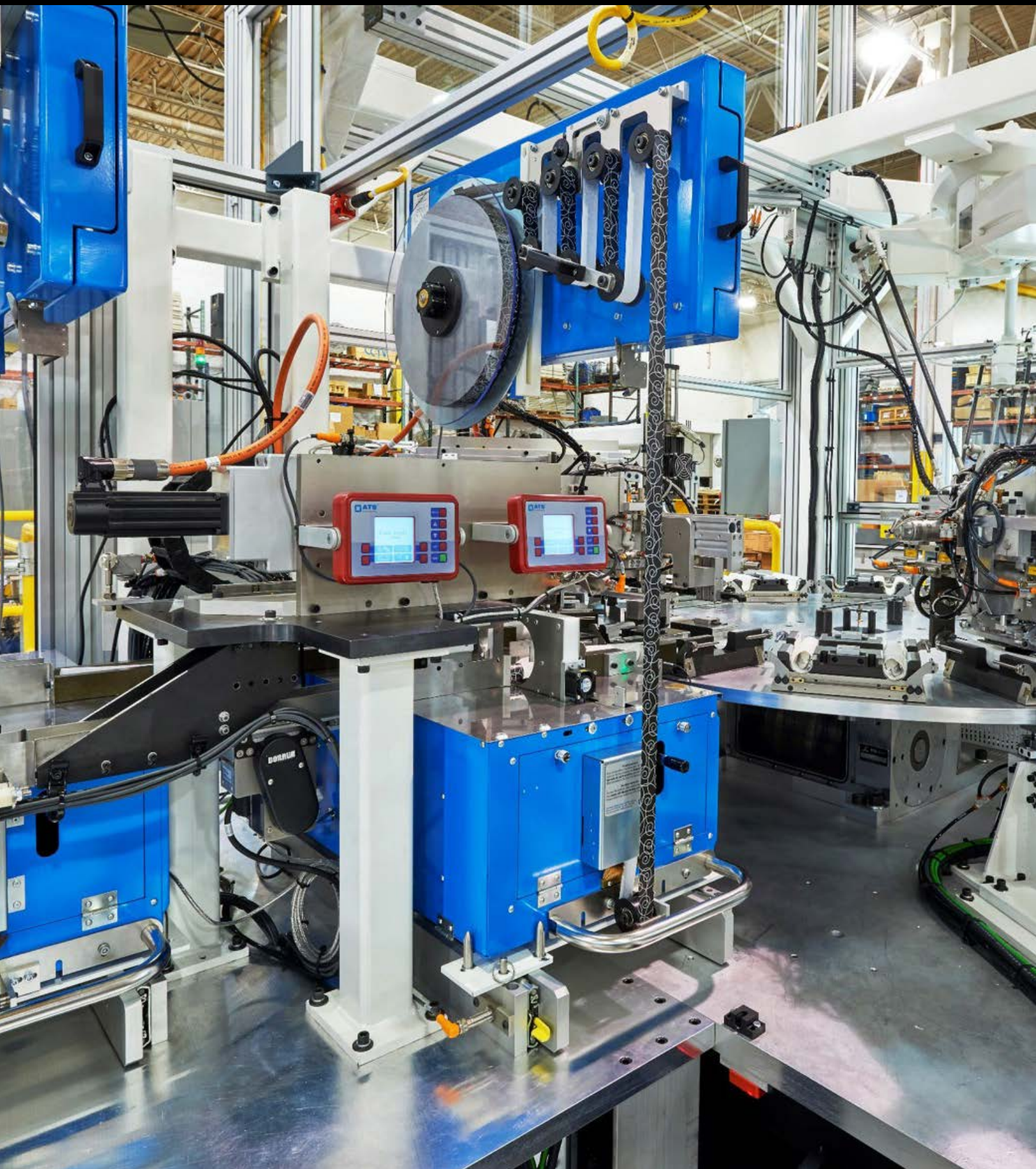
### Collaborative Robots (Cobots)

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.

# ASSEMBLY & AUTOMATION



# AUTOMATED SOLUTIONS FOR THE FUTURE OF MANUFACTURING

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.

## 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.

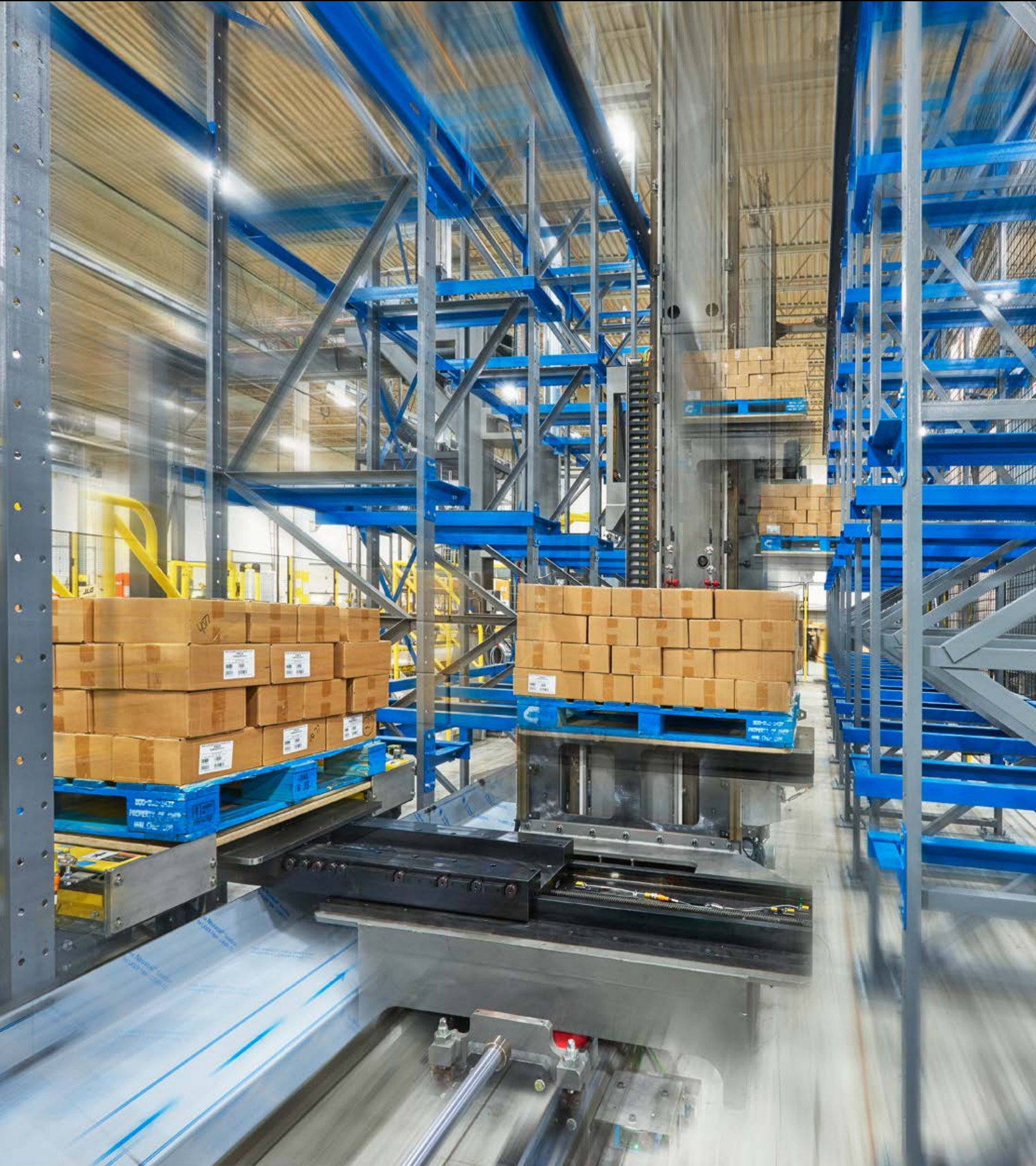
### High-Speed Vision Systems

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.

# MATERIAL HANDLING



# 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

Conveyor Systems

Automated Guided Vehicles (AGV's)

Palletizing & Depalletizing

Case Packing

## 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



# ABOUT ROBOTIC 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

Finishing

Gate & Flash Removal

Laser Drilling

Plasma Cutting

Sanding

### Deburring

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

### 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.

### Laser Drilling

Automated laser drilling breaks down materials layer by layer, by repeatedly pulsing laser beams at them, creating thru-holes where desired.

### 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.

# WELDING





# 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. n 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.

# WEB HANDLING



# 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 o  
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.

# SERVICE & SUPPORT

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

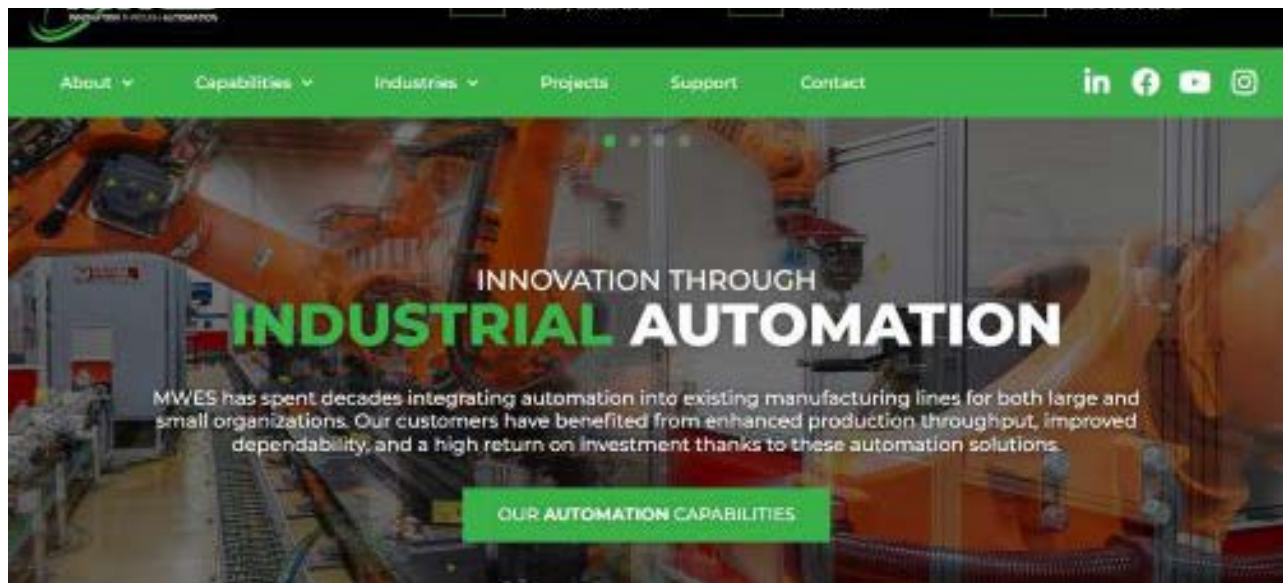
Offline Programming

ABB Robot Servicing

FANUC Robot Servicing

KUKA Robot Servicing





Visit our new website!



## Get In Touch

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