JUST AUTOMATE

Executing production tasks as simply as possible is one of the supreme priorities in machining. Because a basic tenet of automation is the drive for simplicity, automated systems can provide bespoke assistance tailored to the specific application. In contract manufacturing, additional effects extending to embrace further fronts are available, as HURCO demonstrates based on an example from the automation network.



"At this point in time, the trick is to remain competitive. Because it's getting harder by the minute," emphasizes Joachim Steffens, Operations Manager at Mechanik Wergen in Monschau. "That's why we need solutions. Especially in view of the importance that we assign to ensuring employee satisfaction. Because without employees, we can't accomplish anything." Here, increasing priority is being placed on designing interesting work environments, which is also why alternate models for working hours are currently under discussion in Monschau. It is possible to link these two aspects: increased competitiveness and enhanced employee satisfaction can be integrated. At Wergen, this is demonstrated by a HURCO "VMX 30i" 3-axis machining center that has been automated with a Robojob robot-based loading system.

Designing interesting work stations



“At the moment, we are operating at more than full capacity, and we produce all that we can. The preferred delivery deadline is yesterday,” is how Company Director Karin Wergen describes the context in which automation is proceeding. “We strive to have our employees produce single parts, with the priority shifting to automated production continuing into the evening hours on any and all processes where it can be used.” In 1996, when Paul Lothar Wergen founded his sole proprietorship, the ability to implement this approach still lay far in the future. Just one year later, he transformed his workshop into the Mechanik Wergen GmbH, and in 1998, he expanded the shop area and added an office tract. Today, the production area in Monschau comprises roughly 800 m², and the firm employs twelve associates as well as two apprentices. “We are a manufacturer of one-off and limited-series parts, producing to meet specific customer requirements,” is how Steffens describes their manufacturing mission. This includes replacement parts and new components needed in general machine construction as well as parts for medical and test technology, and also extends to embrace componentry for the cleaning industry. Meanwhile, the machine fleet is now composed exclusively of HURCOs. In addition to the VMX 30i, which the Robojob has now endowed with automated parts-handling capabilities, the inventory includes one TM 10i, a TM 12i, two VMX 24i machines, one VMX 30i, VMX 42 SRTi, VMX 42i, VMX 50i, a VTX Ui and – new on the scene since August – a TM 6i. At which Monschau is underway with both 3-axis and 5-axis machining.

Simple operation

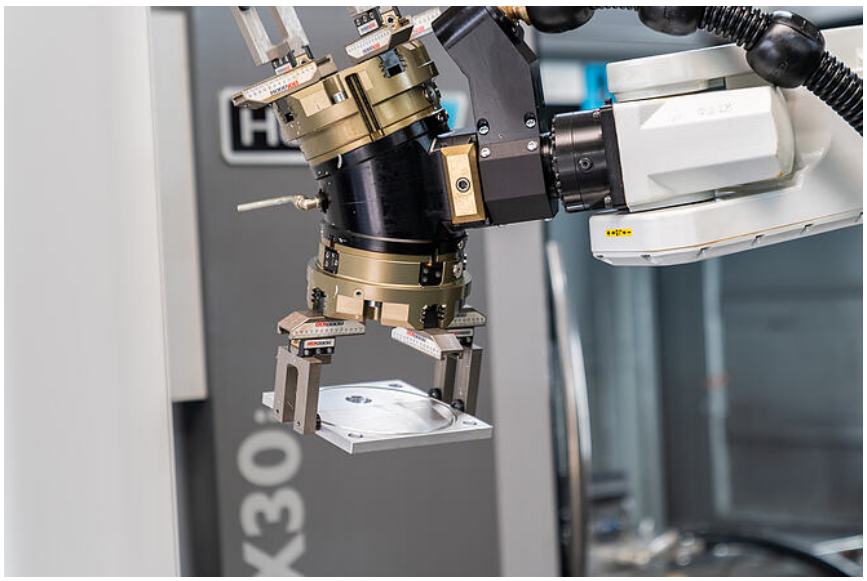
According to Steffens, the control systems and the simplicity of operation provided the impetus for concentrating on HURCO machines. “When I first contacted HURCO about 15 years ago, a customer support representative promptly arrived carrying the control system for a subsequent demonstration under his arm. And that’s when he won us over,” relates the operations manager. “We got the message: The machines are good, the control system is good, and each employee can work with almost every machine. Of course, there are differences between the 3-axis and 5-axis machines. But we’re also on the right track in this regard. We just sent three employees to a training course so that each one can work with every machine.” In

addition, simplicity of operation has a direct effect on economy of production because speeds can be raised to increase production rates. In addition to the machine technology and the control system, “it was the service that brought us to HURCO. It’s very good, that should be stated clearly,” emphasizes Steffens. “When a problem arises, we just call them, and four times out of five, they can help us right on the phone. Spare parts are also available for immediate delivery. We have never had to wait for anything. That is excellent.”

Intuitive control system

Against this background, Wergen never doubted for a minute that the planned automation should be implemented in collaboration with HURCO. Once the best solution for meeting the specific requirements was found, the Robojob combination was installed in just a few days, and it has been running flawlessly ever since. The parts that are now handled and produced in automated processes tend to fall into the “small parts” range. “Our solution is perfect for workpieces up to 30 kg,” reports Steffens. “The focus is on parts manufactured in stainless steel and aluminum, but in a highly variegated array.” During frequent part changes, the automation has to be as simple as possible as an essential precondition for economical production, is how Steffens views it. “With standard technical expertise, you are already well equipped to tell the robot what to do,” he states. Once the settings have been entered in the systems, the manufacturing process proceeds in a smooth interplay, with no operator intervention required. “The robot is started, and then it runs. Just like that,” is how Steffens describes the procedure. “Currently, our employees are engaged in production for eight to ten hours, and this is followed by three or four hours of automated production at night. And sometimes, provided that the parts are suitable, the machine and robot run throughout the entire night. Depending on the individual workpiece, 200, 100 or 50 parts will be produced.” When the employees are extremely busy and there is no time for repeated processes, the 3-axis machining center can also run in automated production during the day.

Simply effective



For Mechanik Wergen, the combination of the VMX 30i and a robot-based loading system represented their entry into the world of automation. If and when the need again arises, we'll be cooperating on implementation of a comparable solution, is how Company Director Wergen summarizes the situation. It goes without saying that the customers' products have to be suitable. For certain series sizes, automation already enables more favorable costing in some cases in order to acquire new orders. "We are not one of those manufacturers dedicated exclusively to series production. That's why this kind of automation is such a good fit for us," is Wergen's appraisal. "Our company is running well, really very well indeed. We're flexible, we produce economically and we can deliver quickly. That's what makes us competitive."

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