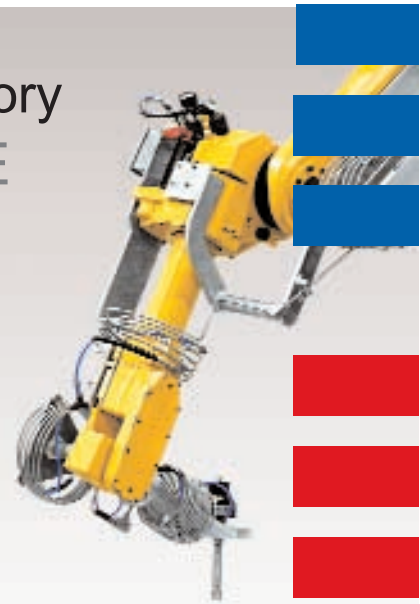


KMT Robotic Solutions Success Story

INTERNATIONAL AUTOMOTIVE COMPONENTS GROUP (IAC)

KMT's AccuTrim® Robots Improve Trimming Performance and Reduce Programming Time



Challenge

International Automotive Components Group in Madisonville, Kentucky, (formerly Lear Madisonville) manufactures automotive headliners, blow-molded plastic automotive seatbacks, load floors and storage bins. In 2005, employees were preparing for a new product launch with a much higher production volume when they discovered that their existing Motoman system could not handle the increased volume, productivity levels and quality targets. IAC needed a new system that would reduce cycle time, meet the production and quality demands, and be installed and running within 10 weeks.



This KMT JetTool Gantry-style waterjet system is equipped with four AccuTrim WJ-44 robots.

Solution

IAC Madisonville contacted KMT Robotic Solutions to explain their needs. KMT worked with IAC to engineer, design and deliver and install a turnkey waterjet cutting system on Oct. 7, 2005. KMT assisted with programming and had the system in production by Oct. 17, 2005.

About the System:

The KMT JetTool® waterjet cutting system included four KMT AccuTrim® WJ-44 robots in an open gantry style with a fixture table, waterjet intensifier and the KMT JetVac®. The JetVac is a vacuum system used to hold parts down during waterjet cutting and remove waste and water from the system. It provides better part hold-down, enhances repeatability and results in dryer parts.

The system also features Accuracy Enhancement Tools and KMT's JetWare® software. The tools included TCPMate software to quickly set the tool center point of each robot, CellFinder to correct for fixture placement variances and CalMate to automatically master the robot without the use of a mastering fixture. JetWare produces common geometric shapes with just a few dimensional inputs, allows users to create a library of custom shapes and adds extended functionality to basic programming features.

Results

The KMT JetTool system reduced cycle time by 75%, enabling the waterjet cutting process to stay inline with the molding process.

The system eliminates work in process so IAC doesn't have as many deformations from storing and stacking the headliners. IAC Madisonville has better process flow now that the product moves from trimming to final assembly and then to the racks for shipment.

On just one product the cycle time went from 89 seconds to 23 seconds. With this reduction in cycle time, IAC can take on a larger volume customer and a customer who requires a more stringent quality part.

KMT's Accuracy Enhancement Tools also contributed to the time savings. CellFinder saves an hour of downtime each time the fixture is changed and TCPMate saves at least 30 minutes per day.

The KMT JetWare software is also saving time. In the past, it would take a programmer an average of five hours to adjust a circle by 1mm. JetWare has an offset option that sets the diameter automatically. Process technicians can make adjustments to the robot much more easily and in much less time.

Bottom Line Improvements

The systems' increased capacity and lack of downtime allowed the company to reduce weekend and overtime work and resulted in a return on investment in less than one year. Since the time spent making adjustments is greatly reduced, one process tech per shift has

been reassigned to maintenance. The system helps IAC not only work more intelligently and efficiently, but it also helped with the need to add more staffing to the maintenance department.

The JetTool system definitely changed production flexibility. IAC can run multiple parts without hesitating and use it as a back-up system for another trimming system.

The JetTool System and Accuracy Enhancement Tools helped the company decrease the PPM levels for all its customers and even brought one customer to zero. The system also provided a means to track which fixture had been used to cut a specific headliner, allowing IAC to track quality issues back to their source.

IAC uses KMT's programming expertise on a regular basis. KMT programmers assist with new product launches so IAC engineers and process techs can focus on other areas of the launch. IAC now has two programmers versus four. IAC also used KMT's training services to help the process technicians become more efficient. The training conducted at KMT saves IAC time since it had been difficult to find the time to train the technicians in the past.



IAC's JetTool system is most often used to trim headliners.

KMT Robotic Solutions.
Creating Value Through Automation.



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