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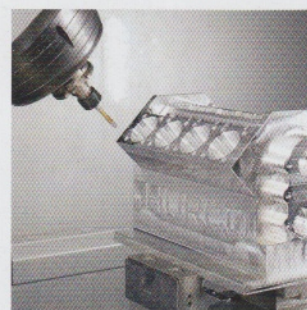


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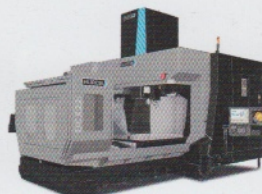
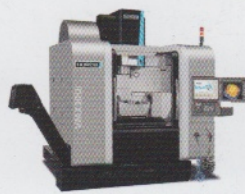
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Tool manufacturer is also a facilitator

When Suttner adopted a growth strategy 15 years ago, it was decided to significantly increase the manufacturing depth. Its priority was to focus on parts with complex designs and high added value. The executive management brought ARNO Werkzeuge on board as its partner and facilitator to also increase productivity. This success story has brought about manufacturing competences and products that were inconceivable in the past. At the same time, it is an effective solution to the lack of skilled workers.

"Today, we manufacture parts which were inconceivable in the past," says Steffen Zunkel, head of R & D at Suttner GmbH in Leopoldshöhe. "We even manage this on only one machine that has a maximum of two clamps and, in many cases, in less than half the time," adds Andreas Rempel, head of the manufacturing division. Today, complex parts are produced with a high level of automation at the company which is a member of the R+M de Wit Group. These parts include injectors for high-pressure cleaners to dose and add media.

In the past, the company regarded itself as a contract manufacturer and preferred to outsource complex parts. Today, it's the other way around. Suttner now manufactures complex parts almost completely in-house with a great deal of know-how and high added value. As a result, simpler parts are outsourced depending on in-house machine capacity. This has also resulted in a change in corporate perception, as sales director Rahman Tokalak affirms: "Today, we are a solution provider for complex components, mainly in the field of professional high-pressure cleaners. Every high-pressure cleaner probably contains some component or other that we manufactured."

Since 2004, Thomas Bach has paved the way for ARNO Werkzeuge to facilitate the

way towards this situation and in 2007, Frank Deisler joined the team as on-site tool consultant. Together with development, production and sales at Suttner, the team implemented the growth strategy to achieve a sustainably functioning production system. This took numerous discussions and situations based on trust and with no hierarchical barriers. The focus was placed on product and process optimisation as well as increasing productivity and the level of automation.



How can a tool manufacturer be a facilitator?

Many may ask the question what contribution a tool manufacturer can make apart from supplying tools. ARNO sales director Klaus-Dieter Krüger explains: "We also consider ourselves to be a solution provider since we understand the customer's manufacturing process and know how to possibly optimise it by selecting the right tools." That is exactly what the experts at Suttner were looking for. "I can browse through tool catalogues myself and order products from any provider," says Andreas Rempel. "But if someone tells us how we can become faster and better by using the right tools, perhaps even in modified manufacturing processes, that's what we were looking for and what we appreciate right from the very start."

This is how the ARNO team contributed to a substantial increase in competence that has raised Suttner's competitiveness. It was achieved by a generous transfer of knowledge, which is nothing unusual for Thomas Bach. "We encounter so many manufacturing situations. It's only logical that we share this wealth of experience without revealing any secrets." Dieter Krüger supports him on this point: "This obviously requires a competent team located close to the customer." That's exactly what ARNO has since every

specialist adviser comes from the trade. Many are application engineers like Thomas Bach. He has gained great respect and trust from Suttner for many years.

Detailed machining plans support manufacturing to optimise productivity

What does this mean in essence? Ultimately, turning and metal-cutting is all about productivity, for example in the production of injectors. At Suttner, injectors are the core product. Injectors consist of three basic bodies containing a total of about 30 components. For example, they include an internal Venturi nozzle and spindle as well as connections with non-return valves. The base bodies also have connection bores and threads, valve seats, oblong holes and overflows. It is a special challenge for machines and tools to produce them since the internal radii are located at places that are difficult to access. The products are required to be resistant to chemicals and this defines the material, in some cases forged stainless steel which is difficult to



machine. Many components are FDA compliant so that the high-pressure cleaners can be used in the food industry, such as in meat factories, although they do not come into direct contact with foodstuffs.

Together with the machine manufacturer and in close collaboration with design, manufacturing and sales at Suttner, Thomas Bach came up with concepts to optimise component production: "From all these inputs, we derive machining proposals



which we work out in every detail, exactly describing every operation and parameter." The table lists each of the processes, such as rough facing, finish machining, parting off, drilling or thread milling as well as the matching tools to execute each machining step. Then the parameters are listed, such as cutting depth, cutting speed, rotational speed, feed with distance and time. In the end, the complete machining operation is described including process times and non-productive times.

Top priority given to process automation

The results are convincing. The machining time for the middle section of an injector now takes under six minutes whereas before it needed eleven minutes. "With a new holder we even managed to reduce this time to four and a half minutes," mentions Thomas Bach. The result was even more drastic for the valve body made of forged stainless steel. The part is located in the handles of high-pressure guns. In the past, they were produced on four machines using just as many clamps. Today, multitasking machines produce the workpieces in two clamps in a fraction of the time. The machines comprise a main spindle, counter



spindle, milling spindle and tool turret. The entire process is now fully automated since a loading robot assumes the task of fitting, re-clamping from the first to the second clamp and removal. Just as it should be when automation assumes a higher overriding principle.

The close, long-standing partnership between Suttner and ARNO Werkzeuge is a wonderful example of how increased productivity comes from mutual trust and

task-oriented collaboration. In addition, the significant growth in Suttner's competences has boosted the company's position in the competitive field.

ARNO (UK) Ltd
Tel: 01785 850072
Email: sales@arno.de
www.arno-tools.co.uk

Hurco to promote powerful, easy-to-use software

Programming simplicity will be Hurco's theme for Southern Manufacturing 2020 and the company will be showcasing the latest software available on its proprietary Max5 control. The 19-inch, colour, touch-screen control has always been popular due to the ease with which a first-off part can be programmed.

On demonstration will be the latest Solid Model Import option, capable of reducing programming times even further. Whereas previously only 2D DXF files could be loaded directly into the control to create conversational data blocks, now it is possible to import 3D STEP or IGES files including splines and Z-depths. For machining 5-sided parts, transform plane commands are calculated automatically.

Two of Hurco's best-selling machines will be on the stand. One will be the versatile Hurco VM10i machining centre, which despite having a working volume of 660 x 406 x 508 mm fits into a compact space on the shop floor. Steel cutting demonstrations will take place throughout the show and

visitors are likely to be impressed by the ability of the machine to offer true machining centre performance.

Sharing equal prominence will be a Hurco TM8i XP 2-axis CNC lathe. It turns parts up to 356 mm in diameter by 525 mm long and is well suited to bar work up to 64 mm diameter. The performance of this compact, accurate turning machine is complemented by the Max5 control. Simple, easy-to-follow graphics guide the user through tooling selection and all operations.

The new XP model enhancements mean that concurrent programming, improved graphics, roller guideways and faster rapids are standard features. The slant-bed lathe is supplied as standard with a 6-inch hydraulic three-jaw chuck, parts catcher and swarf conveyor. Vouchers for Maclnnes coolant and lubricants as well as Dormer Pramet tooling are being offered.

From 5-axis machining centres to large format machining centres designed for the aerospace and energy sectors, there is a Hurco CNC machine for you. The flagship



VMX line is the workhorse of 3-axis CNC machining centres, but Hurco does not stop at milling. The company works diligently to ensure its turning centres are up to par with its mills. The TMX, TMM, and TM lines include a range of turning centres with chuck sizes up to 25 inches and mill turn machines that support the done in one philosophy.

Hurco Europe Ltd
Tel: 01494 442222
Email: sales@hurco.co.uk
www.hurco.co.uk