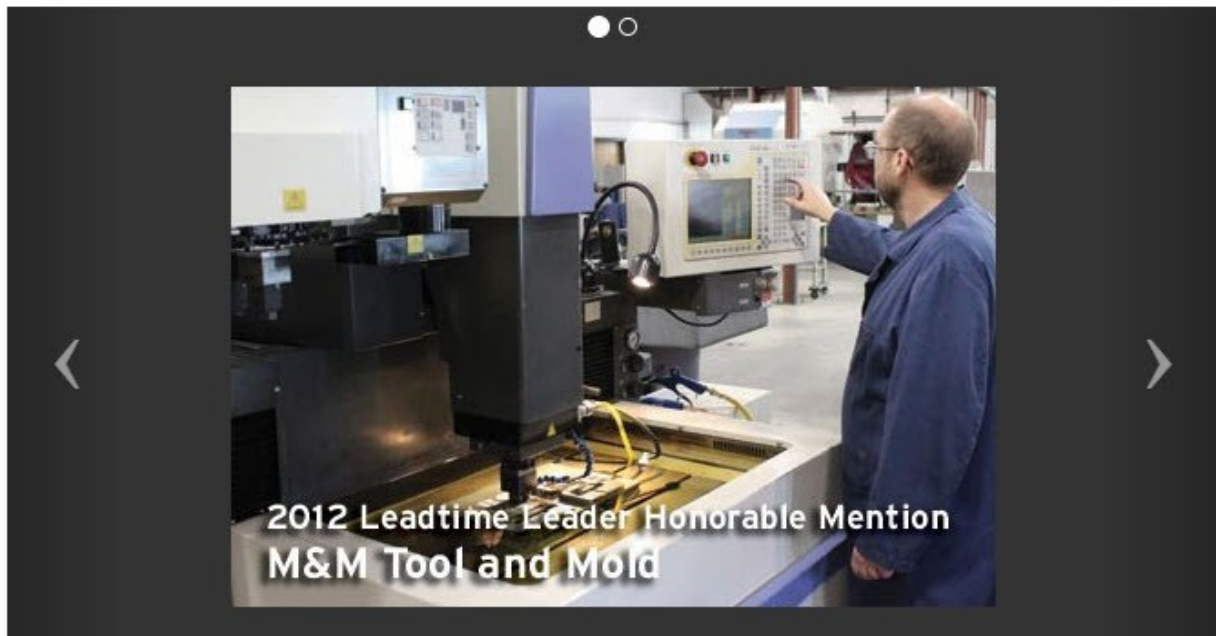


2012 Leadtime Leader Awards: M&M Tool and Mold: Niche Mfg Still Profitable

Surviving and thriving through an acquisition during a recession with an emphasis on lean principles and automation lands this former Leadtime Leader winner the MoldMaking Technology 2012 Leadtime Leader Award: Honorable Mention.

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When M&M Tool and Mold, LLC (Green Bay, WI) was acquired in 2007 by Minneapolis-based North Central Equity, LLC, the company's first order of business was to sustain profitability.

Fortunately, the company had already built its reputation in a niche market of intricate, single or multi-cavity, tight tolerance plastic injection molds in abbreviated leadtimes, in addition to multi-shot and auto-unscrewing tooling; and insert molding—with average leadtimes of four weeks—and was able to maintain a solid business model. Markets served include:

medical, automotive, consumer products, recreational, agricultural, construction and appliance; and additional services encompass product development, high-speed machining, and wire and sinker EDM.

M&M Tool President Dave Roen points out that the company began to see a turn in the positive direction in 2009. “Since that time, we have maintained a steady 22 percent growth in sales,” Roen emphasizes. “After reaching capacity in late 2010, we began to add positions, equipment and processes. We are currently approaching 30 employees and plan to continue the pattern. Our goal is to employ 35 by the end of 2012.”

Roen believes that the company’s commitment to a lean culture has been a major factor in the company’s success. “After receiving a purchase order, we have a process in place that requires our project engineers to have full redline mark-up in front of our customers for approval prior to proceeding with design,” he comments. “This will typically happen within one day of receiving a PO. The redline, created in Pro Engineer (or currently known as Creo), consists of all required information like part name, part number, tool number, etc.; and will also reflect a basic layout with mold base size, part orientation, runner configuration, water layout, placement, type of ejection and so on. This ensures that we go into design with a complete understanding of our customers’ needs and puts M&M and our customer on the same page moving forward. Implementing standardization and process flow at the front end of the business creates a trickle effect and helps tremendously to create the same culture throughout the shop.”

To that end, the company purchased a Zeiss Duramax CMM last year and had it custom built for integration into M&M Tool’s existing automated electrode cell for qualification. “The inspection works on a pass/fail basis,” Roen explains. “If the first part of a set fails inspection, the system will skip that set and move on to the next. This enhances the efficiency and prevents wasteful machining of electrodes that will not pass inspection until the issue causing the failure is resolved.

“In addition, the CMM exports the tool offset data, specific to each part, which is available for import into the EDM machine,” Roen continues. “This eliminates downtime in the EDM for X, Y, Z and C offset qualification of the electrode. We have worked closely with Zeiss, Fanuc, Chip to Chip and System 3R through our machine tool distributor Concept Machine (Delafield,

WI) to develop this fully automated electrode machine and inspection process over the past nine months.”

Working with its sister company, Minneapolis-based Corporate Technologies—a full line provider of Information Technology managed services—M&M Tool has created a custom application through SQL server, which allows the team leaders to retrieve current detailed budget and job cost information at the click of a mouse,” he says. “This gives them real-time data and allows them to make the appropriate decision for placement within the team or consideration for potential outsourcing, and so on. We also provide a monthly status update by team, which provides a graph reflecting the total hours worked in the previous month and a breakdown of any warranty or rework hours that may have occurred in that month. This system is primarily to establish accountability and corrective action, if necessary.”

The key to the company’s sales strategy is its continued commitment to customer service, according to Roen. “Although we have always provided excellent customer service, we felt it was necessary to take it to the next level,” he says. “We added three new project engineers with qualifications that include a lean approach to value stream mapping our entire front end process. This is an ongoing process, but has instantly taken us to a level of quick turn quotes—often the same day—and an efficient design process, which does include the toolmakers involvement and input. No preliminary designs are released for customer approval without a formal internal review, including the toolmaker. This allows the opportunity for design for manufacturing changes prior to the official preliminary submission. We have also begun to introduce our toolroom manager to our customer base, becoming an additional point of contact upon design release and providing weekly progress reports to all customers. He also directly handles the majority of engineering changes and potential tooling adjustments from quote to invoice. This allows for a smooth transition for our customers when the job moves from design to the floor—as well as allowing our Project Engineering team to focus on the throughput of new tooling, keeping a steady flow to the shop.

“Operationally we seek to increase our lean endeavors by increasing the velocity of work through the shop,” Roen continues. “Quality with speed is the philosophy, and the key to this is our conscious investment in employee development and increased equipment automation.”

With regard to employee development, M&M has implemented a successful program that started with standardizing departments. “In electrode manufacturing there were several variables in reference to the orbit styles; round, square, spherical with skin, and spherical without skin—all having geometry and programming requirements that varied,” Roen elaborates. “This, combined with multiple over-burns, made this a very complicated position. After some R&D we found that we could accomplish the same results using only one orbit style. Making this simple change created a new standard that was much easier to train—and

removed 75 percent of the complexity from the process. We have continued this effort throughout the shop and our new hires are excelling. It is exciting!”

Roen forecasts continued success for M&M Tool. “Our lean focus promotes responsiveness to customer needs, speed throughout the mold building process, and quality finished tools that bring accolades to our customers,” he concludes. “We hold ourselves to the highest standards, expecting every mold to go directly into the validation process on the first sample.”