



Mazak AUTOMATION SYSTEMS

Automation Solutions by Mazak

**A COMPREHENSIVE, SINGLE-SOURCE
APPROACH TO AUTOMATION SOLUTIONS**

Mazak



Your ONE-STOP Provider

At Mazak, we understand the significant competitive advantages that come with having the right type of automation in your manufacturing facility. That's why we offer the most advanced automation solutions and support resources of any machine tool builder in the industry.

Whether it's a simple bar feeder that enhances a turning center's throughput or a complex system that moves parts through multiple machining and peripheral operations, we have a level of automation that can give you a competitive advantage.



BAR FEEDER



GANTRY LOADER



PALLETECH SYSTEM



ARTICULATED ROBOT

OUR CUSTOMIZED APPROACH

Having installed countless, highly effective automation systems for manufacturers across North America, we have the experience and expertise to envision, design and implement an automation system that will boost your shop's productivity and overall bottom line.

Through our own capabilities and partnerships with other industry leaders, we can provide you with a tailored automation solution that fits your unique needs, whether it involves a bar feeder, gantry loader, PALLETECH System, articulated robot or all of the above.

Our expert applications engineers will also help you create and implement software solutions that will ensure maximum return on your automation investment, from user interfaces to scheduling functions to production monitoring.

Prior to the design and implementation of your automation solution, we evaluate its impact on your entire operations by performing:

- Time studies of processes,
- Custom demonstrations to evaluate effectiveness,
- Integral machining simulations,
- Complete process simulations,
- Risk assessments to ensure a safe working environment.



BAR FEEDERS

EASILY INCREASE PRODUCTIVITY AND MATERIAL UTILIZATION



Made for increasing productivity, throughput and quality when turning shaft-type parts, a bar feeder is one of the simplest, most cost-effective forms of automation available. It allows you to automate the loading and feeding of bar material into your CNC lathe with minimum built-up area required. Standard bar feeders typically feed bar material up to four inches in diameter, but if you need a larger size, we can help with a custom solution.

With a bar feeder, you can:

- Easily and affordably boost machining efficiency and productivity,
- Increase throughput by not having to individually feed slug material,
- Automatically sequence workpiece machining for minimal bar material scrap,
- Machine multiple part types from one piece of bar material,
- Save workspace via side storage and bar loading,
- Precisely machine at high speeds as the lathe's spindle remains unaffected,
- Process bar materials with imperfect shapes and dimensions.

Pairs with:

- INTEGREX i-Series
- HYPER QUADREX Series
- MULTIPLEX Series
- QUICK TURN NEXUS Series
- QUICK TURN SMART Series
- Articulated robots
- Gantry loaders

INTEGREX i-100 BARTAC-S WITH AN INTELLIGENT BAR LOADER SYSTEM



GANTRY LOADERS

FAST, EFFICIENT PART LOADING AND UNLOADING



Ideal for small batch runs of a common part family up to eight inches in diameter, gantry loaders quickly load and unload workpieces into and from machines. Essentially an overhead rail-mounted robot or robot arm moving along a rail, this form of automation is most suitable for chucker-style work. It can, however, handle shaft work that is less than six inches in length. Overall, gantry loaders are easy to install and operate, providing a quick, turnkey system that results in immediate productivity increases.

With a gantry loader, you can:

- Economically boost efficiency through unsupervised loading and unloading of workpieces,
- Achieve continuous operation with accurate and consistent performance,
- Shorten workpiece change times for an overall increase in productivity,
- Increase versatility via a variety of loading stations and robot hands,
- Effectively run several machines with only one operator.

Pairs with:

- DUAL TURN 20
- INTEGREX i-Series
- MULTIPLEX Series
- QUICK TURN NEXUS Series
- QUICK TURN UNIVERSAL Series
- Articulated robots
- Bar feeders



QUICK TURN NEXUS 250-II WITH A GANTRY LOADER

PALLETECH SYSTEM

ADVANCED, PRE-ENGINEERED PALLETIZED MANUFACTURING SYSTEM



PALLETECH, our exclusive, pre-engineered palletized manufacturing system, brings continuous uninterrupted machining operations to today's advanced manufacturing environments. Compatible with our range of horizontal machining centers as well as most of our vertical, 5-axis and Multi-Tasking machines, PALLETECH is a modular solution with the flexibility to accommodate any manufacturing or volume requirement. Plus, it's not limited to a specific workpiece type or material.

With a PALLETECH, you can:

- Optimize your labor with one employee operating multiple machines,
- Keep your machines running 24/7 without adding night or weekend shifts,
- Give priority to last-minute jobs without reorganizing other work,
- Increase your pallet storage while taking up minimal floor space,
- Gain the flexibility required for shorter product life cycles,
- Reduce in-process inventory and accomplish just-in-time production,
- Easily queue up and prioritize production using the web-based cell controller software.

Pairs with:

- HORIZONTAL CENTER NEXUS Series
- INTEGREX e-V Series
- INTEGREX i-Series
- INTEGREX j-Series
- ORBITEC 20
- VARIAXIS Series
- Articulated robots



HORIZONTAL CENTER NEXUS 6800
WITH PALLETECH SYSTEM

Modular Flexibility

PALLETECH comes standard with a single-level pallet stocker. However, its modular design makes it easy to add pallets, loading stations as well as part wash stations to your system, allowing you to pace your capital investment with the growth of your business. In fact, it accommodates up to 16 Mazak machines, six to 240 pallets and as many as eight loading stations.

PMC-Web Cell Controller Software

With our PALLETECH Manufacturing Cell controller software over standard PCs and networks, shop management can monitor operations, view and change schedules on-the-fly, manage part program files from anywhere on the network, track tool life/breakage and issue instructions to the shop floor. Users are able to interrupt a planned machining queue and produce an emergency part with no cost penalty.

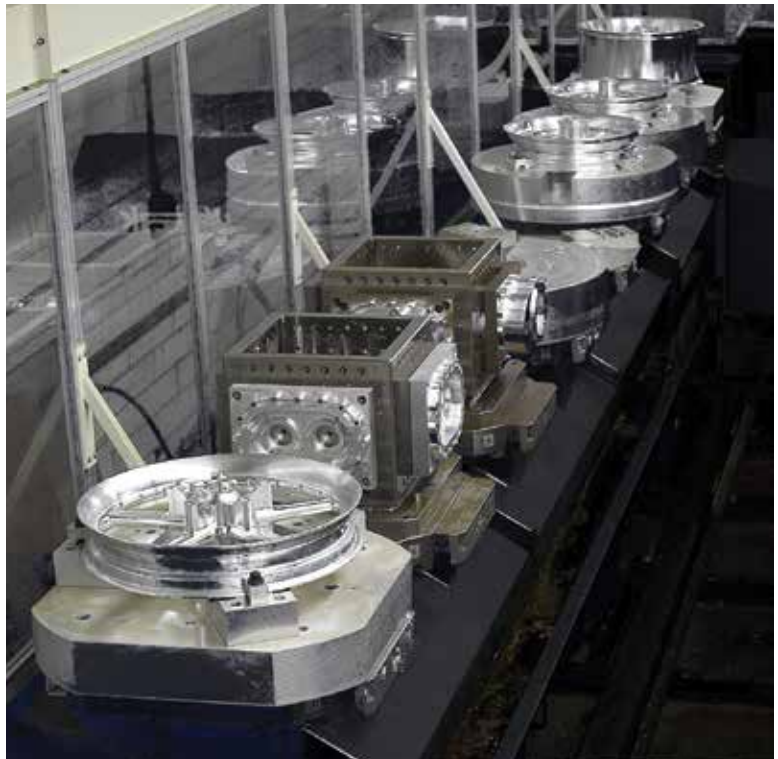
PALLETECH OPTIONS

- ☐ 1, 2 and 3-level pallet stocker configurations
- ☐ Tilting load stations
- ☐ Part wash stations
- ☐ Raw material storage

Plot Out Your PALLETECH

PALLETECH has the highest number of successful installations of any pallet handling system on the market because we offer free manufacturing simulations to ensure you get the best system configuration for your needs.

By entering input, such as part cycle times, parts per pallet and load/unload times, into our computer simulation software, we can help you determine the number of machines, fixtures and operators necessary to complete a specific production schedule.



ARTICULATED ROBOTS

HIGHLY ADVANCED ALTERNATIVE TO TRADITIONAL PRODUCTION



Primarily a customized type of product, articulated robots provide automation for part transfers and peripheral operations. They can also eliminate the challenges that come with handling large, heavy or cumbersome parts such as a 2,200-pound rail car axle. From simple two-joint robots to complex seven-joint robots, you have the power to choose just how much range of motion is necessary to gain the competitive advantage.

With an articulated robot, you can:

- Achieve increased throughput and better part quality,
- Ensure production reliability and repeatability through controlled automation,
- Efficiently service one or multiple machines with minimal operator involvement,
- Perform multiple tasks and eliminate the number of components in a system,
- Reprogram it to perform new tasks while still performing the original task.

Pairs with:

- Most all Mazak Machines
- PALLETECH System
- Bar feeders
- Gantry loaders



MTConnect, an open-source, royalty-free manufacturing protocol, easily connects devices and systems from different suppliers to capture and share information in a common format such as XML. It gives you the means to gather valuable data on the machines and automated systems in your manufacturing operations and then use the information to improve equipment utilization.

With MTConnect, you can:

- Gain real-time data sharing throughout your shop,
- Calculate your overall equipment efficiency,
- Monitor all of your equipment from one system,
- Reduce your production losses,
- Identify lean manufacturing strategies.

Implementing MTConnect, as a communication protocol, is one of the simplest and fastest ways to improve productivity and boost equipment utilization. And, together with the right manufacturing equipment and strategies, MTConnect allows domestic manufacturers to run highly agile operations and compete more effectively in the global marketplace.

Today, we build our machines to be MTConnect compliant as well as offer affordable adapters for existing Mazak machines in the field.

Did You Know?

Mazak was the first in the machine tool OEM industry to convert its manufacturing plant over to the MTConnect open communications protocol.



TOTAL SUPPORT

MAXIMIZE THE VALUE OF YOUR PURCHASE

When you purchase an automation solution, or any product for that matter, from Mazak, you're guaranteed complete service and support for as long as you own the equipment.

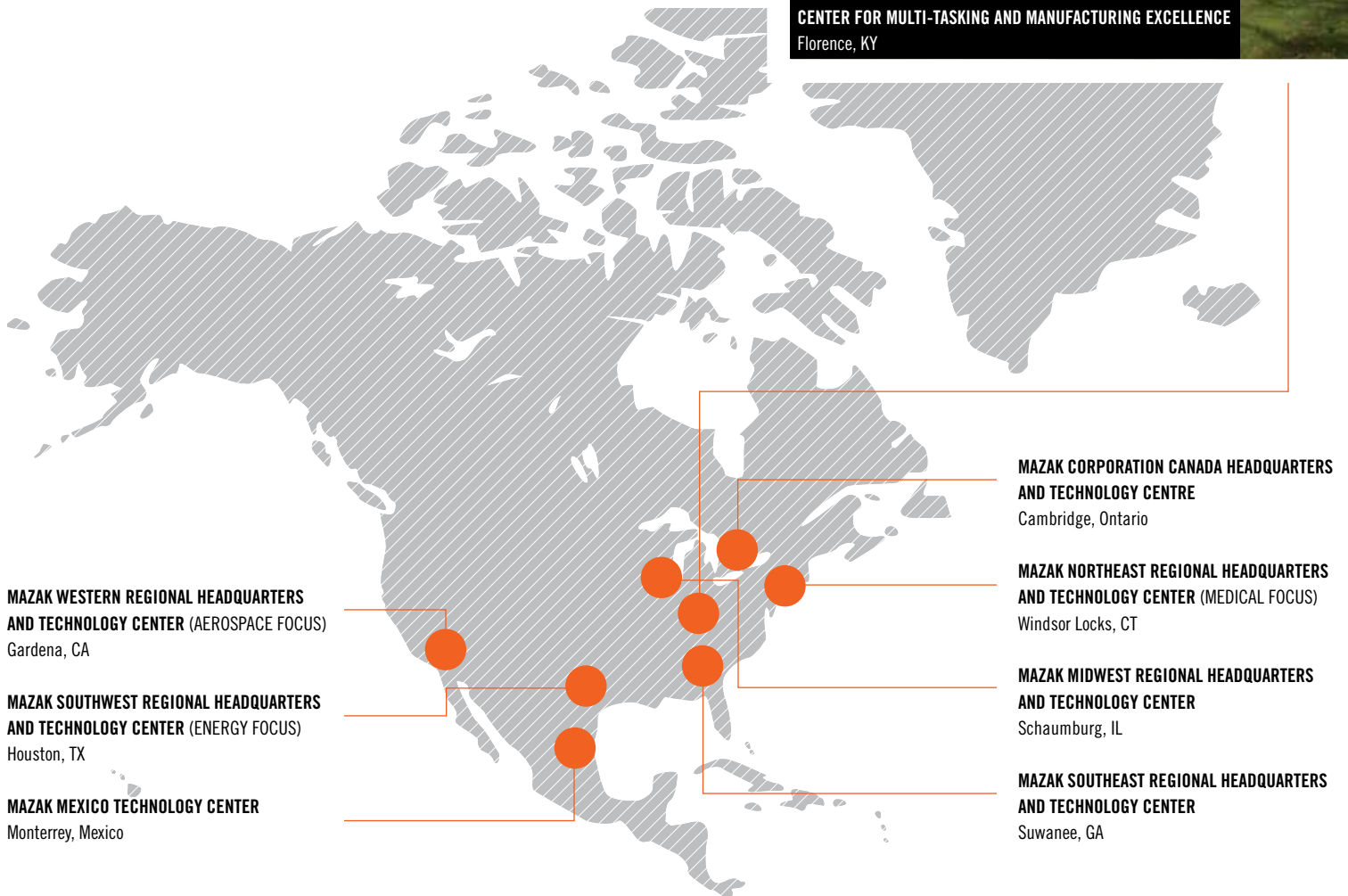
In fact, we believe in working closely with each of our customers to increase their productivity, efficiency and equipment utilization, and we are able to do so through our Technology Centers and Optimum Plus total support program.

Technology Centers

Our eight Technology Centers spread across North America provide easy access to the latest most advanced manufacturing systems for optimizing your part-production processes. You can also take advantage of each location's industry expertise, training programs and application resources to achieve improved throughput, shorter production lead times and increased profitability.



MAZAK NATIONAL TECHNOLOGY CENTER & CENTER FOR MULTI-TASKING AND MANUFACTURING EXCELLENCE
Florence, KY



MAZAK WESTERN REGIONAL HEADQUARTERS AND TECHNOLOGY CENTER (AEROSPACE FOCUS)
Gardena, CA

MAZAK SOUTHWEST REGIONAL HEADQUARTERS AND TECHNOLOGY CENTER (ENERGY FOCUS)
Houston, TX

MAZAK MEXICO TECHNOLOGY CENTER
Monterrey, Mexico

MAZAK CORPORATION CANADA HEADQUARTERS AND TECHNOLOGY CENTRE
Cambridge, Ontario

MAZAK NORTHEAST REGIONAL HEADQUARTERS AND TECHNOLOGY CENTER (MEDICAL FOCUS)
Windsor Locks, CT

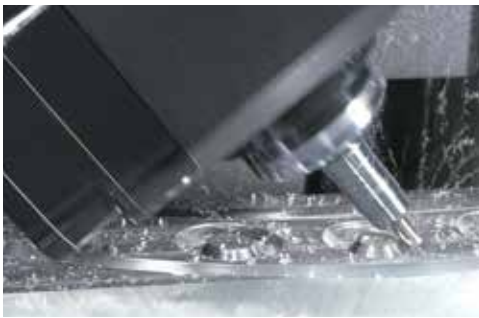
MAZAK MIDWEST REGIONAL HEADQUARTERS AND TECHNOLOGY CENTER
Schaumburg, IL

MAZAK SOUTHEAST REGIONAL HEADQUARTERS AND TECHNOLOGY CENTER
Suwanee, GA

Optimum Plus

This total support program represents our company-wide commitment to helping you maximize the value of your Mazak purchase, achieve the best possible competitive advantage and keep your equipment running smoothly at all times.

The program encompasses five distinct areas to ensure complete customer care.



SINGLE-SOURCE SERVICE

We are your single point of contact for any Mazak-related service need, whether it involves a machine, control, accessory or automation solution.



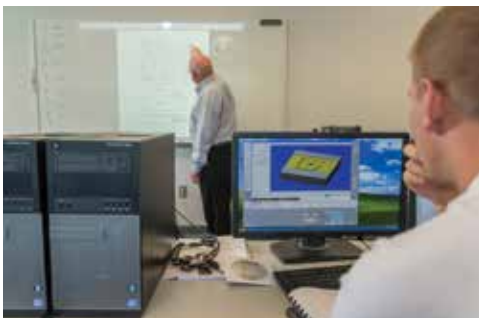
MACHINE & CNC CONTROL SUPPORT

Every Mazak machine comes with a comprehensive warranty, free technical phone support and software upgrades for the entire life of the product.



PARTS SUPPORT

We have the industry's largest inventory of spare parts, ensuring 97% same-day shipping on part orders.



PROGRESSIVE LEARNING

We partner with our customers to train them to achieve the highest levels of productivity and profitability.



SPINDLE & UNIT REBUILD

Our industry-leading exchange and rebuild program offers new and remanufactured spindles, index tables, ATC shifters and milling turrets for 24-hour shipment.



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