

The 'best ever investment' – automated double and triple cells, each served by a single WorkMaster robot from System 3R

Chicago Mould Engineering, established in 1944, has continually used the latest technological advances to help the company produce ever more quickly and to ever tighter tolerances.

At their plant in St. Charles, Illinois, they specialise in large moulds - single-cavity, complex multi-cavity, injection, compression, stack and combination moulds – mainly for the automotive industry plus the leisure, consumer electronics and household sectors.

Ralph Oswald, the second generation manager of the company, emphasises that their 'best ever investment' was in the early 1990s, with their fully automated cell for electrode production. This investment, along with many others, has helped maintain the sharpness of the company's competitive edge.



This cell comprised a modern machining centre for milling graphite electrodes and a WorkMaster robot from System 3R. The cell can hold 140 finished electrodes in a rotating magazine. A single operator handles all the preparations for the electrode-making process - electrode design, programming and operations list. The operator knows which electrodes may be critical in a process and when the EDM machines need electrodes, so that machining can run smoothly as it has done for nearly 20 years!

Preparing everything for a weekend or a night "production run" can take quite some time. However, when all is ready, the cell can be started and then run unattended as long as there are tools and electrode blanks in the magazine.

This first automatic cell was such a success that, a few years later, Chicago Mould invested in a new production cell. As increased EDM capacity was needed, the investment covered two new die-sinking EDM machines and a machining centre for steel and graphite. The machines were placed in a circle with a single WorkMaster robot serving all three of them.

Ralph Oswald: "Quite a few companies consider that automation is only for mass production. A common objection is, 'Automation isn't for us, we're not a production company.' These companies were probably the same ones which bought their first CNC machines without automatic electrode changers. People who don't like change!

"If you want to compete successfully on the global market, then automation is one of the foundations for offering the competitiveness that so many companies in the western world need," said Ralph Oswald. "Our automated cells run a little over 5,000 hours per year per machine – and that's a cautious estimate."



Chicago Mould Engineering makes the most of every possibility. For example, operators can monitor night and weekend production runs from home. If a problem should arise, the operator can go to the factory and do whatever is necessary to get the cell up and running again.

Production is now a highly technological affair. Modern premises filled with state-of-the-art computer and production systems run by expert operators in optimised teams - the combination allows Chicago Mould Engineering to manufacture moulds that are second to none.

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