

# AUTOMOTIVE AUTOMATION SOLUTIONS



A WORLD OF OPPORTUNITY

# START YOUR DRIVE TOWARD EXCELLENCE

## COST OF OWNERSHIP

Mitsubishi Electric's solutions for the automotive industry are all designed to lower cost of ownership, all while keeping your plant operating and producing efficiently. By integrating all the functions that keep your plant running, you can easily manage all your systems. From development to production, and beyond, Mitsubishi Electric delivers cost-saving results.

Advancements such as consolidating CPUs, reducing work times across all fronts and minimizing factory space are possible when you combine the speed of the CC-Link communication network and the innovation of our iQ Platform hardware. The integrated concept of the iQ Platform combines the power of best-in-class components on the same platform, giving you unrivaled levels of performance. By combining the PLC, CNC, robots, motion controls and HMI, you reduce costs by minimizing plant automation equipment platforms. iQ Platform gives you greater ability to monitor and manage R&D, assembly, operation and maintenance, contributing to lower cost of ownership.



## POWERTRAIN MACHINING

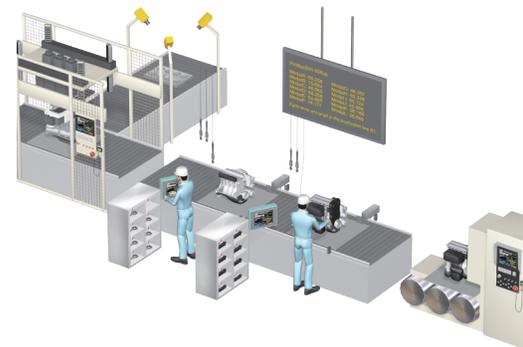
Mitsubishi Electric's advanced CNC machining technologies deliver powertrain machining line systems with higher precision. Our factory automation solutions reduce cycle times and improve engineering and maintenance environments.

Mitsubishi Electric has economical automation solutions that provide higher quality, reliable powertrain equipment. The iQ Platform saves space through combining control and machining modules. Having less components in the CPU results in reduced work time on all fronts, from research to assembly to cycle times to maintenance. Further reduce maintenance work by consolidating machine operation panels into the GOT. Now there is no need to save back-up data for the PLC CPU and CNC CPU in separate media storage systems. Achieve better productivity with high-speed data exchange between multiple CPUs for the CNC and PLC.

## POWERTRAIN ASSEMBLY

Mitsubishi Electric provides the best factory automation solutions by configuring the powertrain assembly line with our advanced technologies, leading to greater flexibility so you can meet ever-changing demand for automobiles.

Easily collect production information by setting up direct communication. Connect the MES interface between production equipment and the MES database without a communication gateway. The MES module's simple software setup lets you avoid complicated programs, in turn reducing TCO. Further reduce cost and space usage through the integration of devices. The iQ Platform allows you to merge assembly control, positioning control and fastening/torquing control.

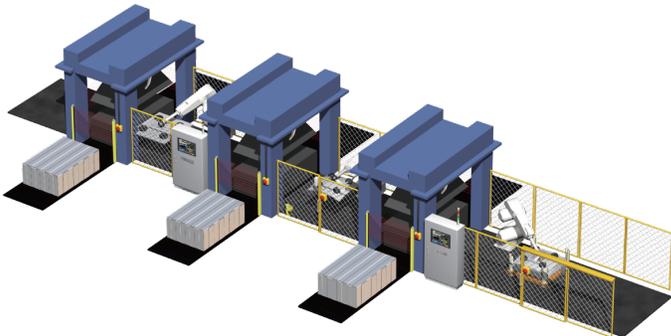


## STAMPING

Mitsubishi Electric proudly offers stamping solutions to improve your engineering environment, further your sustainable goals and give you greater flexibility. Our intelligent energy-saving VFD for the machine press responds to the job's size and materials.

Mitsubishi Electric delivers electrical stamping using large-capacity motors. Our AC servo has 300% maximum and our VFD has 150% maximum of torque output. Monitor and control the AC servo and VFD through our configurators with a CC-link connection. Any changes to parameters and speed can easily be monitored via the communication network. And look to our servo amplifier for reliable communication without external noise interference.

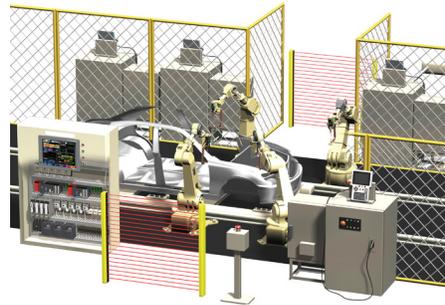
Energy conservation is possible through VFD control and AC servo control. You can control the number of rotations based on load. Set any stroke count through the VFD-driven system, and reduce power for the drive system and increase productivity.



## WELDING

Mitsubishi Electric delivers welding solutions to reduce cycle time by optimizing the peripheral devices of factory line robots. We can configure systems with auto body transport, fixed JIGs, robot operation and welding control.

Mitsubishi Electric gives you better transport cycle time with the motion CPU for the iQ Platform. SSCNET III provides high-speed, synchronized network connection, leading to greater performance and accuracy.

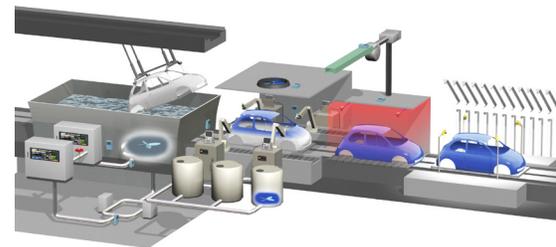


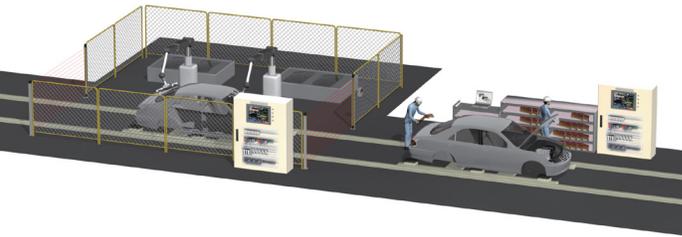
## PAINTING

Mitsubishi Electric configures a painting production line system that can handle increases in high-volume data. Achieve greater productivity through advanced painting processes, all while reducing cycle time, improving engineering environments and reducing energy consumption.

Rely on the PLC CPU and CC-Link IE for high-speed control for large-scale painting data. CCLink's fast connection lets you reduce cycle time and improve productivity. The processing CPU lets you consolidate loop control and PLC control on one controller. You now have one unit to control painting booth conditioning and oven equipment.

Our controller systems automate pollution abatement equipment using CC-Link to communicate to the VFDs. The VFDs control fans that exhaust paint fumes through a catalytic oxidizer. Since our VFDs are designed for highest efficiency, you can keep your painting costs down while being eco-friendly and meeting environmental standards.





## FINAL ASSEMBLY

Mitsubishi Electric can configure final assembly production lines flexible enough to work with a diversity of staff and equipment. We deliver equipment support for workers to improve engineering environments.

Because Mitsubishi Electric VFDs and servos are designed for longevity, you can combine the PLC, GOT, VFD and servos and achieve a longer life for conveyor and assembly equipment. With the CC-Link connection, you can configure data and control to eliminate unplanned stoppages. You can also enhance visualization through the GOT's display of VFD and servo parameter settings. CC-Link's repeater hub module creates a simpler network connection, letting you expand or reconfigure your equipment and stations as your production requirement demands.

To create a more worker-friendly environment, look to Mitsubishi Electric's GOT2000 unit. The GOT's multi-lingual features allow operators to communicate with mutual understanding. Multi-media functions provide workers with easy-to-understand animations with instructions and proper procedures for unplanned occurrences.



## PARTS PRODUCTION

In a competitive global market, auto manufacturers will only look to use the best parts available. So you must have the right solutions to produce parts better, faster, and more efficiently than anyone else. That's why Mitsubishi Electric helps suppliers produce quality parts while keeping costs low.

Look to Mitsubishi Electric robots' superior horizontal and vertical machining to cut costs and reduce cycle time. We analyze your complete application, review system layout for optimum placement, minimize robot motion and present solutions that maximize throughput. And keeping in mind your need for wide variations in payload, reach and stroke, our robots quickly move from application to application to ensure your production processes are always at peak performance. Mitsubishi Electric robots maximize flexibility so you can meet the changing demands of the automotive industry at a moment's notice.



**e-Factory**

**e-Factory Alliance**

Mitsubishi Electric's e-F@ctory concept utilizes both FA and IT technologies, through collaboration with e-F@ctory Alliance Partners, to reduce the total cost of development, production, and maintenance, with the aim of achieving manufacturing that is a "step ahead of the times".