

MATRIX TOOL CABINETS MAXIMISE PRODUCTIVITY

The cost of buying metalcutting tools has been slashed by one fifth at Chard subcontractor, Metaltech Precision, resulting in a monthly saving of around £2,000.

Whereas 400 different types of tools were previously used, rationalisation has cut this to 250. In parallel with expenditure going down, productivity has increased due to more appropriate tool selection and the use of IMC tools, which are delivering faster cycle times. Contributing further to higher production output is a marked reduction in machine idle time.

All this follows the installation of two computer-controlled Matrix tools stores, provided by West Country Tools to house indexable inserts, solid carbide cutters and toolholders. The stores are managed by local IMC supplier, West Country Tools, under a commodity and tool management service that involves the integrated supply of all tooling to Metaltech, including the minority sourced from suppliers other than IMC.

The improvement to Metaltech's bottom line is considerable, helped further by two benefits in addition to the lower monthly expenditure on tooling. First, there was a windfall saving of £20,000 in the first few months, while the stock of cutters that the subcontractor owned were transferred to the Matrix stores and issued on free vend. Second, while 10 man-hours were previously spent reordering and managing tooling

stock levels manually, just two hours are now needed.

CNC turning section supervisor, Steve Larcombe, who is responsible for managing all of the lathe tooling, said, “We used to have 400 numbered plastic bins containing between five and 20 inserts each and I had to open every one regularly to check how many were left.

“It took me five hours a week to identify what needed restocking, make lists on a Monday and again mid-week, have the office e-mail the orders to West Country Tools, check the deliveries when they came in and put the tooling away.

“It takes me just one hour to manage the Matrix system – a five-fold time saving. The person that looks after our machining centres is making a similar weekly saving in the number of hours spent administering prismatic cutting tools. It means we both have more time for other things, such as improving tool selection and usage on the shop floor and sorting out problems.”

Delving a little deeper into the situations before and after installation of the Matrix tool stores, some marked improvements are revealed. Mr Larcombe commented that he would have had to check each of the plastic drawers twice a day to be certain that inserts would not run out, which would have been impossibly time consuming.

Therefore in practice, tips would be unavailable to continue a machining process on a few occasions every month, often during or just after a night shift. Metaltech nearly always circumvented the problem, by

perhaps temporarily using a worn tip or changing the grade and holder, but both solutions compromised productivity.

There have been no stock-out occurrences since the Matrix tool stores were installed in October 2008. Operators and setters access the stores using unique passwords that give them different levels of authorisation, while Mr Larcombe has supervisor-level access to allow him to reconfigure the software.

The touch-screen and logical menu system afford easy identification of the location of each tool, which is retrieved from one of the drawers in a matter of seconds. Only the compartment in the drawer that contains the selected item will open, so others tools cannot be taken at the same time. The number and type of tool removed is entered via the screen, so there is an up to date inventory permanently in memory of exactly what is in each store.

West Country Tools interrogates the inventories regularly from its offices in Newton Abbot and visits twice weekly to top up stocks to the agreed levels. The Friday visit doubles as a management meeting. In addition, the local IMC sales engineer is on site every one to two weeks to introduce the latest cutting tool technologies that can save further costs.

On the first of every month, a report is generated automatically and transmitted to the mobile telephone of Metaltech's owner, Steve Hill. It contains comprehensive, itemised information on the number and type of inserts removed from the Matrix stores during the month and by whom, the cost of each type of insert used, the cost of all inserts taken

out by each employee and the grand total for the month.

When a Syspro enterprise resource planning and supply chain management system from K3 comes on-stream mid 2009, the link to the Matrix system will expand the information available to include tooling costs associated with each job (as well as labour and material costs). A scanner, already supplied with each Matrix cabinet, will read a bar code on the job sheet to provide the necessary data input. Tooling costs on some long-running jobs are already being monitored by Metaltech, but manually at present.

Mr Larcombe observed, "Operators have really started to think about what they are taking out of the stores, now that they are visibly accountable.

"Gone are the days when someone would select an inappropriate tip for a job or take a few extras in case the inserts run out during a shift. With the new system, everyone knows that items will always be there when they need them."

All of the other advantages of the IMC Matrix tool stores, especially the financial ones, have come as a pleasant surprise. They are helping Metaltech to remain competitive in an increasingly competitive international subcontracting sector.

In truth, it has been the success of Metaltech's business over the past two or three years that prompted changes to its tooling management. The number of machines on the shop floor has increased by a quarter in

that period and two-shift working has given way to round-the-clock production on weekdays. Tool management systems are really the only effective way of monitoring usage during the night shift, when supervisory staff is normally absent.

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The Matrix tool store for turning inserts, cutters and toolholders being used by Steve Larcombe on the shop floor at Metaltech Precision.



Close-up of the Matrix turning tool store.



Close-up of the Matrix turning tool store.



The Matrix tool store for prismatic machining tools at Metaltech Precision, showing the clear, pictorial menu layout for rapid insert and cutter selection.



A rack of IMC preset cutters in use outside of the Matrix tool stores at Metaltech.