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EMO HANNOVER 22-26/09/2025

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## All the Specifications

| Specification | XYZ CT 52 LR |
|---|---|
| Power Chuck Diameter | 150mm |
| Maximum Swing | 300mm |
| Swing Over Carriage Cover | 220mm |
| Maximum Turned Diameter | 180mm |
| Maximum Turned Length | 300mm |
| X Axis Travel | 165mm |
| Y Axis Travel | N/A |
| Z Axis Travel | 315mm |
| Height from Floor | 950mm |

**We even provide specification sheets on all our machines, on the interactive tour, so you can get all the information you need to see which machine would best meet the needs of your business.**

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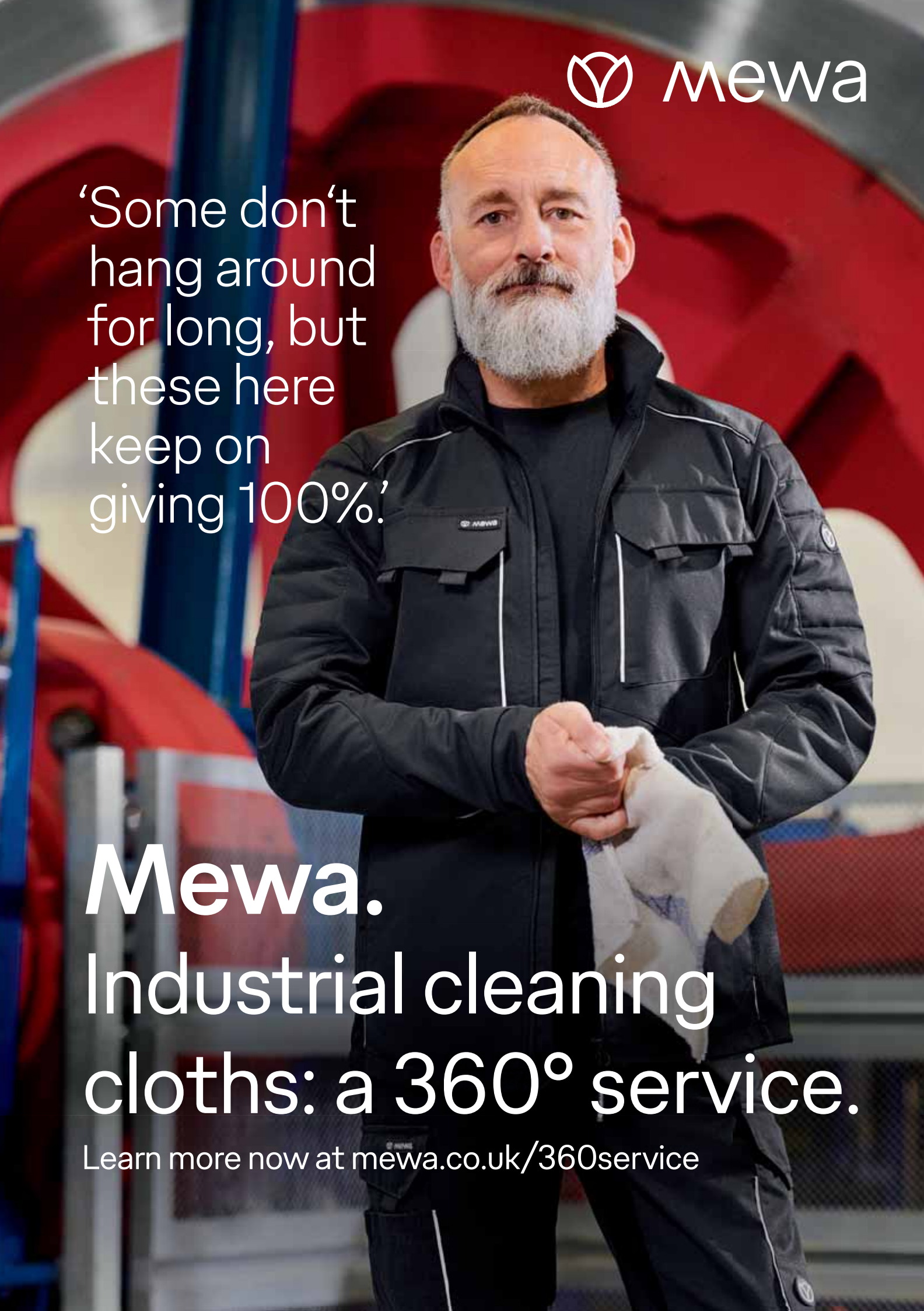
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Yamazaki Mazak is aiming to empower machine users at EMO 2025 by showcasing a range of new machine and automation technologies including seven world and five European debuts.


Exhibiting under the theme 'Experience innovation, empower your future', the Mazak stand will highlight the benefits of a real partnership between machine manufacturer and user, with a stand that places customer success, smart automation and digital integration at the heart of modern manufacturing. Visitors will experience a comprehensive showcase of new machine tools, connected technologies and expert support services; all designed to empower customers.

The Mazak stand will host a total of 20 machines, five manufactured in Europe, that highlight the breadth of the technologies available, from 3-axis lathes and vertical machining centres offering an affordable introduction to the Mazak brand and the latest additions to the most sophisticated INTEGREX level of Multi-Tasking and Auto Gear technology.

The new machines on show will include the new INTEGREX j-200 NEO, shown for the first time in Europe, which combines outstanding productivity for complex high-mix/low-volume batch work with an attractive price from the pioneers of Multi-Tasking machining.

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**Hall 15 - Stand B24**

# Made to measure

## New Mitutoyo Europe president sets out plans for growth

As the recently appointed president of Mitutoyo Europe, Ray Penny is the first non-Japanese national to fulfil this role in 57 years of Mitutoyo in Europe. It marks a new era with changing leadership and a renewed strategy that outlines the ambitions of this progressive business to build on a long legacy of metrology market success and look at potential new growth avenues through a slightly different lens.

Headquartered in Japan, Mitutoyo Corporation stands as a pillar in the field of metrology, renowned for its unwavering commitment to precision and innovation. Backed by a long and successful legacy, Mitutoyo has established itself as a market leader, providing advanced measurement solutions to industries worldwide. As a prominent player in Europe, Mitutoyo has built a strong network of subsidiaries, sales offices and service centres across the continent, ensuring seamless support for customers in diverse sectors.

Although new to the role of president at Mitutoyo Europe, Ray Penny is far from new to Mitutoyo. He embarked on a career at the company as a UK service technician in 1986. Further roles in field service and technical sales/support ultimately led to his appointment as UK export sales manager. In 2017, he was appointed managing director of Mitutoyo UK, which included a role on the board of Mitutoyo Europe. Today, as the president of Mitutoyo Europe, his responsibilities span the entire EMEA (Europe, Middle East, Africa) region.

This career progression is indicative of the opportunities available at Mitutoyo, thanks largely to its corporate ethos of promoting from within and nurturing young talent through a positive workplace environment.

"I guess I'm a good example of that," Ray Penny says. "I'm proud of my achievements and proud of Mitutoyo. I feel very much part of the company but never take it for granted. Whatever the role here, you need to demonstrate commitment.

"Although Mitutoyo Europe has a new president, it's business as usual for our dealers and customers. However, one of the clear reasons for placing a European in this position for the first time is to implement a strategic change in Mitutoyo's organisation by scrutinising the market through the eyes of more regional/local representation. I'm not seeking wholesale changes because we're a very successful company, but our HQ in Japan wants a 'local' organisation in Europe that reacts in a fast and agile way to the ever-evolving market here."

This is a primary goal of Mitutoyo Europe's current mid-term management plan, 2024-2029, as the company works towards its global "Vision 100" in 2034, a year that marks Mitutoyo's 100th anniversary. Vision 100 sets out a clear ambition: to continue leading the future of measurement.

Ray Penny states: "A core target of our mid-term management plan is for Mitutoyo Europe to become a 'market-in' driven organisation. By that I mean we want to reach a position where we have a clear understanding of the market's needs both today and tomorrow. We can then feed this information to our R&D team in Japan. The ideas for new products should come from the market. That's why we've set up a regional marketing division in Europe."

Key differences exist between the metrology markets in Japan and Europe. While both serve all sectors, the semiconductor industry, for instance, is far more prevalent in Japan than Europe, while aerospace and medical have a strong presence in Europe.

"Equally, we cannot forget our legacy sectors as they evolve. While it was great to see the recent opening of our Semiconductor Competence Centre in Veenendaal, Netherlands, for example, we cannot take our eye off the changing demands of legacy industries."

Astute and targeted product development is clearly pivotal for both new and existing sectors, with Ray Penny identifying automation as a focus area: "We are of course already involved in automation, but it's an area of our business where we see future growth. Mitutoyo has a broad portfolio of solutions from hand tools to the latest coordinate, form, optical and vision measuring systems and everything in between. However, there's areas across that spectrum where we have niche competition. So, we have to think about extending our market differentiation and one area is the automation of inline measurement."

Another growth area for Europe is Mitutoyo's OEM business, where the company can supply its solutions for seamless integration into products made by other manufacturers.

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# One of a kind


Mills CNC, the exclusive distributor of DN Solutions' and Zayer machine tools in the UK and Ireland, has announced that it will be hosting a two-day advanced technology event at its Campus facility in Leamington on October 15th & 16th.

With an umbrella title of The One Show, this best-practice event provides UK and Irish component manufacturers with a unique opportunity to find out more about the productivity and process efficiency gains that can be achieved from embracing one-hit machining and has also been selected as the ideal venue and platform for Mills CNC to launch two new DN Solutions', FANUC-controlled, multi-axis/multi-tasking machine tools into the UK and Irish markets.

The new machines, a DVF 5000, Second-generation, simultaneous 5-axis machining centre and a DNX 2100SB entry-level multi-tasking mill-turn machine, both equipped with the advanced and innovative Customised User-friendly Flexible Operating System (CUFOS) CNC control interface, have pride of place at the event and, through a series of machine-specific presentations and carefully prepared machining demonstrations, will be introduced to what is anticipated to be a highly expectant audience.

## DNX 2100SB entry-level, multi-tasking mill-turn machine

First launched at the IMTS and AMB exhibitions late last year, DN Solutions' new DNX 2100 range of entry-level mill-turn machines have created a stir.

Positioned between DN Solutions' popular and proven sub-spindle, Y-axis Puma 2100SY turning centres and its already established SMX 2100S/ST series of advanced mill-turn machines, the 8" chuck DNX 2100 machines provide component manufacturers with more integrated machining capabilities than the former and a lower price point than the latter.

Equipped with two opposing spindles, 5,000 rpm, a B-axis milling spindle, 12,000 rpm, a 40-tool ATC, 60 tool option and integrated thermal compensation, DNX 2100 machines fill a real gap in the market.

Tony Dale, Mills CNC's Group CEO says: "DNX 2100 machines are a welcome addition to DN Solutions' extensive product portfolio. With their advanced milling spindles and integrated tool changers, customers will be able to bid for and win complex, high-mix/low-volume machining contracts that, up until now, owing to potential tooling/turret limitations of a sub-spindle Y-axis lathe, may not have been economically viable for them to consider in the past.

"DNX 2100 machines provide component manufacturers with access to advanced, competitively-priced multi-tasking mill-turn technology from a renowned and proven machine tool builder."

## DVF 5000, second-generation, simultaneous 5-axis machining centre

The new DVF 5000 Mk II series, successor to the earlier DVF 5000 range of machines first introduced back in 2018, raises the bar for one-hit machining and, building on the popularity and success of its predecessor, delivers improved accuracies, faster processing speeds and greater machining flexibility.

With faster rapids, 42m/min, improved acceleration/deceleration rates, 0.4g and tool-to-tool changeover times, 1.3 seconds, the new DVF 5000 machines deliver significant productivity gains.

DVF 5000 Mk II machines can handle larger workpieces than their predecessors and feature 630 mm diameter rotary tilting tables that can accommodate workpieces up to 600 mm in diameter and 500 mm in height.

With sophisticated thermal compensation, roller-type LM guideways and the Intelligent Kinematic Compensation (IKC) system, new DVF 5000 Mk II machines guarantee high-precision over extended use and long machining runs.

## Other event highlights

In addition to two new machine tool launches, The One Show will also allow visitors to get up close and personal to a number of other, more well-known and well-established, multi-tasking one-hit machine tool models from DN Solutions' extensive product portfolio.

Machines being showcased include a SMX 2100SB, mill-turn machine, a DVF 4000, compact simultaneous 5-axis machining centre and a TT 1300SYY, Twin-turret/Twin-spindle turning centre with dual Y-axis capabilities etc.

With a focus throughout the event on improving productivity and process efficiencies, the One Show will also see Mills CNC's Training Academy out in force.

## Show details

Mills CNC's One Show will take place on Wednesday October 15th and Thursday October 16th at the company's Campus facility in Leamington.

The event will open, on both days, at 9.30am and will close at 4.30pm. Technical presentations on the new DNX 2100SB and the new DVF 5000 Mk II will take place in the morning, 10.30am - 11.00am, on both days.

For more details and to register, call Mills CNC on 01926 736736 or visit *www.millscnc.co.uk*

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# 50 years of EMO

## Continuous development into the world's leading trade fair for production technology

Under the motto "Innovate manufacturing", EMO Hannover 2025 will showcase the entire metalworking value chain from September 22nd to 26th in Hannover Germany. This includes cutting and forming machine tools, manufacturing systems, precision tools, automated material flow, computer technology, industrial electronics and accessories. EMO takes place in a sequence of "Hannover, Hannover, Milan" every two years and is celebrating its 50th anniversary in 2025. As the most important platform for the metalworking industry worldwide, EMO stands for innovation. It sets the pace and is a global leader when it comes to new products, manufacturing solutions and services.

Market leaders from 45 countries worldwide exhibit at EMO. Trade visitors at the exhibition come from all major customer industries, for example mechanical engineering and plant construction, the automotive industry and its suppliers, aerospace technology, precision mechanics and optics, shipbuilding, medical technology, tool and mould making and steel and lightweight construction. All of these visitors come from around 140 countries. No other trade fair presents the full breadth and depth of the international range of manufacturing technology like EMO. Exhibitors and visitors with a high level of expertise discuss the major trends in manufacturing, exchange ideas with representatives of international production research and develop solutions to existing challenges. The future of metalworking: "Innovate manufacturing" remains the constant challenge for the industry. EMO points the way to the limitless possibilities of industrial manufacturing.

On August 1st, 2024, the mailing of registration documents all around the world for EMO Hannover 2025 marked the start of a very special event. The world's leading trade fair for production technology, which takes place is celebrating an important anniversary.

"For half a century, EMO has been bringing the right people together, in the right place and at the right time," emphasises Carl Martin Welcker, EMO general commissioner. "It's the most important event of 2025 for the international metalworking community."

Under the motto Innovate manufacturing, the trade fair covers the entire value chain of this industry. This includes machine tools, manufacturing systems, precision tools, automated material flow, computer technology, industrial electronics and accessories. "As the most important interface between industry and production technology, EMO stands for innovation, internationality, inspiration and the future of metalworking," explains Dr Markus Heering, executive director of EMO organiser VDW (German Machine Tool Builders' Association). EMO is a leader in providing impetus for new products, manufacturing solutions and services.

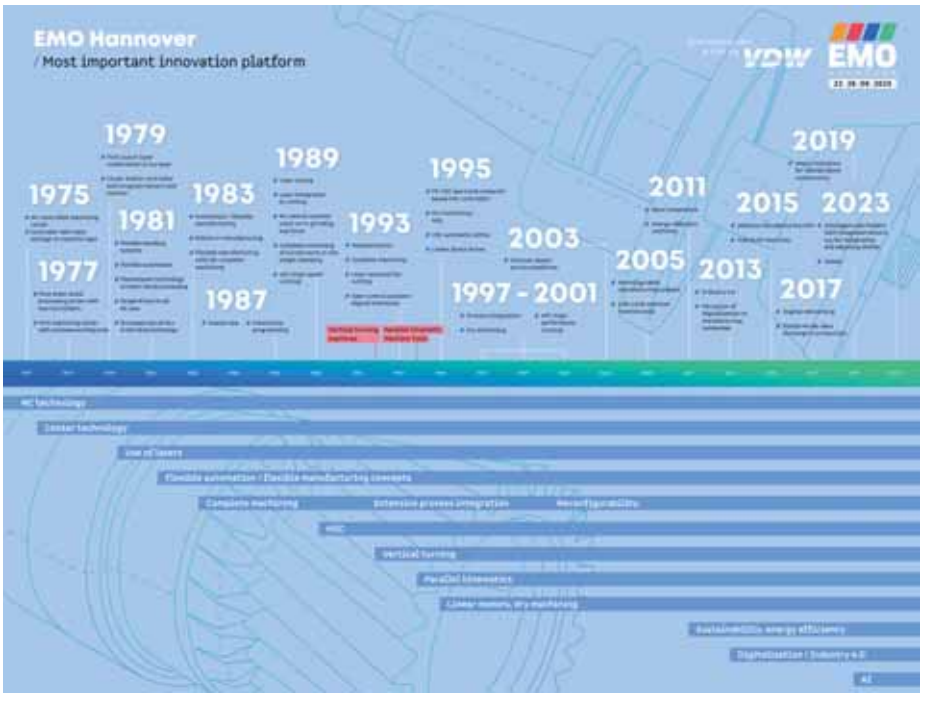
The trade fair also stands for inspiration, as it reflects the international range of manufacturing technology like no other trade fair venue and focuses on its major trends. In this respect, it also points the way to the future of industrial production.

General commissioner General Welcker, who has been campaigning for this huge event since 2012, is convinced: "EMO was, is and will remain THE industry platform for inspiring customers, expanding your own network and, of course, doing business." The trade fair already had this aspiration 50 years ago, when it was launched by the European umbrella organisation for the machine tool industry, Cecimo, in a difficult economic phase with the substantial involvement of the VDW.

The global economy had lost momentum in the 1970s due to structural upheavals. High inflation, high interest rates and rising unemployment figures led to a distinct depression and stagflation, i.e. a lack of growth or low growth combined with steep price rises. Individual sectors of the economy were hoping for a recovery through innovation and the associated increase in the investment ratio. However, the machine tool industry, which then as now was synonymous with sophisticated capital goods and was best able to meet these demands, was, like most areas of mechanical engineering, in a tight situation.

Despite this critical situation, the European and national industry associations stood by their decision taken quite some time ago to launch the first round of EMO exhibitions. In 1975, the year in which the Vietnam War ended and the CSCE agreement was adopted, the first EMO was launched in Paris. In addition to the predominantly Western European exhibitors, 114 manufacturers from Eastern Europe and other parts of the world were represented.

What was special about the new trade fair were the new exhibitors from other continents. This was preceded by an intensive and lengthy discussion about opening up the EEMO, the "Exposition Européenne de Machines-Outils", the Machine Tool European Exposition, to the rest of the world, an event which had been organised since 1951 with purely European participation. At that time, the VDW vehemently advocated further



internationalisation of the trade fair and finally agreed with Cecimo to also admit exhibitors from other parts of the world. This was followed by the renaming and launch of the trade fair as the "Exposition Mondiale de la Machine-Outil" (the World Exhibition for Machine Tools, or EMO for short).

The choice of venue was also discussed beforehand. While the original sequence was "Paris, Hannover, Milan and then Hannover" every two years, EMO has been held with the cycle of "Hannover, Hannover, Milan" since 2005. EMO celebrated its debut in Germany in 1977. While almost 1,400 exhibitors from all over the world were spread across 94,000 sq m of net exhibition space at the first trade fair two years earlier, the second event in Hannover saw a good 1,600 exhibitors exhibiting across a net exhibition space of almost 117,000 sq m.

This was accompanied by increasing internationalisation. Exhibitors from 27 nations, mainly from the USA and Japan as well as emerging markets, presented


their innovations alongside Eastern and Western European countries. “What is being shown here in Hannover by the companies of the 13 countries that are now members of the European Committee, as well as by five Eastern European countries, companies from America and this time increasingly by countries in Asia and the Middle East, is virtually the world's machine tool industry," emphasised Markus von Busse, then EMO General Commissioner, at the opening of the first EMO to be held in Germany. He also emphasised: “They don't just supply machine tools, but are increasingly supplying solutions to problems, complete systems.”

## Continuous growth in subsequent years

This trend continued to consolidate. Four years after the first EMO in Hannover, the trade fair once again attracted a record number of visitors. By 1981, there were already 1,845 exhibitors occupying more than 140,000 sq m with their stands. This included 234 companies from 21 countries outside Western Europe. There was hardly a country that lacked relevant approaches for manufacturing metalworking machinery. Another four years later, EMO 1985 in Hannover grew further to an exhibition space of around 160,000 sq m. About half of the space was taken by companies from Germany.

The positive development of the world's most important trade fair for production technology continues to this day. At the last EMO 2023 in Hannover, around 1,850 exhibitors showcased their products in 15 halls across 235,000 sq m. Around 70 percent of the companies came from 45 different countries, including China, Italy, Switzerland and Japan. Moreover, about a third of the approximately 92,000 trade visitors came from Asia. After a four year break due to the COVID-19 pandemic, the trade fair offered them the chance to see top-class technical innovations. “We've seen everything here that will make up the future of production; new solutions for automation, for networking in factories and for sustainability in production,” summed up EMO commissioner General Welcker at the end of the trade fair. He added that, despite the tense economic situation, the mood was good.

## Confidence for the anniversary trade fair in 2025

EMO
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This is also the goal for EMO 2025, which will have been providing the right answers to all questions relating to production technology for 50 years. The focus will be on automation, sustainability and digitalisation. General Welcker states: “Participation in EMO is a must for all key players in the metalworking industry because this is where the who's who of the industry will be exhibiting.”

In this respect, the leading trade fair is the place to be, as no other trade fair in the world brings together so many manufacturing experts on the manufacturer and user sides in one place.

**https://emo-hannover.com/**

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With over 40 years of development, MAZATROL will be showcased as a key solution that continues to deliver cutting-edge machine performance with conversational programming for new users. Visitors can watch live demonstrations and try out Quick Mazatrol, digital setup tools and intelligent programming features that simplify operations and reduce setup times. It's a hands-on space for customers to understand how Mazak control systems make a practical impact on everyday productivity. A major highlight will be a demonstration of the latest digital manufacturing software MAZATROL DX, which can transform cycle times and productivity for machine users.

Visitors will also receive plenty of information on advanced machining applications, such as additive machining, friction stir welding, advanced 5-axis work and gear cutting, which extend Mazak's Done-In-One concept into new technologies and applications. This can result in fewer outsourced processes, shortened lead times and reduced costs for machine users.


Mazak will also present 12 different automation solutions that support flexible, high-mix, low-volume production. From multi-pallet and robotic part loading to smart tool handling and integrated cells, the stand will demonstrate how automation can be seamlessly integrated to increase output, reduce labour pressures and enhance profitability.

Mazak's approach to automation is clear: integration should be simple, scalable and fully supported. Every automation solution is engineered to work in harmony with Mazak machines, making adoption easier and results faster to achieve.

Richard Smith, European group managing director at Yamazaki Mazak, comments: "Everything on the Mazak stand is guided by a simple philosophy: helping customers build more productive, resilient, and competitive operations.

"As a family-owned company with a proud Japanese heritage, Mazak has always placed long-term relationships at the centre of its approach. The company's reputation is built not only on innovation, but on decades of trusted partnerships with manufacturers around the world.

"Whether through advanced automation, intuitive CNC control, smart service programmes or digital integration, Mazak is committed to being a reliable, forward-thinking partner for its customers today, tomorrow and for the future of manufacturing."

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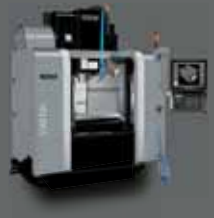

TURNING CENTRES

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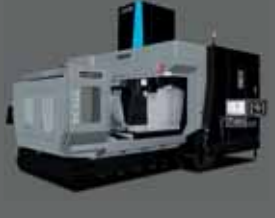

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# Smart tool solutions for all machining challenges

## CERATIZIT presents innovations and services at EMO 2025

In September, the international manufacturing world will gather at EMO in Hannover and CERATIZIT will be there with an impressive presence. The focus will be on powerful tool solutions, digital services and numerous product innovations that simplify everyday machining tasks.

Where others merely supply tools, CERATIZIT thinks further as a partner along the entire value chain. From the development of innovative carbides to precise tool production and recycling, the company supports its customers with tailored solutions. At EMO, this approach will be brought to life with practical machine simulations demonstrating how close collaboration leads to individual tool and process solutions for key industries such as automotive, aerospace, heavy duty, hydraulics and consumer electronics.

### Smart solutions with added value

A special focus of CERATIZIT's appearance at EMO will be on digital applications. With ToolSelect, CERATIZIT introduces a solution that takes the selection of the optimal machining strategy to a new level. Users can either manually enter workpiece data or upload a 3D model and, within 90 seconds, the system provides up to five suitable tool combinations for milling, drilling, turning or grooving operations. ToolSelect is fully integrated into the CERATIZIT online shop and offers extensive comparison, filter and sorting functions for precise fine-tuning.

The digital portfolio is complemented by the Spanflug BUY and Spanflug MAKE applications, which are now part of the CERATIZIT offering through a strategic investment in Spanflug Technologies GmbH. These tools enable even more precise quote calculations based on detailed tool data and open up new synergies in product development, sales and internationalisation.

### Setting new standards in tool development

At EMO 2025, CERATIZIT will present several innovative tools, including the MaxiMill – S-Power milling system for cast materials, the MonsterMill ISO-S for nickel-based alloys and the versatile WTX-UNI drill series. All innovations are characterised by high tool life, optimised geometries and sustainable materials. They are developed for maximum efficiency and process reliability in demanding applications.

With the CoreLine series, CERATIZIT demonstrates what powerful standard solutions with high quality and attractive price-performance ratios can look like. This product line is specifically aimed at general machining and offers a wide range for small to medium batch sizes, supported by simple ordering processes and short delivery times.

*At EMO, CERATIZIT will introduce the new CoreLine product line which features high-quality tools with an excellent price-performance ratio.*

Visitors to EMO 2025 can look forward to an exciting trade fair experience including personal discussions with CERATIZIT experts. Those who wish to attend can easily secure a free admission ticket on the CERATIZIT website.

For more information and a **free trade fair ticket**, visit: ***https://cuttingtools.ceratizit.com/int/en/machining-know-how/news/emo-2025.html***

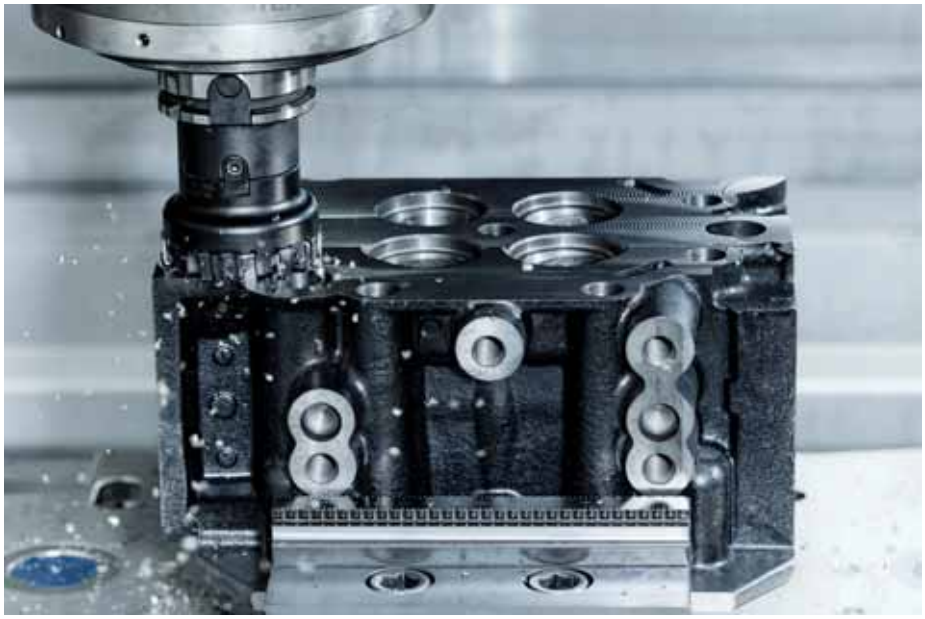
For over 100 years, CERATIZIT, which is part of the Plansee Group, has been a pioneer in developing exceptional hard material solutions for machining and wear protection. The private company, with registered offices in Mamer, Luxembourg, develops and produces highly specialised cutting tools, indexable inserts, rods made from hard materials and wear parts. CERATIZIT is a leader in various application segments and successfully develops new carbide and cermet grades, such as for wood and stone working.

With more than 7,000 employees at more than 30 production facilities and a sales network with over 50 branches, CERATIZIT is a global player in the carbide industry. The company's international network includes the subsidiaries AgriCarb, Stadler Metalle, and Xceliron as well as the joint venture CB-CERATIZIT.

The technology leader is continually investing in research and development and holds more than 1,000 patents. Innovative hard material solutions from CERATIZIT are used in various sectors, including mechanical engineering and toolmaking, in the automotive and aerospace industries and in the oil, gas and medical industries.

**CERATIZIT UK & IRELAND Ltd**
**Tel: 0800 073 2073**
**Email: info.uk@ceratizit.com**
**www.ceratizit.com**

**Hall 5 - Stand B42**



*At EMO 2025, CERATIZIT will present several innovative tools, including the MaxiMill – S-Power milling system for cast materials. It is designed for maximum efficiency and process reliability in demanding applications.*

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# Advanced workholding solutions for digitalised manufacturing environments

At the forthcoming EMO 2025 show workholding equipment manufacturer Roemheld will present its comprehensive suite of digitalised workholding solutions, which allow manufacturers to integrate their clamping processes into an Industry 4.0 factory environment.

The focus will be on innovations like STARK.intelligence and the Hilma AS-E electromechanical machine vice series, which can transform traditional workholding into a vital source of real-time data, enhancing process reliability, efficiency and predictive maintenance.

In today's rapidly evolving manufacturing landscape, companies face unprecedented pressures: the demand for higher precision, increasing product variants and the need for ongoing cost optimisation. While many metalworking companies still harbour doubts about the value of digitalised workpiece clamping, Roemheld, through its Stark division, will demonstrate that these advanced solutions are not just an advantage, but a necessity for future-proofing production.

Martin Greif, Stark's managing director comments: "We are committed to making companies fit for the future of smart metalworking by providing solutions that integrate seamlessly, provide invaluable data and dramatically improve process control.

"While basic pneumatic or sensory monitoring of clamped and unclamped states has been available for years, our latest developments unlock a new dimension of process control and self-diagnosis.

"Advanced digitalisation of workholding is no longer a concept, but a tangible reality that delivers significant returns on investment, often within a few months."

Roemheld's approach to Industry 4.0 is rooted in mechatronics. It involves enhancing existing hydraulic and pneumatic clamping devices with a powerful combination of mechanics, electronics and software. The innovative strategy ensures that even for applications demanding high clamping forces, where hydraulic solutions remain the preferred choice, the benefits of digitalisation may be fully realised.

At the heart of this philosophy is STARK.intelligence, a system with modular sensors designed to make hydraulically, pneumatically or mechanically operated zero-point clamping systems digital-ready. Each clamp is equipped with its own multi-sensor unit that continuously collects critical information, such as travel (position), temperature and pressure. The data is aggregated by a master unit and transmitted to various end devices via an IO-Link interface, available in both inductive and wired versions.

Martin Greif continues: "Everyone involved receives exactly the information they need, exactly where they need it. Machine operators see vital data on their control systems, while maintenance and quality assurance personnel access it on their computers. Even service technicians can be notified on their smartphones in the event of a malfunction, ensuring rapid response and minimal downtime."

STARK.intelligence offers a high degree of modularity and flexibility, allowing easy installation into machine tables or quick-release pallets. Users can tailor their solution, selecting individual components or opting for a complete package that includes advanced visualisation. Optional features, such as an integrated RFID interface, further reduce the need for operator intervention by automatically detecting pallets and workpieces.

The Roemheld product family encompasses a variety of digital-ready workholding solutions including swing clamps, wedge clamping elements and zero-point clamping systems. In addition, there is the Hilma AS-E type electromechanical machine vice, which eliminates the need for additional sensors by leveraging the motor itself to provide data for displacement and force measurement, which is seamlessly transmitted to the control system.

Guido Born, product manager for the workpiece clamping system product line at Roemheld reports: "Customers are enthusiastic about the application of precise clamping forces and optional automatic jaw change. The reliability is exceptional, as the spindle is self-locking when clamped, even without a power supply."

The AS-E vice's ability to operate without a minimum pressure makes it well-suited to retaining delicate, thin-walled workpieces requiring very low clamping forces. Its programmability allows for precise control of clamping stroke and force for each component, enabling entire families of parts to be automatically set up and manufactured within a single workholding system, without manual intervention.

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**www.roemheld.co.uk**

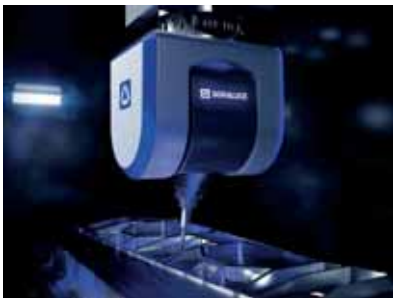
**Hall 4 - Stand F33**

# Shaping the future of machining

Soraluce unveils a new generation of milling machines that are more powerful, more precise and more intelligent than ever before. These machines are engineered to address the evolving challenges faced by key industries such as aerospace, energy and mould & die, while anticipating a future that is automated, connected and data driven.

What continues to define Soraluce's approach, however, goes beyond technology, it is about trust. The company works closely with its customers to adapt solutions to specific processes, challenges and long-term visions. With every collaboration, it offers more than machines it offers real commitment.

## World premiere of the Soraluce Fork-type Head



At the forefront of the Soraluce EMO showcase is the world premiere of its latest innovation in 5-axis machining: the new Fork-type Head, a next-generation solution designed to set new standards in operational flexibility, precision and stability.

Engineered for exceptional flexibility and outstanding accuracy on complex geometries, this head integrates seamlessly with the new Dynamic Line of High-Rail Gantry Machines. Developed to meet the rigorous demands of aerospace and mould & die sectors, the Fork-type Head enables precise, stable and highly efficient machining of intricate contours and hard-to-reach surfaces.

The Fork-type Head features a true 5-axis configuration with direct-drive torque motors, enabling smooth, backlash-free movement and high responsiveness. A fully water-cooled design ensures maximum thermal stability, while high-precision optical encoders offer reliable angular position feedback, ensuring consistent accuracy even during prolonged, high-speed operations. With power output up to 100 kW and spindle speeds up to 30,000 rpm, the head is built for both heavy-duty and high-speed machining. Optional high-frequency electrospindles are available, allowing customisation for specific materials and cutting conditions. Designed for superior mechanical performance and full thermal stability, the new fork-type head expands operational versatility, enabling manufacturers to tackle increasingly intricate parts and demanding materials with complete confidence.

Together, these technologies form a comprehensive aerospace machining strategy, delivering superior performance, reduced operational costs and total process control from the first part through full production runs. Soraluce also offers turnkey projects tailored to each client's needs, including specialised heads, custom tooling and validated machining cycles to ensure maximum reliability and productivity from day one.

Responding to growing demand for efficient, flexible production in complex, multi-reference environments, Soraluce presents its Smart Automated Solutions, developed to optimise productivity and reduce unproductive time across the entire manufacturing process.

Automation at this level goes beyond standard solutions. The firm's systems are designed to accommodate large-scale components with tailored configurations adaptable to different part types and batch sizes. From single machines with CNC-integrated pallet control to advanced flexible cells coordinated by industrial PCs, every solution is customised for efficiency and real-world application.

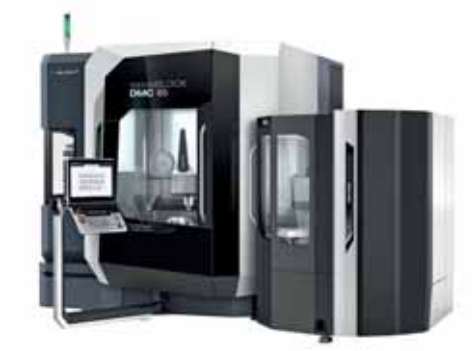
**UK Agent: Ward CNC Tel: 0114 2765411**
**Email: sales@wardcnc.com www.wardcnc.com**

**Hall 13 - Stand B28**

# DMG MORI to present eight world premieres at EMO 2025

DMG MORI under the motto 'Manufacturing the Future' will feature in Hall 2 at EMO more than 40 high-technology production centres, eight of which will be world premieres. In all, 33 automated manufacturing solutions will be on show.

There will be two new 5-axis machining centres, the new DMC 65 monoBLOCK 2 and the DMU 20 linear 3, both vertical-spindle models, as well as a horizontal-spindle DMC 55 H Twin. The ULTRASONIC 60 Precision will go one step further, offering 5-axis milling combined with ultrasonic-assisted machining and a positioning accuracy of 4 µm as standard.

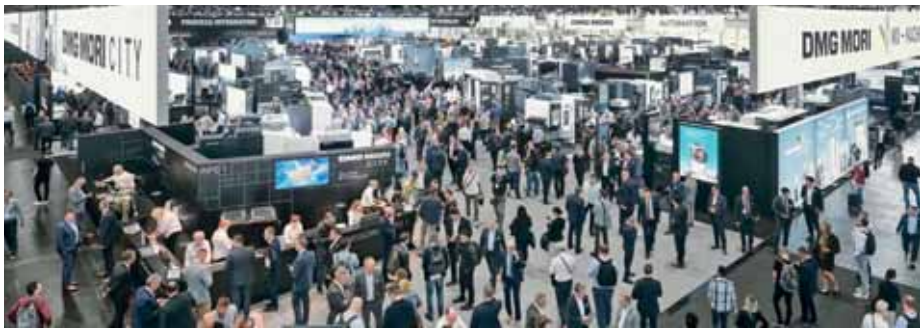


*The DMC 65 monoBLOCK 2 VMC for 5-axis simultaneous machining will be one of eight world premieres at EMO 2025.*

A new, universal turning machine in the portfolio will be the powerful, versatile NLX 2500|1250 2nd Generation. Additionally, with its twin spindles and two B-axis tool carriers, the NZ DUE TC will combine the characteristics of a highly productive production lathe with turn-mill complete machining capability. The DMV 200 and SPRINT 420 lathes will also be new at the show. All of the world premieres may be automated to utilise their production capacity optimally.

A new, driverless transport system for automatically handling tools, material pallets or chip trolleys will be the AMR 1000, further supporting DMG MORI's provision of autonomous manufacturing solutions. Included in the 33 automated cells on show will be machine pallet storage and handling magazines, AGVs and robotic load/unload systems for components.

To demonstrate process integration, the DMC 125 FDS duoBLOCK µPrecision machining centre will be seen milling, turning and grinding a component in a single clamping. Such a solution frees up capacity on other machines and significantly reduces the need for operator attendance during production. Such a production centre may be utilised for up to 7,000 hours per year. Other technologies such as ultrasonic machining and different types of additive manufacturing processes will be in evidence.




*The DMG MORI stand at the last EMO exhibition in 2023.*

In the context of digitalisation, DMG MORI's CELOS X app-based control interface supports users from order planning and programming to process optimisation, as visitors that are unfamiliar with the system will learn. All machines fitted with CELOS X benefit from GreenMode, which reduces the energy consumption of the machines by up to 30 percent.

Presenting their products also on the stand will be numerous third-party suppliers of machine peripherals that partner with the machine tool manufacturer under the DMQP (DMG MORI Qualified Products) programme.

Irene Bader, a Board member of DMG MORI explains: "What we are presenting at EMO is more than just technology, it is a glimpse into the future of manufacturing.

"The idea of creating a DMG MORI world in Hall 2 is to connect people, industries and innovative technologies to create a shared vision: sustainable, integrated, automated production solutions that meet tomorrow's challenges today.

"It is a global meeting place for ideas, partnerships and perspectives. Especially for small and medium-sized businesses, we create practical and future-proof concepts that promote competitiveness and innovation."

**DMG MORI UK Ltd**
**Tel: 024 76 51 6120**
**www.dmgmori.com**

**Hall 2 - Stand A21**

*Another world premiere will be the NLX 2500 |1250 2nd Generation universal turning centre.*

# A strong partnership for the mechanical engineering of the future

EMO Hannover is celebrating its 50th anniversary this year. GROB-WERKE has been inextricably linked to the success story of EMO for over four decades and will be celebrating its 100th anniversary next year. GROB has been an integral part of EMO since its first trade fair appearance in 1977.

GROB unveiled the predecessor to its current machining centres back in 1977 marking the start of a unique development. In 1991, GROB revolutionised machine planning with its "CMS" technology. In 2005, the introduction of the modular G-series marked another milestone at the trade fair, which continues to set standards to this day. This was followed two years later by the G350, the first universal machine to set new standards. Finally, in 2017, GROB presented its entry-level solutions for electromobility which was another significant milestone.

"EMO is not just a trade fair for us, it has been a stage for our technological innovations for decades," explains Christian Müller, CSO of GROB.

"In 2025, we will impressively demonstrate how we are setting new standards with innovative strength, a clear focus and high speed that is far beyond conventional production."

GROB will be showcasing pioneering manufacturing technologies and complete solutions for the mechanical engineering of tomorrow on its stand.

The product highlights that GROB will be presenting at EMO 2025 include modern universal machines such as the heavy-duty 4-axis machining centre G400, which is characterised by its efficiency and versatility. The trade fair portfolio will be complemented by the G550T 5-axis mill-turn machining centre, which is equipped with integrated clamping hydraulics and thus enables automated clamping of turned parts. In the field of automation, GROB will be presenting the new generation of the rotary pallet storage system PSS-R900 for the first time at an external trade fair. It is a flexible all-round solution that ensures an efficient and automated production process.

Another trade fair highlight is the G920F5, which was specially developed for machining mega and giga castings and meets the highest requirements for stability and precision.

The company is also setting standards in the area of digitalisation and is presenting manufacturer-independent, intelligent solutions for networked and future-proof production with GROB-NET4Industry.

In additive manufacturing, GROB is presenting the GMP300, an efficient technology for the economical production of near-net-shape aluminum components, which is particularly suitable for demanding applications.

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**Hall 12 - Stand B26**

# 75 years of MAPAL

## Shaping the future with partnership, productivity and precision

EMO is the perfect platform for MAPAL to showcase new solutions, nurture ties and establish partnerships. Personal interaction with existing and new customers at trade fairs is a key part of the precision tool manufacturer's company philosophy and remains firmly rooted in its marketing strategy.

"The EMO is not just a trade fair for us, it plays a key role in our customer relationships and is the venue where we unveil our product innovations for the coming year", explains Jacek Kruszynski, chief technology officer at MAPAL. Both MAPAL and the EMO are celebrating milestone anniversaries this year, with MAPAL turning 75 and the EMO exhibition turning 50.

### Enhancing productivity in customer processes is the guiding principle of the trade fair appearance and 2026 innovations

MAPAL is a holistic solutions provider. Customers are supported throughout the entire process chain, from turnkey solutions with process and tool design, to technical support during production, not to mention tool management and digital services. The aim is to systematically enhance productivity in customer processes. This is also the premise behind the 2026 innovations in the areas of reaming, fine boring, boring, milling, clamping and setting. Highlights among the new products include the OptiMill-Uni-HPC and HPR400 technology-based solutions.

### OptiMill-Uni-HPC: New standards in process reliability for milling

With the third-generation OptiMill-Uni-HPC, MAPAL is launching a solid carbide milling cutter specially designed for automated manufacturing processes. A newly developed cutting material, wear-resistant coating and a variant with an integrated chip breaker ensure maximum process reliability, a high removal rate and long machine running times, ideal for unmanned shifts and robot-assisted machining. The new generation is available in three variants and covers a wide range of applications in steel, stainless-steel and cast-iron machining.

### Productivity gains when machining large diameters with the HPR400 reaming system

MAPAL's HPR400 reaming system offers a variety of advantages in terms of machining speed, ease of handling and flexibility for machining large diameters. MAPAL is showcasing several new solutions at EMO in order to enhance productivity in series production.

The combination tool with the ISO leading stage and HPR400 system is an innovative one-shot solution for finish machining with high material removal. It enables bores to be made with up to 6 mm of stock removal in a single working step, thus ensuring minimum cycle times.

The HPR400 plus series was specifically developed for machining face grooves.

The new tool concept significantly improves the cost effectiveness of machining bores with special base contours. Together with a new tool solution for finishing stator bores in electric motors, the newly developed solutions are very good examples of how cost-effectiveness in machining can be increased even when there are complex requirements.

### "Empower your aluminium machining"

Another focus of the 2025 trade fair appearance is aluminium machining. MAPAL has chosen the motto "Empower your aluminium machining" to underline the fact that smart tool solutions make maximum precision, process reliability and cost-effectiveness possible when machining aluminium components. MAPAL has decades of materials expertise in the area of aluminium and offers a wide range of high-performance tools for highly productive processes.

### 75 years of MAPAL: From a small tool manufacturer to global manufacturing expert

The MAPAL Group celebrates its 75th anniversary this year. Since it was founded in 1950, the company has grown from a small tool manufacturer to a global supplier of precision tools and manufacturing solutions. Today, MAPAL employs around 4,850 staff and has production sites, sales offices and representatives in 44 countries. The company supplies leading customers from the automotive and aerospace industry, machine and plant engineering and the die and mould sector. The focus for the anniversary year as well as the future is on digitalisation, enhancing productivity and sustainable manufacturing.

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**https://mapal.com**

**Hall 4 - Stand A20**

# An all-round, service-oriented experience

Mitsubishi Materials will have a strong presence at this year's EMO exhibition. Visitors to its stand will find the latest generation of high-tech tooling and special application areas.

This year, a specially dedicated section, the Circular Economy Area, will be highlighting exciting new areas of service and sustainability, such as project engineering and special tools, top-class tool reconditioning and remanufacturing services as well as advanced production capabilities in Europe. Mitsubishi Materials is evolving into a full-service provider, offering a full range of tooling solutions, from the original manufacturing and sales through to custom made tools and comprehensive after sales support.

A particular highlight will be the importance of material recycling and the latest innovative recycling programme, which has been accelerated by the recent addition of H.C. Starck, a global leader in recycling services, to the Mitsubishi Materials Group. Customers will be given details of the recently launched project for the collection and reprocessing of used carbide tools and the significant benefits for their production processes and their environmental footprint.

Another key part will be the demonstration of Mitsubishi Materials' reconditioning and tailored tool design capabilities. With the acquisition of U.F.P. s.r.l., one of Europe's largest and most well-established providers of reconditioning services and customised cutting tools in Europe, Mitsubishi Materials will significantly reduce response and delivery times for European customers in the increasingly important area of reconditioning of their existing cutting tools.

Furthermore, there will be extensive information available on Mitsubishi Materials' portfolio of facilities, including its European manufacturing plant and the advanced technology and education centres (MTEC). Customers will be able to find out about turnkey tooling packages and process optimisation that can be provided by the engineers and manufacturing professionals at these state-of-the-art facilities. Visitors can look forward to a special, attractive workpiece on display, featuring selected parts manufactured at MTEC. This will highlight the capabilities of the engineering team, their design expertise and machining precision.

Cutting tools and bodies highlighting next generation technology in carbide substrates, advanced geometries and coatings will also be prominently displayed. The latest PcBN tools along with the innovative MV series of indexable inserts for turning applications, will be strongly featured on the new style tooling stands.

Solid carbide end mills such as the new small diameter VQ long neck series will be on show and also on display will be the latest drills, including both the solid DVAS and DFAS types.

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**Hall 5 - Stand A14**

# Heller harnesses artificial intelligence to raise productivity

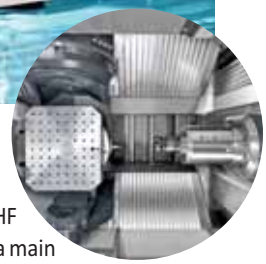
Artificial intelligence (AI) at machining centre manufacturer Heller is already a reality, focused on the clear goal of raising the productivity of its customers. Working closely with trusted partners, the company has accumulated the expertise needed to integrate digital solutions with AI elements into machining cells and is already applying the technology across three platforms, intended to support machine operators, production planners and service personnel. The way in which these developments are delivering added value will be presented at the EMO exhibition in Hannover.

Visitors to the stand will be able to witness live demonstrations on two Heller 5-axis machining centres, the HF 3500 and F 5000. Both models will be equipped with new automation solutions for workpiece and tool handling respectively. The manufacturing cells enable automated production of complex components, especially in the aerospace, hydraulics and pneumatics and power generation sectors.

Several years ago, the company formed a cross-departmental team of specialists dedicated to digitalisation and AI, with the remits to make machine operation more efficient and to enable predictive maintenance and production planning. Dr Thorsten Schmidt, CEO of Heller and an enthusiastic supporter and driver of this initiative says: "We are concentrating on these three key areas, as AI delivers real advantages. At EMO, we will present practical applications and the concepts behind them. The way in which operators are digitally supported throughout the entire process chain will be demonstrated."

Operators have access to AI-powered software and system functionalities, including SETUP-Assist, PRODUCTION-Assist and, to ensure component accuracy, the newly developed QUALITY-Assist. Additionally, by measuring temperature increases in the spindle, even the smallest growth can be calculated and compensated for, allowing the machine to maintain maximum precision and productivity without any specific operator intervention.

A new feature to be introduced at EMO provides customers with an intelligent chat function, ASK-me. This tool, integrated into the control interface, provides operators with a ChatGPT-like assistant. Users are able to enter questions in plain language, after which the AI function quickly delivers clear, straightforward answers. The AI assistant uses the collective expertise of Heller and its users to provide answers and support relating to machine operation, including setup and maintenance and helps to interpret warning and error messages.

Heller will also showcase AI-powered analysis tools, which offer valuable benefits for maintaining the productivity and high precision of modern machining centres. To achieve this, the Nürtingen-based machine manufacturer uses data collected as part of its Industry 4.0 strategy. The information can be visualised by production planners and analysts via the shop floor system Heller Services Interface in the form of text, tables or diagrams. It ensures transparency in production, maintenance and service throughout the lifecycle of the machine.

Heller service engineers will show how the combination of data acquisition and intelligent analysis provides key insights for preventive maintenance. Returning to the previous example of the spindle: run times, load and overload phases and spindle speed values are routinely recorded in addition to temperature trends. Based on this, it is possible to monitor the spindle's condition and to prevent unplanned machine downtime from wear-related failure.

Due to its table kinematics featuring counter bearings as standard, as well as its high dynamics and short non-productive times, the PRO version of the HF 3500 on display will be a main attraction. It has a Z-axis driven on both sides, high acceleration of 10 m/s$^2$, axis speeds of 90 m/min and very short chip-to-chip times. Heller's high-performance spindle, featuring the proven zero-spindle quick-change system, ensures maximum productivity. Its combination of high torque and speed makes it ideal for a wide variety of applications. The machine will be linked on the stand to a Robot Cell Professional, a standardised robotic automation solution for automated workpiece and pallet handling.

The F 5000 with head kinematics, which is used for machining heavier components, is distinguished by its HSK-A 63 motor spindle. Due to the modular design, it may be optimally configured for a diverse range of small to medium batch size applications. Thanks to its tilt head, the machine is especially flexible and well-suited to the machining of undercuts and recesses, which is applicable in particular to aerospace industry applications.

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**EMO 2025: Hall 12 - Stand C70**

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# 5-axis HMC has novel chip breaking function

NCMT has introduced to the UK and Irish markets the Makino a500iR, a 5-axis, twin-pallet-change, Horizontal-Spindle Machining Centre (HMC) that is being offered with a choice of three spindles. One has a BT40 interface and a maximum speed of 14,000 rpm, while there are two with an HSK-A63 interface and a maximum speed of 20,000 rpm or 24,000 rpm. The latter variants have a 60 kW continuous rating, while the BT spindle is rated at 63/30 kW, 15 percent/cont and 303/120 Nm, 10 percent/cont) torque.

The centre of gravity of the 500 mm square pallet and fixtured workpiece is close to the vertical centreline of the -110 degree to +180 degree rotary B-axis, enabling high-speed workpiece positioning at up to 267 degrees per second. The rotating C-axis facing the horizontal spindle has an even faster rapid motion of 600 degrees per second. Maximum workpiece size is 900 mm diameter by 600 mm high and the table will accept a load of 400 kg. Linear travels in X, Y, and Z are 900, 750 and 800 mm.

As with all high-performance machining centres, the a500iR generates copious amounts of swarf that is efficiently evacuated by means of slanted panels in the working area and with the assistance of coolant delivered from the spindle head, nozzles and the ceiling of the chamber. The chips fall directly into a trough under the table along which a large volume of coolant washes them towards the stainless steel wire mesh chip conveyor. Coolant is also circulated under the C-axis rotary table to prevent accumulation of chips in that area.

Tool magazine variants are the standard ring-type with 90 pockets or optional matrix types with either 133, 218 or 313 positions. The Automatic Tool Change (ATC) shutter opening is automatically adjusted by a ballscrew drive to match the length of the tool being exchanged, minimising the ingress of chips and coolant, while reducing the already quick 1.0 sec tool-to-tool change time. A camera in the tool magazine detects damaged or broken cutters more quickly than a conventional touch probe.

A new feature is the Geometric Intelligence (GI) breaker function, which introduces micromovements into a drilling operation to break stringy swarf into small chips, avoiding accumulation within the hole and possible damage to the cutter and component. Manufacturers can therefore leave the Makino to run unattended with confidence. Ingenuously, the GI breaker works without impacting the cycle time. This is in contrast to options offered by other machine tool manufacturers that tend to lengthen a cycle.

*The new Makino a500iR 5-axis horizontal machining centre from NCMT.*

The a500iR is equipped with eStabiliser in the control that ensures high accuracy machining, even in environments in which the temperature varies considerably. It allows power to be saved by eliminating the need for air conditioning. Various other energy-saving functions are included that reduce the power consumed by the machine itself and its auxiliary equipment. Automated workpiece clamping is available via hydraulic and pneumatic supplies through the pallet and automation options are available, including a three-level storage and retrieval system for machine pallets.

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**www.ncmt.co.uk**

**EMO 2025: Hall 12 - Stand C31**
**Hall 14 - Stand D28**

*Photograph taken from above the spindle of the working area of the Makino a500iR, showing the configuration of the rotary axes.*

# ETG announces UK launch of Quaser MF700 Flex

## A new era in 5-axis machining

The Engineering Technology Group (ETG), a leading UK supplier of advanced CNC and machining solutions, has announced the official UK launch of the Quaser MF700 Flex: a powerful, high-performance 5-axis vertical machining centre designed to meet the most demanding requirements of modern manufacturing.

With growing demand for precision, speed and flexibility in high-mix, high-complexity parts manufacturing, the MF700 Flex delivers a game-changing solution. Offering simultaneous 5-axis machining capability, large X-axis travel, up to 1,680 mm and a highly robust table design capable of supporting workpieces up to 500 kg, this machine is engineered for maximum productivity and exceptional surface finish accuracy.

"ETG is proud to bring the Quaser MF700 Flex to UK manufacturers. This machine represents the next generation of 5-axis performance: flexible, powerful and fully compatible with the demands of Industry 4.0 environments," says Ian Deacon, ETG's prismatic sales manager. "It's ideal for subcontractors, aerospace suppliers and high-end component manufacturers looking to increase throughput without compromising on precision."

Key features

- 5-axis simultaneous machining with 360° C-axis rotation and B-axis tilt.
- Large work envelope: Ø700 mm swing, Ø650 mm table, max workpiece height of 500 mm.
- High-speed, High-torque spindle options, including 12,000, 15,000, 18,000, 20,000 and 24,000 RPM variants with BBT40 or HSK-A63 tapers.
- Generous tool capacity: 48 tools standard, expandable to 60, 90 or 120.
- Advanced control options: available with FANUC 31iB5, Siemens ONE, or HEIDENHAIN TNC7 for optimal integration with digital manufacturing setups.
- Compact footprint: Space-saving design, approx. 4.5m x 4.7m, ideal for busy shopfloors.

The MF700 Flex also features efficient chip management, intelligent thermal control and a rigid double-column structure for long-term stability and accuracy. With integrated Coolant Through Spindle (CTS), linear scales and automation-ready options, the MF700 Flex is poised to be a standout performer in ETG's high-end machining portfolio.

This launch also reflects ETG's ongoing commitment to provide UK manufacturers with global-leading technology backed by local service, support and application expertise.

The Quaser MF700 Flex is available to order now through Engineering Technology Group (ETG). For more information, demonstrations, or technical consultation, contact ETG.

**Engineering Technology Group**
**Tel: 01926 818418**
**https://engtechgroup.com**


# Starrag presents new 5-axis Heckert machine

Starrag has now launched the Heckert X70, a versatile new 5-axis machining centre designed to deliver exceptional precision and productivity within a compact footprint. Building on the exceptional features of the acclaimed Heckert HEC X5 series, the Heckert X70 incorporates a swivel unit on the workpiece side, facilitating high-dynamic 5-axis machining from a single clamping position.

Receiving its world premiere at the EMO show in September, the Heckert X70 offers impressive technical specifications with X, Y and Z-axis travel of 1,200 by 1,100 by 1,200 mm. The compact machine requires 18 percent less installation space than its predecessor, the Heckert HEC 630 X5. It accommodates workpieces with a core contour diameter of 960 mm and a maximum height of 800 mm, supporting a loading mass of up to 1,000 kg, demonstrating no change to the working area. Within its robust and spacious dimensions of 8,150 mm by 3,700 mm, the Heckert X70 offers exceptional space utilisation without compromising performance.

Furthermore, turning as a technology is an integral part of the machine concept and can be configured as an option. Using specially developed assemblies and software modules, both classic and complex turning operations can be performed with the unrivalled productivity of a machining centre.

Unlike a turning centre, the machine benefits from various setup options. Not only can the workpieces be clamped vertically for added convenience, but they can, in fact, be clamped during the machining operation thanks to the pallet changer.

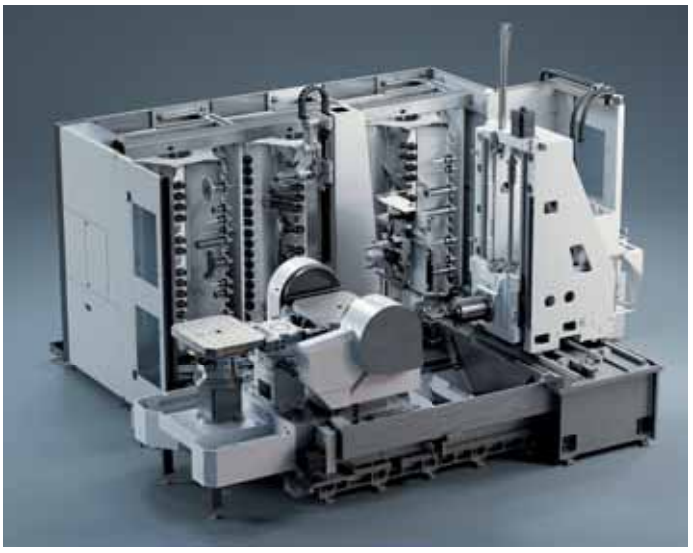
The Heckert X70's lightning-fast traverse rate of 65 m/min and leading component changeover times enhance productivity. Pallet changes are completed in just 17.5 seconds and a tool changer provides a chip-to-chip time of only 7.4 seconds. The machine's standard pallet dimension of 630 by 800 mm incorporates Starrag's precision-engineered concave surfaces with a curvature depth of 6 µm, ensuring stable workpiece positioning of large parts.

It features Starrag's innovative tool change system, available in both lightweight and heavy-duty versions. The lightweight option accommodates tools weighing up to 22 kg, while the heavy-duty version supports tools as heavy as 50 kg. The machine can handle tools with a maximum length of 800 mm and a diameter of 340 mm.

Customers can choose from a range of tool magazine options, including a timing belt magazine with 45 or 60 positions for HSK-100 tools, an chain magazine with a capacity of up to 120 HSK-100 tools and a tower magazine capable of supporting up to 440 HSK-100 tools.

The Heckert X70 also offers a broad range of spindles to meet specific application requirements, with options varying from a 12,500 rpm hollow shaft spindle up to a 15,000 rpm motor spindle and different gear spindles with more torque for heavy machining.

For optimal operator experience, the Heckert X70 features Starrag's ergonomic 24-inch touchscreen HMI. The control system supports the powerful Siemens SINUMERIK ONE, ensuring intuitive operation even when wearing gloves. The touch-sensitive display remains responsive to gloves and has a scratch-resistant, easy-to-clean surface. Operators can effortlessly access PDF construction plans and sequence sketches while maintaining a clear view of the workspace through an integrated camera. With new hardware and fast sensor technology, the new machine is also easier to



automate than its predecessor. This is partly due to the extended 13-channel clamping hydraulics and optimised standard interfaces to pallet storage systems and robot cells.

Efficient chip management is accomplished through a thermo-symmetric design and steep-angled fixed plates, complemented by an internal coolant supply operating at up to 80 bar pressures. This system ensures effective cooling and chip evacuation, with an additional flushing capability of up to 280 litres per minute for applications involving high chip volumes.

The Heckert X70 can be integrated with Starrag's comprehensive automation solutions, including Fastems FPT round pallet store systems, different linear storage systems, or robotic cells, catering to various production requirements from small to large batch sizes. The Fastems FPT system provides an economical entry into production automation, enabling workpiece changes for small and medium batch sizes. In contrast, linear storage systems offer maximum flexibility for production processes with integrated master control for effective task planning and distribution.

The new Heckert X70 is based on the comparable 4-axis Heckert H-series machine envelope. Instead of the NC rotary table installed in the Heckert H-series, the new Heckert X-series models feature a robust rotary/tilt table; an in-house development that is also manufactured at the Starrag plant in Chemnitz. Not only does the tilting unit have two equally sized bearings, but also a thermally stable design. This means that the machines can complete five-sided, highly dynamic machining of complex components.

Ensuring the compatibility of the pallets on the new Heckert X70, as well as the Heckert X80 and Heckert X90 models, was particularly important to the developers. The pallets are interchangeable with those from the H series. Furthermore, the pallets from the older Heckert HEC 630 / 800 X5 machines can also be used on the new Heckert X models.

The Heckert X70 is now available as part of Starrag's expanded Heckert X-series line of 5-axis machining centres. Manufacturers are invited to see the new machine at EMO Hannover in September. The Heckert X-series also includes the smaller Heckert X50 and the larger Heckert X80 and Heckert X90 variants for manufacturers seeking larger work envelopes and enhanced capacity.

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**EMO 2025: Hall 12 - Stand C35**

# New start-up moves rapidly into 5-axis work

Rapid CNC Services Ltd, a new subcontracting machine shop based in Stockton-on-Tees, is targeting advanced 5-axis machining projects with the support of Yamazaki Mazak. Founded by Rafal Grzenkowicz and Krzysztof Czerniawski, who collectively bring over 50 years of experience in CNC machining, including milling, turning, programming and inspection, Rapid CNC is well-positioned to deliver cutting-edge manufacturing solutions.

The company operates from a modern facility on the Primrose Hill Industrial Estate in Stockton-on-Tees, where it has recently installed its first machine: a Mazak CV5-500 simultaneous 5-axis machining centre.

"We're an ambitious start-up with big plans to offer fast and efficient subcontract manufacturing services using the best technology available," says Rafal Grzenkowicz. "Our focus is on challenging projects that demand creativity and advanced programming skills."

The decision to launch Rapid CNC was inspired by years of experience working with CNC machines. "Krzysztof and I have both long considered starting our own business," Rafal Grzenkowic states. "We firmly believe that success will come from running an efficient, competitive business underpinned by state-of-the-art 5-axis technology."

Initially, when selecting a machine, the team explored a range of suppliers. "However, we now know that choosing to partner with Mazak was an excellent strategic decision,"

Rafal Grzenkowicz continues. "Mazak is a highly respected manufacturer of CNC machines and our collaboration has been exceptional. The entire team, including Mark Ireland, our dedicated sales representative, has been incredibly supportive and reliable. Their service team is available within 24 hours, providing us with the confidence that any issues will be swiftly addressed, minimising potential downtime and ensuring uninterrupted operations."

The strategic move to 5-axis machining was driven by their past experiences with lower-specification machines. "For the complex, high-value projects we're aiming to attract, 3-axis machines require too many operations and consume too much time," Rafal Grzenkowicz explains.

"Simultaneous 5-axis machining can reduce machining times by up to 40 percent and allows us to take on a wider range of jobs, many of which can be completed in a single setup. We've already found that the machine's Smooth Technology CNC is incredibly efficient for high-speed milling."


***Rafal Grzenkowicz, founder of Rapid CNC, a new start-up focusing on 5-axis machining with its first machine a Mazak CV5-500.***

The Mazak CV5-500, designed and manufactured in the UK, is a simultaneous 5-axis machine ideal for subcontract manufacturers transitioning to more complex machining work. Rapid CNC's model, equipped with Renishaw probing, was delivered just four weeks after the order and integrated seamlessly with their Fusion 360 design and 3D modelling software.

"We considered other 5-axis options, including 3+2 machines, but the CV5-500 stood out," Rafal Grzenkowic adds. "We saw the machine being manufactured in the Worcester facility and experienced the company's excellent support through the buying process. In addition, the finance and training packages, as well as three days of on-site installation and commissioning support, were invaluable."

Mazak Europe is the European manufacturing, sales and support arm of the leading international machine tool builder, Yamazaki Mazak Corporation.

Yamazaki Mazak Corporation, founded in 1919, is the world's largest producer of computer-controlled metal cutting machine tools with annual sales of over 1.5 billion Euros. The company's headquarters are near Nagoya, Japan and it has manufacturing operations in Japan, USA, Singapore and China as well as in the UK. It is privately owned by the Yamazaki family, from whose name the brand "Mazak " is derived.

Customers include manufacturers of sub-sea equipment for the oil industry, makers of moulds for contact lenses, customers supplying to the aerospace, automotive and construction industries and manufacturers of machinery of all kinds. Indeed, it is said that Mazak supplies machines to make everything from jewellery to jet engines.

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# New 5-axis machining centres from DMG MORI


Based on the robust, proven design of DMG MORI's DMV 3-axis vertical machining centres, the manufacturer has developed the new DMX 60 U and DMX 80 U for high-performance 5-sided machining of workpieces weighing up to 300 and 350 kg respectively.

With travels of 600 x 600 x 510 mm for the DMX 60 U and 800 x 600 x 510 mm for the larger model, the competitively-priced, 3- plus 2-axis machining centres with their swivelling rotary table are ideal for producing complex components.

The machines feature a design based on a monolithic machine bed and massive castings, providing up to 50 percent higher static rigidity compared to their predecessors. Combined with wide roller guideways in all axes, it ensures excellent stability during operation.

The design also enables dynamic machining and rapid traverse rates of up to 42 m/min, 40 percent faster than predecessor machines. The speed of the rotary B-axis and C-axis for positioning parts has been raised by an even higher percentage, from 6 rpm to 10 rpm.

Comprehensive, multi-sensor temperature compensation ensures thermal stability and hence consistently precise production, while direct drives and linear scales in the X and Y axes guarantee high positioning accuracy.

The energy-efficient production centres are suitable for an extensive variety of applications thanks to the availability of a choice of spindles, starting with the 12,000 rpm inlineMASTER spindle as standard.

The standard BIG PLUS face-and-taper toolholding interface provides additional stability and accuracy during machining. Different tool magazine options are available having from 30 to 120 pockets.

DMG MORI has developed the new DMX U models with process integration in mind. For example, users can integrate grinding into the working area to avoid the need for an additional machine and a subsequent operation.

The manufacturer's own Robo2Go Milling and MATRIS Light component handling solutions, as well as the PH 150, PH Cell 300 and PH Cell Twin pallet handling systems, enable flexible, automated operation including during unattended shifts.

At the same time, the CELOS X app-based user interface on a Siemens Sinumerik ONE or a HEIDENHAIN TNC7 CNC system creates the perfect platform for digital processes.

DMG MORI has equipped the two machines with GreenMode, with the objective of making production as ecologically friendly and economical as possible.

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# XYZ Machine Tools help tackle the skills shortage in Europe


The engineering skills shortage that we hear so much about and, for many companies, are actually experiencing, is not unique to the UK. Across Europe the same messages are coming out of countries across the English Channel and North Sea. As Governments promise investments to help the situation and each country puts plans in place to ensure the future resilience of their manufacturing output, its important the basic foundations of skills and knowledge are put into place to ensure a pool of talent in the engineering sector is being topped up for the future.

In the UK, XYZ Machine Tools has a direct supply channel for engineering training establishments, be that dedicated training schools within a business, colleges of further education and even universities and the investment of machine tools into education is of paramount importance to UK PLC. For that reason, XYZ employ a dedicated point of contact within the business in John Aspinall, educational sales manager. His role is to ensure that any "training" facility in the UK can get access to the latest machine shop equipment supplied by XYZ at a competitive price point. This ranges from manual mills and lathes through to CNC toolroom machines and production orientated machining and turning centres.

Support to the education sector does not stop in the UK. Through its distributors located around Europe, XYZ is ensuring that young people across the continent are being given the opportunity to develop vocational skills and knowledge to support manufacturing within their respective countries.

One such distributor is Rexim spol s.r.a. This Czech Republic based company have been XYZ's distributor for 15 years and many of its machine installations have been into training and technical schools. Two recent installations have been for large numbers of machines to provide a foundation for skills training within the Czech Republic.

To aid the modernisation of the secondary technical school and business academy in Uhersky Brod, Rexim supplied 6 XYZ SLV manual mills along with 4 1550 VS manual lathes. In purchasing these machines, the school recognised the industrial quality of these products and how they relate to the machining capability within many businesses located in the Czech Republic. Rostislav Smid, headmaster at the school comments: "Using these machines ensures our students learn the basic machining principles, gain technical dexterity and learn to understand the importance of precision. These skills will be carried forward with them as they progress their careers and they will still be relevant in a digitalised world of Industry 4.0".

Another vocational school benefitting from investment in XYZ machines in the region is SOS Frydek Mistek. With the purchase of 12 XYZ 2000 manual mills, 12 1330 Trainer lathes, six RMX 2500 CNC bed mills, six RLX 1630 CNC lathes, a 660 HD Vertical machining centre and a CT65 turning centre, this school has enabled itself to offer the full curriculum of machining training and education. From basic manual machining through to toolroom style machines with conversational programming, which is set up by Rexim spol s.r.a to be used in the local language and onto production type machines with automatic toolchangers, the school educates students in how efficient machining should become the normal and help businesses become more competitive.

Over on the west side of Europe, Orpi, the long-time Spanish dealer for XYZ machine tools have supported two schools located in Valencia area by organising the quick replacement of machines damaged in a recent storm. The workshops were unfortunately flooded and the machines that were used to train the students became unsafe to use. Due to XYZ's stock holding position, an order was placed for six RMX 3500 CNC bed mills to allow the vocational schools to continue with its curriculum training. As the students had project work to finish by a deadline date, the delivery had to be quick. Suffice to say the machines were installed in time for the work to be completed.

The schools took advantage of the new investment to increase the knowledge of the students by having the optional DXF and Parasolid solid model software fitted. This allows the students to program their parts direct from electronic drawings and 3D models. As with the installations in the Czech Republic,

the local agent translates the ProtoTRAK control to work in the local language which assists in the learning of the controls conversational programming format.

Two of the machines were also prepared to accept the Kitagawa MRM 120 4th axis unit. This units allows the students to gain knowledge on multi face machining and increase the capability of the machines.

Alfredo Guarga, managing director at Orpi comments: "The support from XYZ in organising the build and delivery of these machines was fantastic. The schools were on a tight deadline for the students to complete their work and we helped to be able to move them onto the next point in their careers with completion of this tight delivery."

In northern Europe, three XYZ machines, a RLX 355 CNC lathe, a RLX 425 CNC lathe and a RMX 3500 CNC bed mill, all fitted with the ProtoTRAK 15" touchscreen control have been installed at Karlstad University in Sweden. It worked closely with Bromi, XYZ's Swedish distributor, to select the machines used best suited for the research work carried out in the workshop but were also selected for their ease-of-use, due to the flexibility of the ProtoTRAK RX range of controls.

Sales of XYZ products outside of the UK is overseen by Howard Bamforth, export sales director. He states: ''With our dealer network all around Europe and beyond, it's a great feeling to know that we are helping countries to develop their engineers of the future. The range of XYZ's products from manual machines through the range of ProtoTRAK controlled toolroom style machines and the production equipment fitted with both ProtoTRAK and Siemens CNC controls that are sold by our dealers, allows students to be educated on equipment they will see at the companies they will ultimately work for. Educating them in the art of machining and part production on modern robust machines will give them the passion for engineering and set them up with a skill set that they can draw on for the rest of their careers".

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# Bird flies high with Sodick

Nuneaton-based Birds Precision Engineering has recently invested in a Sodick AG 600L wire erosion machine from Sodi-Tech UK, marking a significant advance in the company's capabilities and service offerings. This strategic investment represents the latest chapter in the evolution of a business that has been growing steadily since its inception over three decades ago.

The story of subcontract CNC machine shop Birds Precision Engineering began in 1991 when Chris Bird established B&C Engineering in Nuneaton. What started as a sole trader operation quickly expanded, necessitating a move to larger premises. As demand grew, the business relocated and transformed into the name Birds Precision Engineering Ltd. Chris's son, Tom Bird, joined the company and immersed himself in all aspects of the operation, eventually becoming the managing director in 2023.

The latest advancement came earlier this year with the acquisition of a Sodick AG 600L wire erosion machine from the Warwick-based Sodi-Tech. This investment was driven by practical business considerations, as Tom Bird explains: "We are predominantly a subcontract CNC machine shop and we focus mainly on the special-purpose machine tool industry. We invested in the wire eroder because, in the tooling industry, there are a lot of complex components with tight tolerances."

*Tom Bird with the Sodi-Tech UK Team and the AG600L machine.*

Before this investment, Birds Precision had outsourced wire EDM work to local companies, which created bottlenecks in their production schedules. "We were subbing a lot of the work out to a couple of companies in the local area, but it created bottlenecks with our schedules, so we decided to bring it in-house to control it a little bit better," Tom Bird explains.

This decision to bring wire EDM capabilities in-house has proven to be transformative, enabling the company to have complete control over its production process, from start to finish, while eradicating subcontract EDM costs.

The Sodick AG 600L is a high-precision, linear motor-driven die-sink EDM machine renowned for its accuracy, speed and superior finishing capabilities. For Birds Precision, this machine has been a game changer, offering several key benefits. The AG 600L utilises advanced linear motor technology to achieve remarkable precision, with accuracy on all axes: X, Y, Z, U, W) of +/-0.00 1 mm.

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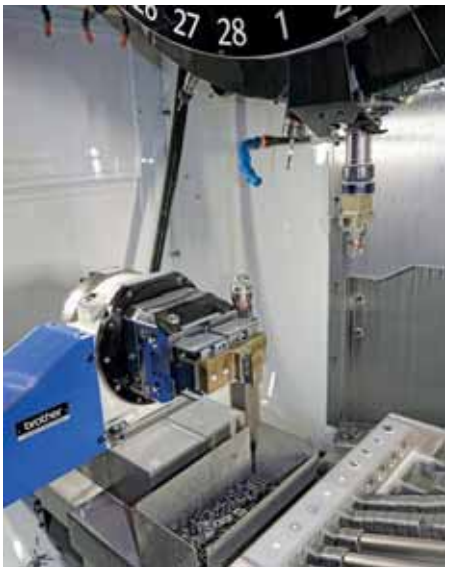
# Innovative high-volume machining of aircraft brake clips

Founded in 1998 as a spin-off from the prestigious gunmaker Westley Richards, Westley Engineering has evolved far beyond its origins. While only five percent of its output now relates to gun components, the company has established itself as a trusted supplier of machined components and assemblies to multiple sectors including aerospace, automotive, rail, white goods and renewable energy.

Aerospace is its largest market, accounting for 45 percent of total production by value. A notable aerospace contract involves the manufacture of rotor clips used within aircraft disc brakes. Made from aerospace-grade steel and Inconel, the components are used in both civil and military aerospace programmes. Demand for these clips has risen significantly over the last few years.

Three years ago, Westley Engineering improved the accuracy of the manufacturing process by switching from piercing holes in the clip on press tools to drilling them on a 40-taper Vertical Machining Centre (VMC). Although it improved the precision, it also increased cycle times substantially and made the process more labour intensive.



*Close-up of the Schunk hydraulic vice on the rotary table, the workpiece sensor to the right of it and the coolant-actuated workpiece gripper (top right).*

So in late 2023, the company installed a Brother Speedio S700Xd1 4-axis, 30-taper machining centre, followed by a second in April 2025. Supplied by Whitehouse Machine Tools, the exclusive UK and Ireland distributor for the Japanese manufacturer, these high-speed machines have now replaced the VMC for production of the clips.

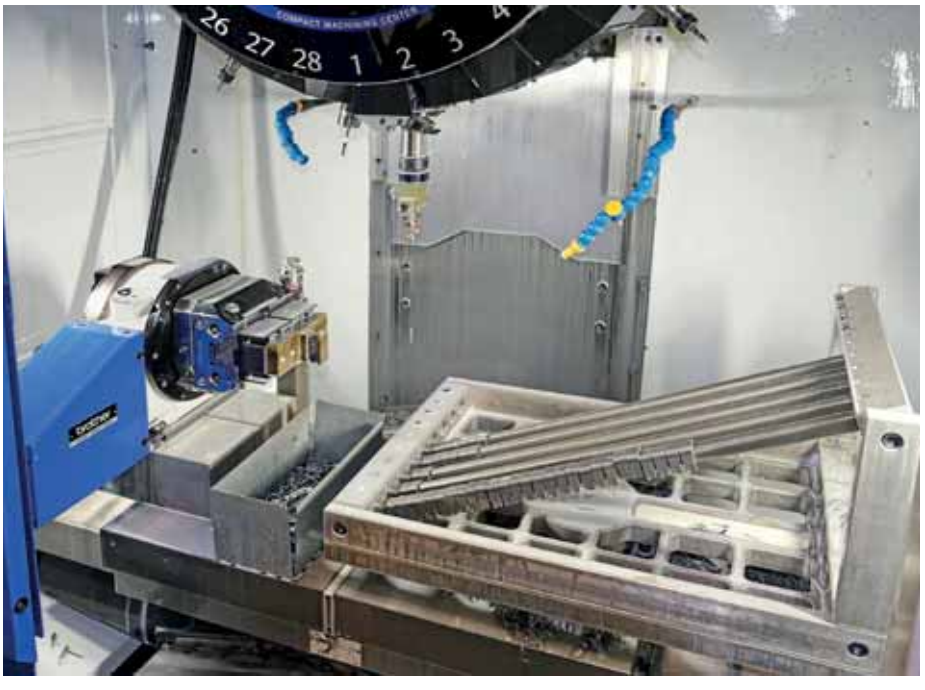
John Harland, managing director of Westley Engineering says: "The arrival of the first Brother machine was a game-changer. Its exceptional speed, especially the 0.7 second tool changes, means each Speedio can machine clips 35 to 40 percent faster than with our previous setup.

*The workpiece gripper in the tool carousel of the Brother S700Xd1.*

"The former VMC ran around the clock on weekdays and through the weekend. The new Speedios not only handle the entire production volume more efficiently but also offer extra capacity for future growth."

In partnership with Whitehouse Machine Tools, Westley Engineering implemented an automated, single-operation process on each Speedio. The new production route features custom-built fixtures with nine inclined bars, each capable of holding about 36 clips. This high-density arrangement enables over 300 parts to be machined per cycle, significantly more than the flat fixtures used previously.

Cycle times have been reduced to between



*The machining area of one of the Brother Speedio S700Xd1 30-taper machining centres on the shop floor at Westley Engineering's Birmingham factory. It shows the fixture (right) with multiple inclined bars holding the brake clips, allowing hundreds of them to be presented for drilling and countersinking in one hit before the machine doors are opened again.*

two and three minutes per clip, depending on the variant. For example, the Inconel version requires additional milling on the outer arms, whereas the steel variants do not. Typical batch size ranges from 5,000 to 10,000 units.

Before deployment, the process was validated at Whitehouse Machine Tools' Kenilworth technical centre. Its applications engineers wrote the machine programs, assisted with fixture setup and provided on-site training, all offered as part of the supplier's lifetime service and support.

A coolant-actuated gripper, housed in one of the Speedio's 28 turret positions, picks up each clip from the inclined bars. After verifying the workpiece position using sensors, the gripper transfers the part to a Schunk hydraulic vice mounted on a rotary axis.

The component is then machined, drilled, countersunk and in some cases milled before being dropped into a container for post-processing. All clips undergo 100 percent inspection, including after heat treatment, followed by fettling as needed to correct any distortion.

John Harland concludes: "Scrap has dropped to under one percent, down from up to four percent with the old process and, thanks to the energy efficiency of the Brother machines, we've cut power consumption by an estimated 60 percent."

*John Harland (left), managing director of Westley Engineering with Paul Proctor, machine shop manager.*

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# Bicycle aftermarket components manufacturer installs sixteenth Citizen lathe

In September 2024, a third-generation Cincom A20-VIILFV sliding-head turning and milling centre of 20 mm bar capacity was added to the small parts turning section at bicycle aftermarket components manufacturer, Hope Technology, Barnoldswick. Then in May this year, a 12 mm bar capacity Cincom L12-VIILFV arrived on the shop floor. Supplied by Citizen Machinery UK, they were respectively the eighth and ninth sliding-head lathes to be purchased from the Japanese machine builder's UK subsidiary, or the previous sales and service agent NC Engineering, since 2004. In addition, from 2013 until now, seven Citizen Miyano fixed-head lathes have been supplied.

Hope Technology employs around 150 people and exports half of its rapidly expanding portfolio of products to more than 40 countries. The highly successful British business, which was founded in 1989 by ex-Rolls-Royce aero engineers Ian Weatherill, who is now CEO and the late Simon Sharp was based on a quest to make mountain biking safer by developing and producing a disc brake as an alternative to less effective cantilever brakes.

The company produces 100 percent of its products in-house from top quality materials, mainly aluminium bar, billet, sheet and forgings, plus stainless steel, brass and carbon fibre. It not only machines everything in Barnoldswick to control precision and quality, but also heat treats, anodises, polishes and assembles on-site.

Between 2013 and 2020, seven Citizen Miyano turn-mill centres were installed, six of 42 mm capacity and one 51 mm lathe. Production of many parts within the capacity of these machines has been transferred to them from larger lathes to allow quicker cycles on the more suitably sized production centres. One

example is a bicycle rear cassette lockring made from 7075 aluminium, which is now produced in a significantly shorter cycle time on a Miyano.

An ability to maintain production output reliably around the clock is crucial for all plant in Barnoldswick in order to maintain global delivery schedules. Consequently, it has been decided to retrofit swarf conveyors to the two newest Cincom A20s to prevent aluminium swarf building up in their machining areas, allowing long periods of lights-out running.

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# ‘Clearcut’ winner for tackling ACM delamination challenges

As a leading UK manufacturer of precision cutting tools, Industrial Tooling Corporation (ITC) has launched its new Clearcut range of single flute balanced routing tools, specifically engineered to eliminate delamination issues when machining Aluminium Composite Material (ACM) panels.

ACM panels have become increasingly popular in signage, architectural cladding and display applications. To meet the growing demand for faster turnaround times, more manufacturers are now printing directly onto ACM panels before cutting. This workflow significantly reduces lead times but introduces new machining challenges. ITC has once again listened to the industry and developed a solution with its Clearcut range of cutting tools.

This direct-to-substrate printing approach intensifies delamination and chipping issues during the cutting process, as printed surface layers become more susceptible to heat damage. Cutting stresses can cause both the print and underlying composite structure to fail.

“The trend towards printing directly onto ACM substrate before cutting has created a perfect storm for delamination issues,” says Sally Hunt at ITC. “Manufacturers gain significant time savings in production, but they've discovered that conventional cutting tools simply cannot handle the increased complexity of machining pre-printed panels without causing costly damage.”

The challenge is compounded by the fact that printed ACM panels frequently feature full-bleed graphics extending to the panel edges. Any delamination or chipping during cutting compromises structural integrity and ruins high-quality graphics, resulting in complete part rejection and costly reprints. Traditional cutting tools often leave jagged edges with visible print layer damage, forcing manufacturers to choose between speed and quality. With the slow helix Clearcut Series of routing tools from ITC, manufacturers can maintain both speed and quality.

The signmaking industry has wrestled with this increasing challenge and the conversations at the Sign UK show have highlighted this challenge. As the industry benchmark, ITC recognised the necessity for a cutting tool solution specifically engineered for the print-then-cut workflow. ITC’s reputation as both a problem-solver and a company that understands the challenges of the industry ensured it developed a breakthrough solution well ahead of its competitors.

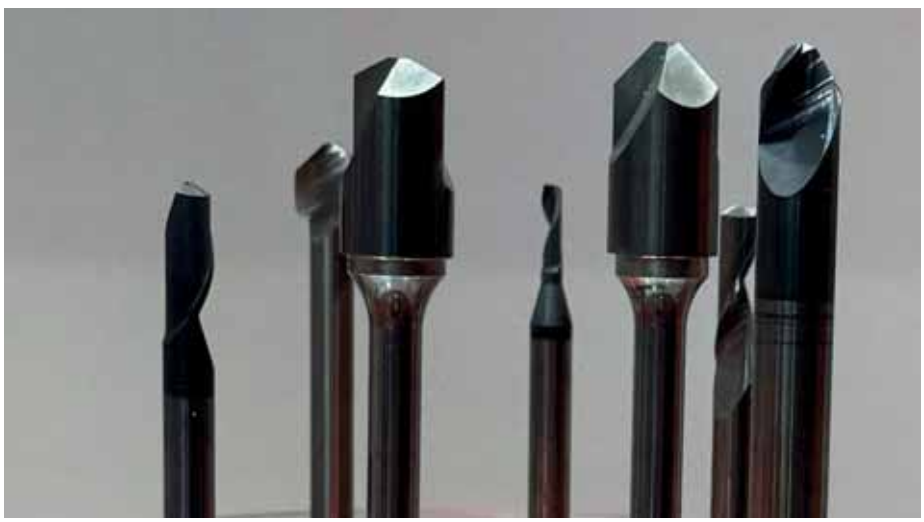
“We don't just manufacture cutting tools, we solve manufacturing problems,” emphasises Sally Hunt. “When manufacturers came to us with delamination failures on their expensive printed panels, we knew we had to engineer a solution that would prevent the print or laminated surface from lifting whilst maintaining productivity gains and quality standards for customers.”

ITC's solid carbide Clearcut range is VITREO coated and the slow helix geometry ensures maximum productivity with unparalleled edge finishes. The single flute routing tools are available in both coated and uncoated variants, with unbalanced or high-performance balanced tools offered. The balanced tools have been

specifically designed for modern digital cutting tables that incorporate high-frequency spindles operating at speeds exceeding 30,000 rpm. The single flute balanced design on a 6 mm shank provides construction that eliminates vibration at high speeds, preventing print damage and substrate delamination. The VITREO coating offers superior wear resistance while preventing material and ink adhesion. Simultaneously, the single flute design optimises chip evacuation, reducing heat build-up that damages both graphics and substrate.

Sally Hunt concludes: “We needed to create a tool that could cut cleanly through multiple material layers at high speed without generating the heat and vibration that destroys expensive printed graphics. The Clearcut's high-speed capability enables clean cuts through printed surfaces without tearing or chipping, whilst the stub length configuration maximises rigidity for precise edge quality on valuable pre-printed panels.”

Users consistently report complete elimination of print layer chipping and substrate delamination, with clean, professional edges preserving full-bleed graphics to the edge. “What we're seeing from customers is remarkable. They're telling us they can run their machines confidently, knowing that every panel will have perfect edges. At the recent Sign UK show, the number of visitors looking for a solution was evident. Once again, we have led the market in developing a solution.”



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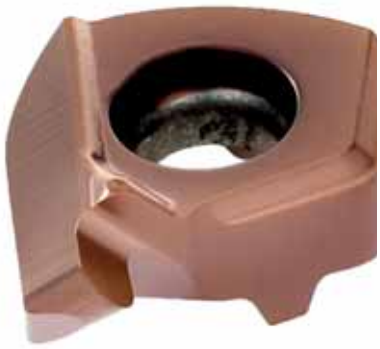
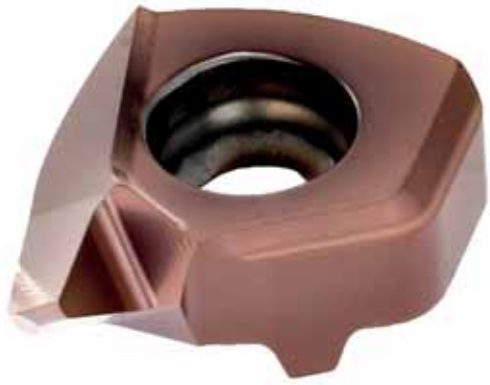
# TaeguTec in the groove with small-diameter machining line





As a leader in cutting tool technology, TaeguTec has announced a significant expansion of its innovative WINIGROOVE product line. Designed specifically for small-diameter internal machining applications, the expanded range now includes internal turning, profiling and threading applications, complementing the original grooving functionality. This presents a comprehensive 'all-rounder' for the complete machining needs of the small parts manufacturing industry.

The WINIGROOVE miniature insert line is ideal for small-hole internal operations in the 6 to 8 mm diameter range. The ability of this miniature offering to access small diameters is enabled by the unique shape and inclined clamping system of the WINIGROOVE. The product line features toolholders designed with internal coolant channels that facilitate pinpoint precision coolant flow. Tool life, performance and optimal chip evacuation are significantly enhanced by directing coolant straight to the cutting edge. This swarf removal is crucial when working with small internal diameters, as insufficient chip evacuation can rapidly diminish tool life and performance.

The expanded product line includes several new insert types. The TMIR/L series remains the foundation for internal grooving operations, while the new TMIR/L-T inserts have been designed specifically for internal turning applications on small diameters. For precision internal profiling, TaeguTec introduces the TMIR/L (Full-Radius) inserts and the TMIR/L-MT inserts provide precise solutions for internal 60° threading on small diameters.

The TMIHR/L and TMIHR/L-C boring bar tools complement these insert ranges. The TMIHR/L internal boring bars feature coolant channels for precision fluid distribution. Available in different size configurations, the round shank TMIHR/L includes the 12-12-6 designation with 12 mm diameter shank and 12 mm effective cutting length with a minor diameter of 6 mm, as well as a 12-12-8 designation for machining inside 8 mm diameter bores. The enhanced TMIHR/L-C series is a necked carbide boring bar for additional stability, with coolant holes on small diameters providing additional rigidity for demanding applications.

The TMIR/L-MT threading inserts offer pitch options ranging from 0.2 to 0.75 mm to 1.5 to 1.75 mm, with precise dimensional parameters on the thread pitch TP, point diameter PDX and insert nose radius. Similarly, the full-radius profiling inserts provide feed rates between 0.02 to 0.05 mm/rev, with carefully calibrated cutting widths and radii for optimal surface finishes.

The comprehensive range now enables manufacturers to perform various internal machining operations with a single tooling system. With the ability to undertake grooving, turning, profiling and threading using just one tool, manufacturers can significantly reduce tooling changeovers, inventory management and associated costs. By replacing a multitude of solid carbide tools with this flexible approach, manufacturers also adopt an economical solution that reduces carbide consumption and the associated environmental impact.

This expansion showcases TaeguTec's WINIGROOVE product offering as a 'complete system' for internal small diameter machining. Manufacturers working with miniature components in sectors such as medical, aerospace, electronics and precision engineering will benefit from having a unified tooling solution that ensures consistent quality across different internal machining operations.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MITSUBISHI MATERIALS

# MonsterMill ISO – Fully equipped for machining nickel-based alloys and titanium

## CERATIZIT's overhauled milling cutter range handles even the most challenging materials

When machining materials like nickel-based or titanium alloys, the limits of efficient manufacturing can often be reached more quickly than might be preferred. In order to deal with this and remain successful in the top tier of machining, CERATIZIT has reimagined its MonsterMill – ISO-S range of milling cutters. The perfectly balanced combination of carbide, coating and geometry provides sturdy tools that a deliver smooth cutting action every time. Alongside its proven 4- and 5-edge cutters, the line-up now includes the perfect finisher: the new 6-edge MonsterMill – ISO-S.

The machining of Inconel, Hastelloy, Waspaloy and other nickel-based alloys (e.g. NiCr19Fe18Nb5Mg) is significantly more demanding than conventional materials and relentlessly drives up machining costs. The high tensile strength of the material, combined with its extreme hardness rapidly accelerates tool wear. Its tools designed specifically for this material, like the MonsterMill – ISO-S from CERATIZIT, can minimise wear, maximise tool life and guarantee reliable processes.

### Adapted geometry counteracts vibrations and heat

"Machining nickel-based alloys comes with its own set of particular challenges," says Michael Wucher, global product manager, Solid Carbide Milling. One of these is the material's low thermal conductivity, which means the heat is concentrated in the tool instead of dispersing into the material. "To deal with this, we adapted the geometry of the new milling cutters to keep the heat generated in the machining process as low as possible. The polished chip flutes and optimised coating minimise friction and ensure an efficient chip flow."

The irregular pitch of the cutting edges and a variable helix angle effectively minimise vibrations, which significantly increases the tool's machining performance and helps to prevent tool breakage. This also significantly increases the workpiece's surface quality and reduces the need for further rework in the process.

### Regrindability prolongs tool life and increases sustainability

The tool's microgeometry has also been precisely tailored to the specific material. A special, precision-engineered cutting-edge preparation reduces the cutting forces and stabilises the cutting edges, which in turn significantly increases the tool life. "And, because regrinding was already taken into account when designing the new product, the overall construction provides clear benefits in the regrinding process," says Michael Wucher. The DPX22S Dragonskin coating, developed specifically for these milling cutters, was designed for use on nickel-based alloys. It is applied in 4-6 µm thick layers and provides high thermal stability and outstanding wear resistance thanks to its special layer structure.

### Perfect for the aerospace sector

The MonsterMill ISO-S is available as a 4-edge cutter in two different lengths with a diameter range of 3-20 mm. These tools are available with shank types HA and HB. All milling cutters have a corner radius of RE 0.2-5.0 mm. The 5-edge cutter is also available with shank types HA and HB with a diameter range of 3-16 mm and with various corner radii. The new 6-edge cutter is available with diameters of 6-16 mm and shank type HA. The tools have a corner radius of 0.2-2 mm, meaning that the most common dimensions in the aerospace industry are covered and even custom sizes can be provided on request. Michael Wucher provides a glimpse of what's to come: "We are already planning some interesting practical additions to the range, which will further enhance the versatility of the ISO-S specialists."

CERATIZIT also has further solutions in its portfolio for machining heat-resistant materials such as titanium and various super alloys that are commonly used in the aerospace industry. One example is the MaxiMill – 211-DC indexable insert milling system, made using an additively manufacturing process, which provides targeted cooling for temperature control and enhanced tool life thanks to its ideal nozzle position.

Michael Wucher concludes: "When it comes to aluminium machining, we also have high-performance tools such as the brand-new AluLine high-volume milling cutter in our range. Whichever materials you need to machine, we have everything you need for the ideal machining solution."

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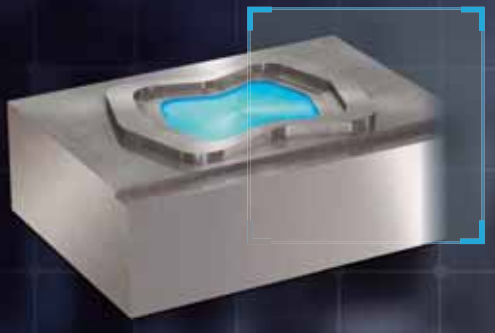

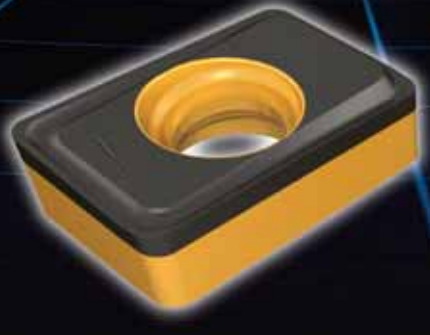

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# Mastering high-volume hole making

## Overcoming common drilling pain points with CoroDrill DE10

High-volume drilling requires precision, efficiency and reliability to meet demanding production schedules and maintain cost-effectiveness. For manufacturers, these requirements often pose challenges, such as ensuring tool longevity, achieving consistent hole quality and minimising downtime. So, what's required to achieve more efficient hole drilling in an increasingly competitive environment? Here, Mikael Carlsson, global product specialist for indexable rotating tools at Sandvik Coromant, explains how a new drilling innovation could reinvent high volume hole-making.

High-volume hole making often reveals challenges that can be underestimated, even by experienced manufacturers. Many already recognise the critical importance of tool wear and cycle times, but it is the hidden complexities of high-speed and high-penetration operations that can profoundly impact productivity and operational efficiency.

Take, for example, thermal and mechanical stresses encountered during the drilling of thousands of holes especially in typically more challenging materials like hard steels and heat resistant super alloys. These forces can lead to accelerated tool fatigue, burr formation or even deformation of the workpiece.

Such challenges go beyond tool durability. They involve understanding the interplay between the tool's geometry, coatings and material composition with the specific characteristics of the workpiece. Effective heat dissipation, resistance to microfractures and the ability to maintain edge sharpness over prolonged use are all crucial factors for ensuring consistent quality across extended production runs.

Another consideration is the cost impact of seemingly minor inefficiencies, such as setup or tip changes. In large-scale operations, for instance, even a small amount of downtime per shift, whether due to recalibrating machines for a new tool or replacing worn-out tips, can accumulate into substantial productivity losses.

These inefficiencies highlight the importance of streamlined solutions, such as systems designed for quick setup, precise alignment and easy tool changes.

Additionally, eliminating unnecessary steps in the drilling process can drive significant time and cost savings. For example, tools that remove the need for pilot holes or pre-setting equipment can drastically reduce cycle times and minimise the reliance on operator intervention, thereby increasing overall process stability and throughput.

Addressing these pain points with thoughtful planning and optimised tooling strategies is essential for manufacturers striving to meet the demands of high-volume production without compromising on quality or efficiency.

### A streamlined approach

Introduced by Sandvik Coromant in March 2025, CoroDrill® DE10, an advanced exchangeable-tip drill designed for high-volume hole drilling, aims to address these drilling challenges.

CoroDrill DE10 is shown to boost productivity while streamlining operations, due to its advanced - M5 tip geometry. This innovative design achieves an ideal balance between high feed rates and precise penetration, enabling the tool to deliver exceptional performance across diverse materials. From steel alloys to stainless materials, CoroDrill DE10 can ensure consistent hole quality while also minimising the risks of burr formation or workpiece deformation.

A crucial feature of CoroDrill DE10 is a patented pre-tension clamping interface, which combines familiar design with enhanced security. The interface enables fast and easy tip changes without spare parts, ensures reliable drilling at high feeds and speeds, delivers superior clamping strength and achieves straighter holes with tighter tolerances. It also extends drill body life, making CoroDrill DE10 the most robust exchangeable-tip drill of its kind.

Furthermore, CoroDrill DE10 also eliminates

the need for pilot holes to further streamline workflows and reduce cycle times and inventory complexity. Its robust design supports extended tool life, with more tips per tool body, which ultimately drives down the cost per hole.

As a plug-and-play solution, CoroDrill DE10 integrates effortlessly into existing setups, making it a practical upgrade for manufacturers looking to enhance productivity without overhauling their systems. It also integrates seamlessly with digital machining systems through Sandvik Coromant's CoroPlus® platform. This compatibility provides operators with precise cutting data and real-time performance insights, so parameter settings can be optimised and tailored to specific materials and applications.

## Operational and cost-saving benefits

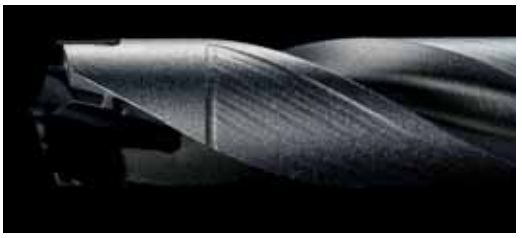
Several success cases have highlighted how CoroDrill DE10 drastically improves productivity in high volume drilling. In testing conducted in Italy, CoroDrill DE10 demonstrated significant performance advantages over a competing tool while drilling AISI316L stainless steel.

The case involved 52 mm through and blind holes, using emulsion coolant at 70 bar. CoroDrill DE10 achieved a remarkable 57 percent increase in productivity and 43 percent longer tool life compared to its competitor. The tool also delivered excellent hole surface quality, consistent chip control and sound-level performance aligned with expectations.

The tool's robust design and advanced -M5 tip geometry ensured reliability and repeatability and both were key factors for the high-value components in this application. With a higher feed rate, extended tool life and reduced need for downtime, CoroDrill DE10 proved to be a cost-effective, efficient and sustainable solution for high-volume drilling in challenging materials.

In another case, an automotive manufacturer faced issues with high cutting forces deforming its drill bodies, specifically while machining gearbox housing components from 47CrMo4 alloyed steel. This issue led to tool failures and increased costs. Instead, switching to CoroDrill DE10 resolved these challenges.

Using a feed rate of 0.35 mm/rev at a depth of cut of 2.5 times the drill diameter, the tool delivered a 17 percent productivity boost. As in other applications, CoroDrill DE10's robust design and patented pre-tension clamping interface ensured exceptional accuracy, extended tool life and minimised downtime.



These examples demonstrate how CoroDrill DE10 meets industry needs while offering significant operational and cost-saving benefits.

High-volume hole-making demands precision, durability and efficiency, making it essential for manufacturers to overcome its challenges to achieve greater productivity and remain competitive. With its advanced features, tools such as CoroDrill DE10 offer a new perspective on drilling and a strategic solution for the future of manufacturing.

Want to learn more about CoroDrill® DE10 and its benefits for your drilling application? You can download the technical whitepaper by visiting the Sandvik Coromant website.

**Sandvik Coromant UK**
**Tel: 0121 3680305**
**www.sandvik.coromant.com**

# Vertical integration powers next-day precision tooling

In an industry where precision and timely delivery are paramount, Guhring UK stands out as a manufacturing powerhouse. The company's Birmingham facility exemplifies a vertically integrated approach to cutting tool production that sets new standards for service, quality and responsiveness in the precision cutting tool sector.

"We're very proud of the facility," explains Chris Bush, national sales manager of Guhring UK. "We've got Guhring-made machines to make our Guhring tools and this ensures quality, consistency and complete process control."

This single-site integration encompasses the entire manufacturing ecosystem, from raw materials to finished products. This stretches from production to coatings and regrinding services. The Birmingham facility houses not only standard manufacturing operations but also specialised tool production and coating capabilities that significantly extend tool life.

"We've got our own grinding machines. We've got our own coating facility," Chris Bush elaborates. "So once the customer has used our tools, they can come back here for regrinding. They're ground on the same machines that they're originally made on, coated with the same coating that they started with."

The facility's vertical integration model provides substantial benefits to customers throughout the product lifecycle. "You get the same performance from a regrind as you do from a new tool," Chris Bush notes, highlighting a key differentiator in Guhring's service proposition.

When asked whether this comprehensive approach is standard in the industry, Chris Bush is clear about their unique position: "We're unique in that. The size of the factory and the fact that we have everything you need, all in one place."

*Guhring has developed its own brand of machines to produce Guhring tools.*

## Unmatched inventory and rapid availability

Perhaps most impressive is Guhring UK's commitment to product availability. Chris Bush explains: "We hold so much stock here, we have £5m worth of stock on the shelf. I do think it's essential that we keep all this stock here within the UK. We have 45,000 standard line items and we've just released a new catalogue, another big book, bringing everything together in one book. We have extensive rows of stock readily available for next-day delivery or same-day collection."

This inventory strategy is specifically designed to address the unpredictable nature of manufacturing operations. "People can't plan for mishaps and breakages," Chris Bush continues. "That's why we maintain a broad and readily available stock range. If someone needs something urgently, we can guarantee next-day delivery or even same-day collection."

This responsiveness is especially valuable in production environments where downtime incurs significant costs. By maintaining such a comprehensive local inventory, Guhring effectively serves as a strategic partner in its customers' operational continuity.

## Engineering expertise in the field

Supporting this impressive manufacturing and inventory capability is Guhring UK's dedicated field engineering team. "Within the UK, we've got just under 100 people working for Guhring UK," Chris Bush shares. "Of those, 22 are field engineers operating across the entire UK and Ireland."

These engineers act as technical consultants, delivering expert support directly at customer sites. "This allows them to visit customers and engineering firms, where they optimise cutting data, reduce cycle times and ensure the right tools are selected for the right applications," Chris Bush states. "Ultimately, their role is to help make our customers more efficient and more profitable."

## Coating technology as differentiator

A standout aspect of Guhring's technical capability is its in-house coating department. "It's all about time," Chris Bush emphasises.

*A selection of Guhring tools manufactured on Guhring machines.*

"That's why we offer 10 different coatings here and it's all application specific. So, depending on the application, we'll have the right coating that goes on the tool for that process."

These specialised coatings provide significant performance enhancements: "With the coating, we can offer four times the tool life, from a bright tool to a coated one. And it's all under one roof."

By keeping coating operations in-house instead of outsourcing to third-party providers, Guhring ensures complete quality control throughout the manufacturing process. This integration also significantly reduces lead times, as tools do not have to leave the facility for coating.

## Agility in a changing market

The manufacturing landscape continually evolves with new materials, tighter tolerances, and increasing production demands. When asked how Guhring addresses these changing market requirements, Chris Bush points to the company's technical foundation: "Thanks to the facility we have and the expertise within our team, we're equipped to handle any demand that comes our way."

This confidence stems from Guhring's comprehensive approach that Chris Bush succinctly summarises: "From the standards to the specials to the regrinds. Any application that comes our way, we've got the technology to handle it."

## Industry engagement

Guhring UK maintains an open-door policy for customers interested in experiencing their operations firsthand. Chris Bush says: "We have an open door policy, so any customers who want to come along and see it firsthand are more than welcome."

This transparency reflects the company's confidence in its operations and its willingness to demonstrate manufacturing capabilities directly to interested parties. It also underscores Guhring's collaborative approach to customer relationships, viewing technical partnerships as essential to mutual success.

In an era where global supply chains often separate manufacturing from end-users by thousands of miles and weeks of lead time, Guhring UK's Birmingham facility provides a compelling alternative. By combining extensive inventory, comprehensive manufacturing capabilities, specialised coating technology and field engineering expertise in one location, the company offers a level of responsiveness and technical support that sets it apart.

*Just one of the many rows of tooling inventory stored at Guhring UK for next day delivery.*

For manufacturing operations across the UK and Ireland, this vertically integrated approach results in reduced downtime, optimised productivity and a tooling partner with the technical ability to meet virtually any cutting tool requirement.

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# Efficient turning of lead-free alloys

*With its new type 105 Supermini, Horn has succeeded in developing a universal boring tool with sintered chip breaking geometry.*

Adding lead to metallic materials has a positive effect on machining processes, but due to the EU's increasingly stringent REACH and ROHS regulations, these free-machining alloys are being discontinued, as lead is highly toxic. At its recent Technology Days Open House in Tübingen, southern Germany, cutting tool and insert manufacturer Paul Horn GmbH explained the measures it is taking when producing its latest products to mitigate the difficulties that its customers face due to the phasing out of lead as an alloying element.

The main problem when machining lead-free alloys, whether steel or brass, is a lack of reliable chip breaking. During machining, the presence of the soft metal creates predetermined breaking points, as lead forms small inclusions in the alloy structure, promoting the formation of small, discontinuous chips rather than long, stringy ribbons. This effective chip breaking is accompanied by low cutting forces, while lead also acts like a lubricant, which reduces tool wear.

The changeover to machining harder, tougher, more abrasive lead-free materials was initially a challenge, as the previous benefits were lost; in particular, wear on the cutting edge increased significantly. Horn engineers remedied this for grooving and longitudinal turning by taking laser-cut chip-breaker geometries normally reserved for cutting steels, adapting them and applying them not only to those materials but also to lead-free brass and other non-ferrous alloys that no longer have their free-machining properties. Extensive investigations showed that this works very well.

For boring, geometries were again adapted to ensure reliable chip breaking. One of the biggest challenges in internal machining is the generation of long swarf that wraps around the tool, clogs the hole or, in the worst case, leads to tool breakage. Previously, laser-cut or ground chip breaker geometries were employed but such carbide inserts tend to be expensive.

With Horn's new Type 105 Supermini and now the Type Mini with I geometry, Horn has succeeded in developing boring tools with a chip breaker form that is pressed into the insert's rake face as the green tungsten carbide blank is being manufactured. After the blank has gone through the high-temperature sintering process, the chip breaker shape is permanently fused into the final, hard insert. Such geometries are cost-effective, can be used universally for different material groups, and are suitable for internal, face, copy and back turning. Chip control is good, even when the infeed rate is low.

*Horn's adapted insert edge geometries provide a high degree of process reliability when machining lead-free materials.*

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**www.phorn.co.uk**

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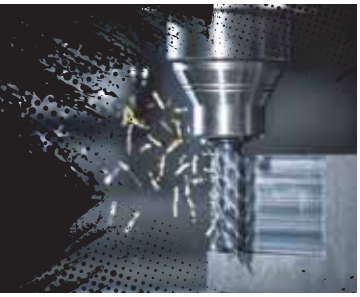


# Walter introduce two new grooving geometries

With the arrival of the new UE6 and RE6, Walter is expanding its GD26 grooving portfolio with two new indexable insert geometries for medium machining. The Tübingen-based cutting tool manufacturer now offers a total of 12 geometries in seven highly wear-resistant Tiger-tec® Gold grades for parting-off, grooving, groove/turning and copy turning.

The exceptional new UE6 geometry is characterised by its ability to generate low cutting forces and effective chip control, particularly when grooving and groove turning. Alongside the UE6 is the new RE6 full radius range of inserts that have been designed to generate excellent surface finishes and optimum chip control, especially when undertaking dynamic turning.

With thanks to its large chip breaking range, the UE6 geometry enables reliable chip evacuation with all grooving operations. Complementing this, the new RE6 geometry offers the best conditions for copy and relief turning. Both variants have been designed for the Groov-tec™ GD grooving system. The astounding stability of the Groov-tec GD grooving system further enhances the potential of the inserts and delivers significantly higher cutting parameters.

Fitted with Tiger-tec Gold Indexable inserts, the Groov-tec GD can be used universally for all ISO material groups.

**Walter GB Ltd Tel: 01527 839450 www.walter-tools.com**

# The Technomark GX Small Laser – A game-changer for engineering subcontractors

In today's competitive subcontracting landscape, precision, speed and versatility are an absolute requirement. Whether you're handling aerospace components, automotive parts, or general industrial manufacturing, your success hinges on delivering high-quality, traceable components with maximum efficiency. Enter the GX Small Laser from Technomark, an ultra-compact, laser marking system that's raising the bar for engineering subcontractors worldwide.

## Compact power, industrial toughness

The GX Small Laser is engineered for high-performance, high-speed marking in tight production environments. With its small footprint, this unit fits comfortably into even the most space-constrained workshops, making it ideal for subcontractors who often juggle limited floorspace and a wide variety of projects.

Despite its compact form, the GX delivers robust industrial-grade laser marking, capable of deep engraving, precise 2D code generation, and permanent traceability on metals, plastics, and coated materials. From serial numbers to complex logos, this laser ensures clarity and permanence, helping you meet even the most stringent customer specifications.


The GX Small is supplied as a Class 1 enclosure for benchtop marking. For integration and production line marking the laser is available as the XS with an integrated head and controller. The XS integrated model has the smallest fibre laser marking head on the market and meets the demands of modern industrial environments with Ethernet/IP or Profinet connectivity. Whether you're starting with a basic workstation or planning to integrate into a larger automation line, you have options to suit the application.

What's more, plug-and-play integration and an intuitive interface reduce the learning curve significantly, allowing your team to get up and running quickly. Technomark has designed the GX to minimise downtime and maximise ROI.

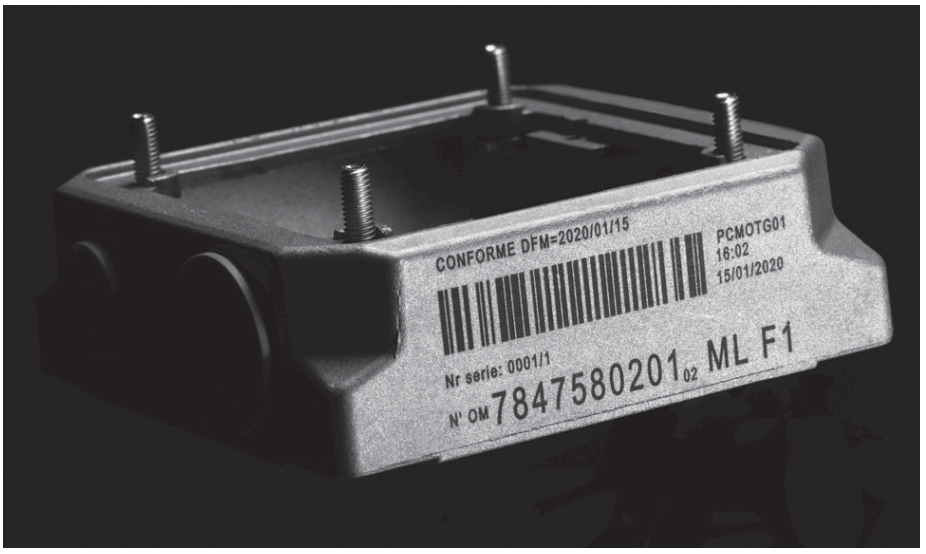
## Smarter traceability for smart manufacturing

Traceability isn't just about compliance, it's about adding value. With increasing demand for component-level data across industries, subcontractors must provide not just parts, but

intelligent, traceable products. The GX Small Laser integrates seamlessly with marking software and vision systems, enabling real-time quality control, serialisation, and data capture. The great comms make it easy to network with a variety of format options. Data input can be automated either in .csv or SQL format.

The GX Small can be used in PC mode to set up files and then has the ability to switch to standalone mode for marking. It can be operated via remote control to control vertical position of the laser head, Z-axis speed control, start/stop and station lighting. L shaped door for easy loading of parts with an area of 325 mm x 390 mm. It is easy to network for data import and comes standard with a 100 mm x 100 mm marking window with a 140 mm x 140 mm option. You can also choose to have the optional rotary drive for marking around the diameter of components.

For subcontractors aiming to align with Industry 4.0 practices, this machine is more than a marking tool, it's a strategic investment in digital manufacturing. Technomark's GX Small Laser delivers where it counts: Performance, flexibility, and future-readiness. For engineering subcontractors, it's a tailored solution that keeps you agile, efficient, and competitive in an ever-evolving market.




If you're looking to reduce lead times, increase traceability, and win more business with reliable marking capabilities, the GX Small Laser would be a valuable addition to your shop floor.

Universal Marking Systems are Technomark's UK partner and we offer full sales and long term after sales support on all the products we manufacture and supply.

To find out more about the GX Small contact us at ***info@ums.co.uk*** or call us on 01420 565800.

**Universal Marking Systems**
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**www.ums.co.uk**

# TYKMA Electrox are back in the UK and here to stay

TYKMA Electrox is a leading manufacturer of industrial laser engraving systems, trusted by businesses worldwide. Its machines are designed and manufactured with precision to deliver unparalleled accuracy and repeatability. Step up your game with its reliable permanent marking solutions, backed by a next-level support team committed to your success.

Having a big name in the commercial world, TYKMA Electrox is now back in the UK & Ireland for sales and support and are here to stay. TYKMA Electrox has a wide selection of marking and engraving systems that are engineered for the toughest applications and are built in the USA. Its intuitive software is easy to use and will have you up in running in no time. The support team is among the best in the industry and are available to assist with your laser application journey.

Its laser marking, etching and engraving solutions are highly versatile and are built to last. TYKMA Electrox's team of dedicated engineers can customise your engraving system to meet your specific needs. From marking tumblers to deep engraving jewellery and firearms, TYKMA Electrox stands steadfast as your laser solutions provider.


One of the new laser systems from TYKMA Electrox is the Minilaise LBL – the Little Baby Laser. Starting at £9,999 + VAT, the laser marker has a 20W MOPA as standard and is going to take the market by storm. Coupled with the standard 3-year warranty, it is sure to be "Top of the Class."


Industrial laser marking, etching and engraving systems are incredibly versatile pieces of equipment that have countless applications for a diverse range of businesses.

TYKMA Electrox has supplied its laser systems to everything from the automotive, aerospace, jewellery, medical device companies and more, so you can be confident in knowing the company will be able to work with your industry and supply innovative solutions.

## What are you looking for in a laser system?

**At TYKMA Electrox, its laser etching machinery provides:**

- Laser marking for identification and traceability using direct part marking techniques.
- 2D data matrix symbology.
- UID medical marking applications.
- Date coding, serialisation and lot control.
- Product branding.
- Laser engraving and etching for many other widespread uses for all companies.

## What makes our industrial laser marking machines the best in the industry?

TYKMA Electrox specialises in the design and manufacture of industrial laser marking systems. Customers around the world trust it to offer a durable, cost-effective solution to their permanent identification needs and the company provides with its premier laser engraving systems.

These production-ready laser systems are ideal for marking or engraving any material or substrate in a variety of manufacturing settings. Should you need a custom integrated design, TYKMA Electrox can engineer and build a system to suit your unique application.

Every TYKMA Electrox industrial laser engraving system is fully warrantied, designed to exacting international standards and backed with exceptional service 24/7, 365 days a year.

By selecting a laser engraving, etching or marking system from TYKMA Electrox, you'll know you are receiving the finest product available.

## Laser etching systems for a wide range of industries

Its laser systems have been utilised by a wide variety of industries in thousands of practical applications. Some of the sectors that TYKMA Electrox has worked with include:

- Tooling
- Aerospace
- Military & Defence
- Automotive
- Electronics
- Medical
- Industrial
- Oil & gas
- Home goods

TYKMA Electrox's laser engraving, fibre laser marking and etching systems are incredibly versatile.

To learn how companies have put its products to use, visit its website ***www.permanentmarking.com*** or call Paul Sidwell, the UK & Ireland sales manager.

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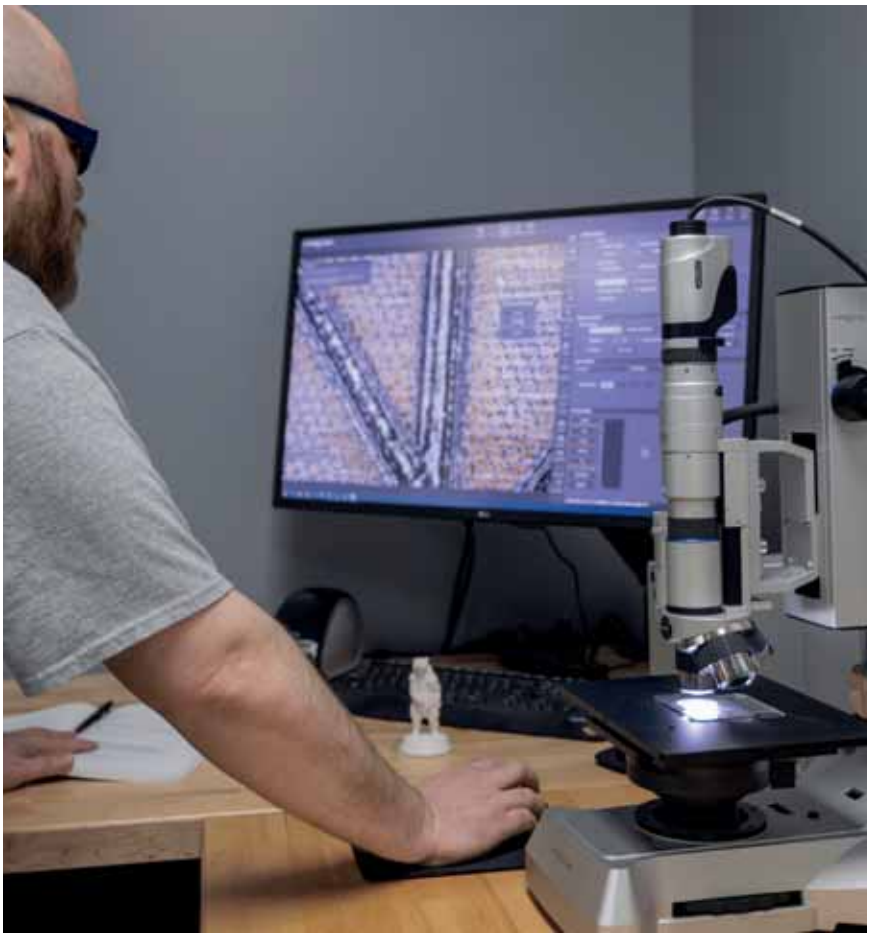
**psidwell@permanentmarking.com**



# Pryor Marking welcomes HRH The Duke of Gloucester on a historic visit

Pryor Marking were honoured to welcome His Royal Highness The Duke of Gloucester on Thursday, 17th July, as part of an official visit to Sheffield, witnessing the Heart of the City Project.

The visit highlighted both Sheffield's commitment to modern transformation and its rooted industrial heritage as the birthplace of stainless steel, with Pryor as a prime example of British manufacturing excellence. Founded in 1849 by father and son, the company proudly celebrated its 175th anniversary in 2024 and now continues its success through a charitable trust.


His Royal Highness was warmly greeted by members of the Pryor leadership team and taken on an insightful tour of the company's facilities, exploring key manufacturing processes, portfolio of technological advancements and the ongoing commitments within the community. The Duke observed how Pryor's client-focused solutions support essential industries including aerospace, automotive and defence, both in the UK and globally.

"It was an immense privilege to welcome HRH The Duke of Gloucester to Pryor during his visit to Sheffield. As we proudly celebrated our 175th anniversary in 2024, this visit is a wonderful recognition of our enduring legacy and significant contributions as a leading UK manufacturer," says Simon Dunn, managing director.

"We were thrilled to share our vision for the future, particularly our commitment to nurturing the next generation of engineering talent and upcoming relocation to a new, advanced manufacturing site. This visit underscores our continued dedication to innovation and excellence in manufacturing, whilst also acknowledging our historic past."

The engagement comes following Pryor's receipt of the Queen's Award for Enterprise in 2019. This marks the company's second royal visit, having previously welcomed HRH The Duke of Kent in the early 2000s.

Pryor Marking Technology, the trading name of Edward Pryor and Son Ltd, is a leader in the manufacture and design of both traditional and innovative marking, identification and traceability solutions.

Founded in 1849 in Sheffield, UK, a hub of manufacturing and the birthplace of stainless steel, the company's success is built on providing marking and traceability solutions for all manufacturing industries. Pryor has over 175 years of innovation and marking excellence. A family-owned business up until 1978, Pryor is now proudly owned by a charitable trust.

Operating from sites in the UK, USA, and France, Pryor serves an extensive customer base, supported by a comprehensive distributor network in countries across the globe.

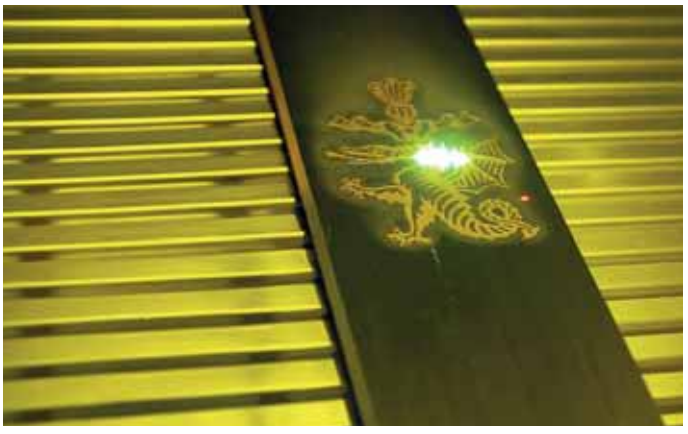
Edward Pryor & Son has grown to become a single source supplier, offering a complete portfolio of solutions for permanent part marking; ranging from a simple hand stamp through to turnkey, bespoke systems with multi-axis computer-controlled marking heads, machine vision and traceability software. Its products are split into three categories: HandTools, Marking Machines and Custom Solutions.

The combination of its 175+ years' experience, engineering excellence and vision has created a customer centric organisation renowned for the highest levels of quality and durability.

There is, however, much more to Pryor than its products. The company is committed to the local community and is proud to be owned by a charitable trust. It takes pride in its employees, who continually impress with qualities of vigilance, determination and creativity. It is passionate about helping develop the skills of younger generations through training and apprenticeship programmes. The company is also taking steps to minimise the environmental impact of its activities, continually improving environmental performance and adopting greener alternatives wherever possible.

**Edward Pryor & Son Ltd**
**Trading as: Pryor Marking Technology**
**Tel: 0114 2766044**
**Email: info@pryormarking.com**
**www.pryormarking.com**

# TLM Laser delivers deep laser engraving for Lindt's flagship Piccadilly store



In partnership with Guittard Engineering, TLM Laser engraved stainless steel door plates to enhance the customer experience at Lindt's luxury flagship store in central London.

## The project brief


When Lindt opened its UK flagship store on Piccadilly, the retail design needed to reflect the brand's commitment to luxury, right down to the entrance. A pair of stainless-steel plates, engraved with the iconic Lindt logo, were commissioned as permanent fixtures where thousands of customers pass through daily.

Deep laser engraving was chosen to achieve a high-quality, burr-free finish without the cost or complexity of traditional methods such as hand engraving or milling. TLM Laser's Job Shop was selected to carry out the precision marking, with Guittard Engineering handling the laser cutting.

## Our approach

Each plate measured 143.77 mm x 97.36 mm and required the logo to be engraved to a depth of 0.6 mm. To meet this specification, TLM used a 20W MOPA laser with a 254 mm lens and fine-tuned pulse settings to ensure a smooth, consistent surface finish.

Vector artwork was supplied in DXF format and refined in Carveco to ensure clean, closed paths, essential for avoiding duplicate contours and ensuring accurate pass control. Each plate required approximately 10 hours of continuous laser time.

"This was a challenging project due to the vector origin and the depth involved," says Paul Smith of TLM Laser. "Carveco helped us eliminate duplicate paths and the result was exactly what the client needed."

## The outcome

The finished plates are now installed at the entrance of Lindt's flagship store, polished, permanent and unmistakably premium. The project highlights the value of deep laser engraving for brand presentation, where clarity, consistency and durability are essential.

TLM Laser's Job Shop specialises in subcontract laser marking and engraving for UK Manufacturers. For one-off branding projects or production runs, contact the team at ***sales@tlm-laser.com*** or visit ***www.tlm-laser.com***

**TLM Laser Tel: 01527 959 099**

# Surface roughness probe introduced by LK Metrology

Coordinate Measuring Machine (CMM) manufacturer LK Metrology, whose manufacturing facility is in Derbyshire, UK, has announced the introduction of the SURFACER SRP. It is a plug-and-play probe having a resolution of one micron for seamlessly analysing the roughness of the surface of a component as part of a CNC measuring cycle on any CMM, provided it has an industry-standard probe head.

The sensor eliminates the need for secondary surface roughness inspection, either manually using a hand-held instrument or automatically at a separate metrology station. Manufacturers are able to conduct comprehensive inspection on a component in a single setup in a CMM environment, resulting in significant savings in time and cost. Engineered for ease-of-use and versatility, the equipment comes with its own downloadable application software, facilitating integration and eliminating the need for third-party software.

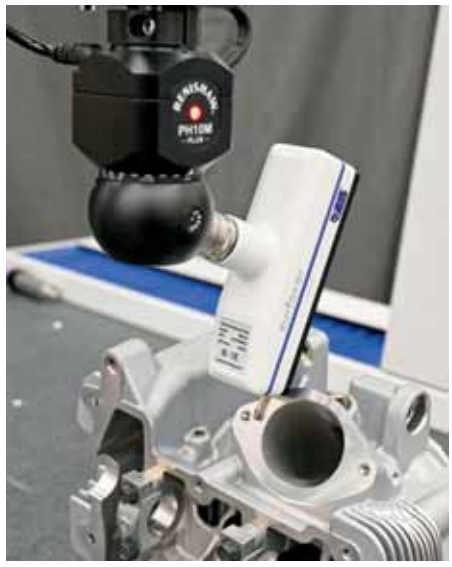
Effortless swapping between touch probes, tactile scanning probes, non-contact laser scanners and the roughness probe gives users extended multi-sensor capability. The SURFACER SRP mounting is compatible with change racks, including the new versions introduced recently by LK, enabling automated sensor changing and enhanced operational efficiency.

At the heart of the roughness probe lies a special body that accommodates three interchangeable, skidded, stainless-steel probe modules. One evaluates flat, conical and cylindrical surfaces, another measures concave, convex and spherical surfaces and a third is for inspecting grooves more than 3 mm wide by less than 10 mm deep, or steps of similar height.

The CMM positions a stylus so that it is in contact with the part, after which the machine axes remain stationary while the probe moves the stylus across the surface under investigation. Wireless communication with the CMM computer via a Bluetooth 4.0 adapter provides seamless data transfer for analysis, simplifying installation.

The skid plays a key role during measurement, acting as a straight-line datum that guides the stylus across a surface to ensure probe stability. The stylus travels independently of and slightly in front of the skid, with surface deviations recorded as the difference in the relative movements of the two elements in the Z-axis. The design ensures that even minute surface irregularities are captured with exceptional accuracy.

Further enhancing the precision of the SURFACER SRP is an integrated preload mechanism, which during stylus operation isolates it from the CMM kinematics, guaranteeing accurate and consistent results regardless of external vibration or machine movement. The force exerted by the stylus tip, which has a radius of 5 microns, is less than four thousandths of a Newton, avoiding surface deformation. Measurable roughness range is 0.5 to 6.5 Ra, which is the average roughness between the profile and the mean line.

Dave Robinson, LK's marketing manager says: "By integrating surface roughness measurement directly onto the CMM, we are providing manufacturers with a powerful tool to streamline their inspection processes, reduce costs and enhance product quality. The ability to perform multiple metrology functions on a single platform eliminates the need for time-consuming transfers of components and ensures greater accuracy by maintaining part orientation between measurements."

## The importance of ascertaining surface roughness

Measuring the relative smoothness of the surface profile of a metal or plastic component is fundamental after turning, milling, grinding, spark erosion, broaching or reaming, as it directly correlates to how well the component will function in service. It is the small, fine-scale variations and imperfections in the surface including peaks and valleys that is assessed by LK's SURFACER SRP, rather than larger-scale features like waviness or form.

The texture of a surface, even at a microscopic level, significantly influences its interactions with other parts and its environment. For instance, smoother surfaces minimise friction, which is vital for reducing wear of moving parts and improving efficiency, durability and performance. In applications involving seals, a precise surface finish prevents leaks. Furthermore, surface roughness can impact a component's susceptibility to fatigue; rougher surfaces create stress points that can lead to premature failure.

Beyond mechanical functionality, the degree of surface roughness plays a role in corrosion resistance, as smoother surfaces are less prone to trapping corrosive substances. A smooth surface improves electrical conductivity. Additionally, the ability of coatings or adhesives to bond effectively is heavily reliant on surface texture.

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Mitutoyo

# HOLTEST PROMOTION 2025

Valid from August 1, 2025
until December 31, 2025

# Lights, camera, action

## Starrett's vision systems put your parts centre stage

Optical measurement is a key tool in production quality control and one of the key players in this is Starrett Metrology Solutions. Founded over 140 years ago, its range of visual inspection and measuring systems primarily falls into three key categories: Optical Comparators, Vision Systems and Force Measurement Systems.

### Optical comparators

The Starrett name is known for its optical comparators, offering a range suitable for most applications. The systems provide a robust and cost-effective solution for non-contact measurement and operate by projecting a magnified illuminated image of a part onto a screen, to be compared against transparent overlays. All Starrett profile projectors feature LED lighting.

Starrett offers horizontal and vertical projection models, both in benchtop and floor-standing units. Models include the HB400 horizontal benchtop and the HF600/HF750 horizontal floor-standing comparators. Various screen sizes are available from 400 mm up to 750 mm, providing ample viewing area for different part sizes.

Precision Optics and Magnification with interchangeable lenses provide a wide range of magnifications from 5x to 100x. that provides bright, sharp and erect images for accurate viewing.

In addition to comparative measurement, the projectors are also fitted with very accurate X-Y stages, often with glass scales for micron-level resolution and high-performance digital readouts or PC-based software. This allows precise 2D geometric measurements of points, lines, circles, distances, angles and skew. Models are also available with a fully motorised stage with CNC control, making them ideal for automated measurement routines. Optical edge detection and Video Edge Detection (VED) are available and these eliminate operator subjectivity to improve measurement accuracy.

### Applications

These systems are Ideal for dimensional inspection and quality control, in industries such as automotive, aerospace, medical devices and plastics.

#### Vision systems

The vision systems, designed for highly accurate and repeatable measurements, often at micron or even sub-micron levels, by combining high-resolution digital cameras, precise mechanical platforms and powerful software. The range includes Manual Vision Metrology (MVR) systems and Automatic Vision Metrology (AVR) systems.

When used with Video Edge Detection (VED) and Field Of View (FOV) they provide the measurement of an entire part or a feature to be measured. They include high-resolution colour digital cameras with dedicated zoom optics, e.g., 6.5:1 or 12:1 zoom. Available with interchangeable telecentric lenses with low optical distortion, down to 0.001 percent and micron-level resolution.

CNC control is a feature of the AVR series, offering full X-Y-Z positioning, motorised zoom, and advanced MetLogix™ M3 software. The software provides intuitive graphical interfaces, 2D and 3D geometric constructs, CAD file import/export for electronic overlays and comprehensive data analysis and reporting.

### Multi-sensor capabilities

Many of the Starrett vision systems can be integrated with Renishaw touch probes and laser probes. This changes them into a multi-sensor CMM.

### Illumination

All Starrett measurement systems are fitted with LED illumination options, including collimated sub-stage, ring light surface and coaxial illumination, allowing optimal image capture on various material types and features.

### Force measurement systems

While not strictly "visual inspection," Starrett's force measurement systems are a critical part of metrology solutions, providing quantitative data for quality assurance.

This range includes Digital Force Gauges (DFG series) and various force testing machines and frames. They are designed to measure stress, strain, load, elongation and other parameters in tension, compression, flexural, shear and friction applications.

In summary, the Starrett range of visual inspection and measuring systems offers a comprehensive suite of solutions, from traditional yet highly capable optical comparators to sophisticated, automated and multi-sensor vision systems plus force testing tools. Starrett products are available in the UK and EU from Optimax.

**Optimax**
**Tel: 01858 436940**
**Email: info@optimaxonline.com**
**www.optimaxonline.com**

## Renishaw introduces the innovative Equator–X 500 dual-method gauging system

Renishaw, a leader in measuring and manufacturing systems, has launched its latest pioneering solution for shop floor process control. The Equator–XTM 500 dual-method system brings unique capabilities to manufacturers around the world, enabling them to select the optimum inspection method, Absolute or Compare, for their process challenge, effectively deploying two systems in one.

The Equator X system has been designed to address the challenges for shop floors where product variety and frequent design changes require measurement systems that are able to provide speed, flexibility and ease-of-use to keep pace with machining capabilities. Key benefits include increased throughput, with high-speed measurement that increases inspection capacity; fully traceable in process verification of parts on the shop floor, continuous validation of the production process and the flexibility to select the optimal measurement method for each application with a single device.

The optional Absolute or Compare measurement modes address the demands of fast-paced manufacturing environments with

different requirements. In Absolute mode, the Equator–X system measures parts at scanning speeds of up to 250 mm/s, significantly improving the inspection capacity and throughput for manufacturers of small to medium batch sizes and high part variety. This mode is particularly useful for first-off verification next to the machine or even at-line 100 percent inspection.

In Compare mode, the Equator–X system delivers an ultra-high scanning speed of up to 500 mm/s and is ideal for inspecting large batches of the same component when cycle time is a priority. It also provides a high-speed measurement option where varying thermal environments present a challenge.

The Equator–X 500 gauge is a hexapod structure with independent drive and metrology frames. High-speed motion is achieved without compromising metrology thanks to design features such as carbon fibre metrology struts, linear motor drives and the industry standard SP25M scanning probe.

The system can be deployed as a standalone shop floor device or integrated within a fully automated cell, offering unrivalled flexibility to adapt to evolving demands and variable shop floor conditions.

The standard software platform for the new Equator–X 500 system features an intuitive and feature rich operator interface coupled with Renishaw's latest MODUSTM IM metrology software applications. This comprehensive suite of software tools delivers outstanding convenience and robust performance for programming, reporting and operation, simplifying complex tasks and enhancing user experience.

For further information about the new Equator–X system, visit ***www.renishaw.com/equator-x***

**Renishaw plc**
**Tel: 01453 524524**
**www.renishaw.com**

# 3DeVOK 3D scanners now available through Manchester Metrology

Manchester Metrology is now an official UK reseller for 3DeVOK, bringing their full-colour 3D scanners, the MT and MQ, to customers across the UK. With high accuracy, simple operation and portability, these scanners deliver high-quality scanning at a highly competitive price.

Both scanners use structured light technology and are designed to capture detailed 3D data efficiently. They offer target-free scanning, which simplifies the process and allows scanning in more varied environments without the need for markers. This flexibility makes them suitable for a wide range of applications, including reverse engineering, product design and digital documentation. They can also be used for face and body scanning. Their compact size and quick setup help integrate them smoothly into existing workflows, allowing users to focus on capturing accurate, reliable data.

## MT Scanner

The MT is the more precise of the two, offering up to 0.04 mm accuracy. It produces detailed scans and is ideal for projects requiring high accuracy. The MT uses 34 blue laser lines, 22 infrared laser lines and large-area infrared speckle in its scanning technology.

## MQ Scanner

The MQ scanner provides accuracy up to 0.08 mm and supports full-colour capture. It utilises 22-line infrared laser and infrared speckle light with a double field of view.

## Wireless Handle

An optional wireless handle is available for both the MT and MQ scanners, offering freedom from cables and enabling scanning in more flexible environments.

Adding 3DeVOK scanners to its range allows Manchester Metrology to support a broader variety of projects and budgets. The company already provides high-precision metrology services along with measurement and scanning equipment including portable arms, laser trackers and CMMs. The MT and MQ offer an alternative when detailed colour scanning and portability are essential while keeping costs manageable.

Demand for 3D scanning continues to grow, with many businesses seeking equipment that delivers quality results without complex setup or a steep learning curve. Both the MT and MQ strike that balance well, providing professional-level performance while remaining straightforward and cost-effective to operate.

Shortly after becoming official UK resellers, Manchester Metrology showcased both scanners at the TCT 3Sixty exhibition held at the NEC in Birmingham. Paul Bulman, director at Manchester Metrology, says: "The reaction to the MT and MQ scanners was remarkable. Visitors were genuinely impressed by the scan quality, high accuracy and ease of use, especially with features like full-colour capture, target-free setup and optional wireless operation, all at a highly competitive price point. Interest came from a wide range of people and organisations, from large businesses and start-ups to universities and individuals and we received over 70 leads on the very first day. It really underlines the broad demand for accessible, high-quality 3D scanning solutions in the UK market."

Manchester Metrology Ltd is a pioneer and innovator of metrology, offering specialist contract measurement services using the latest metrology technology and equipment. An ethos of dedication to continued investment in both equipment and its team has allowed Manchester Metrology to build a strong reputation, working with a number of industry leaders in the automotive and aerospace sectors.

Offering a portfolio of support services across the UK and worldwide, its attention to detail and helpful attitude towards customers are among the many positive attributes which distinguish the company as a benchmark metrology company.

The team at Manchester Metrology are highly trained in all areas of metrology, offering quality services and expert advice to its customer network in the UK and abroad.

For more information, visit ***www.manchester-metrology.co.uk*** or call 0161 637 8744.

**Manchester Metrology Ltd**
**Tel: 0161 637 8744**
**Email: info@manchester-metrology.co.uk**

# World-class vision technology

As a trusted supplier of precision metrology instruments, Bowers Group continues to invest in innovation to maintain the highest standards of accuracy, especially for its renowned range of British-made bore gauges.

Recognising the need for a faster and more repeatable solution, Bowers Group turned to the Baty Venture FV 2020, a fully automated, non-contact vision measurement system, to streamline the process.

"The Baty Venture FV 2020 has taken the guesswork out of the process," says Declan Hargreaves, CNC grinding technician at Bowers Group. "Once it's programmed, anyone in the factory can run it and get the same result: accurate, every time."

Manufactured at the company's Bradford facility, Bowers' XT3 range of digital internal micrometres and associated anvils form a critical part of the group's measurement offering. These micrometres are engineered to measure internal features such as threads, splines, grooves, and dovetails with utmost precision. To maintain these standards, Bowers identified the need to evolve its internal processes and reduce variability in anvil production.

Historically, the anvil inspection process relied heavily on manual assembly and fit testing using rings and technician expertise to check dip and collapse. Although accurate, this traditional method was time-consuming and vulnerable to human error, often requiring multiple adjustments to achieve the desired fit.

The introduction of the Venture FV 2020 has transformed the way Bowers inspects its anvil components. Using high-resolution vision technology, the system enables batch measurement of multiple anvils at once, slashing inspection times from 90 minutes to just 20. By placing the anvil on the system's precision stage, operators can instantly group components into tolerance bands, ensuring a consistent, accurate fit into the micrometre body with minimal effort.

Now used daily on-site, the Venture FV not only boosts throughput but also maintains strict quality control across production. Its intuitive interface and automated measurement capabilities have made it simple for any team member to operate, ensuring repeatable results without relying on specialist skills.

By pairing traditional craftsmanship with innovative vision systems, Bowers Group is reinforcing its leadership in bore gauging with a measurement process that's just as precise as the tools themselves.

As the metrology world celebrates continued progress and innovation, Bowers Group remains committed to providing practical, high-performance solutions for manufacturers, ensuring every bore gauge that leaves its Bradford site is a testament to quality, reliability and British engineering.

**Bowers Group**
**Tel: 01276 469866**
**Email: sales@bowersgroup.co.uk**
**www.bowersgroup.co.uk**

# Everything in a single CADCAM software solution

## Tebis 4.1 Release 10

The focus of the new release is the revolutionary Tebis SmartOps Technology that supports end-to-end automation of CADCAM processes in Tebis software. Users can now master many design and manufacturing tasks significantly faster and more easily or reproduce them at any time. Tebis 4.1 Release 10 will be available this autumn.

## Tebis SmartOps technology


Whether it's about manufacturing simple or highly complex parts, every manufacturing process involves many reoccurring tasks. With Tebis SmartOps Technology, the user can rely on intelligent, sophisticated CADCAM operations that provide full automation thanks to powerful templates.

Users can benefit from ease of use, greater efficiency and maximum safety, all with consistently high quality and maximum flexibility.

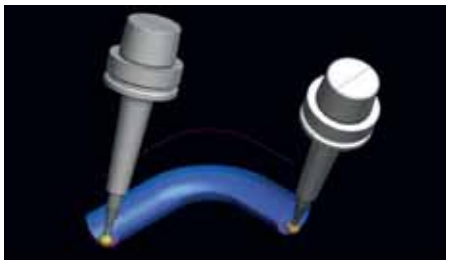
SmartOps Technology can be used with the complete set of Tebis function modules. You can tailor SmartOps to the specific tasks in your company; all your collected manufacturing know-how is managed in powerful libraries. The production will become smarter, faster and future-proof.

This new technology has already been used by several project partners. As automation product manager Torsten Fiedler shares: "Our project partners are especially excited that Tebis SmartOps can be set up entirely within the familiar CADCAM environment without the need for special scripting or programming knowledge. This is where Tebis SmartOps Technology clearly stands out from our competitors' products.

"They are also enthusiastic about the ability to flexibly adapt the CADCAM process at any time. Users are guided through individual process steps by a wizard and can intervene as necessary. The user can quickly and easily update the entire manufacturing process using parametric functions."

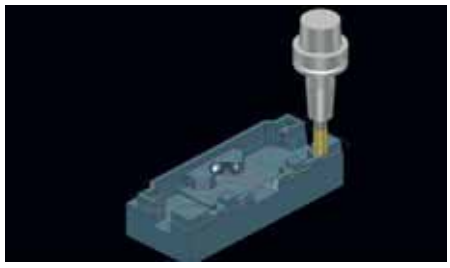
## CAM milling

Once again, Tebis has made toolpath programming for 5-axis simultaneous



machining even easier. Users can now select a curve to calculate the tool orientation. They can also specify an angle to further improve cutting conditions.

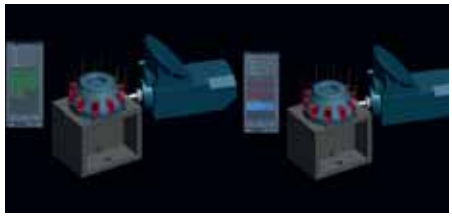
In addition, the machine retract movements can now be accurately controlled in Tebis for all 5-axis simultaneous milling functions: Retracts can be processed at rapid traverse or normal feed rate, optimally matching the retract movements to the machine type and control.



## 20 percent faster roughing

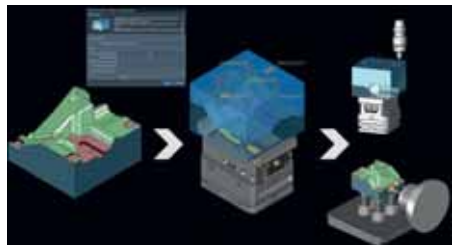
The roughing options have been further improved: Thanks to optimised infeed movements, high feed-rate cutters that enable very high metal removal rates, especially for large parts, can now be used even more efficiently and with less tool wear.

New options for combined roughing operations also ensure longer tool life and up to 20 percent faster processing on the machine. If specific areas are excluded from machining during roughing, additional filtering options can be used for even more targeted control of subsequent machining.



## Optimised connecting paths for 3-axis machining centres

Tebis also supports full control of machine control systems in which the linear axes are not synchronised. When potential for collision exists, the connecting path is automatically generated at a safe height. This lets you exploit the full potential of older 3-axis machining centres, the positioning is done at maximum speed.



## CADCAM automation

Tebis customers now also benefit from even greater automation when machining free-form features. As when machining using ruled features, you can now specify in the tool search whether the tool should be automatically replaced with a longer one in the event of possible collisions. Alternatively, users still have the option of controlling the collision check manually like before.

Free-form features are also even easier to prepare for automated CAM programming. They can be disconnected, linked, or broken interactively.

## CAD – 3D design

In some cases, to avoid residual material at the edges and protect cutting edges, free-form surfaces have to be extended tangentially for optimum milling results. In Tebis, this is fast and automatic.

The Tebis parametric solution is extremely close to the actual practice of manufacturing. You can interactively adjust the result and update it globally with a click of the mouse.

## CAD reverse engineering

Highly automated generation of wire-frame models on scanned CAD models. Wire-frame models are the basis for reverse engineering and Tebis now offers efficient, highly automated generation of wire-frame models from scanned data sets. The generated wire frame can then be optimised in a flexible manual process.

**Tebis (UK) Ltd**
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**EMO 2025: Hall 6 - Stand B30**

# CADCAM showcase with *hyper*MILL at EMO 2025

OPEN MIND will present the latest version of the *hyper*MILL® CADCAM suite and the Hummingbird MES at the 2025 EMO exhibition. These key components of networked production environments will be demonstrated with practical applications at the Hannover Exhibition Ground. The focus of the live event will be a machining demonstration using combined turning and milling.

Show parts from various industries will once again attract visitors to the OPEN MIND stand where attendees can marvel at the latest CADCAM technologies. Four workstations will be used to demonstrate *hyper*MILL functionalities and the Hummingbird Manufacturing Execution System. Attendees to the exhibition will learn about the four key components of Hummingbird MES: synchronised planning and control, machine data acquisition, tool management and CAM/CNC integration as an important step towards digitalisation.

## Example of an aerospace application

This year, a Mazak Integrex i-100H S turn/mill centre will be on display at EMO demonstrating how to manufacture an aerospace workpiece employing 5-axis technologies and *hyper*MILL® TURNING Solutions. *hyper*MILL offers a wide range of functions and strategies for mill-turning, turn-milling and turning.

## Connected manufacturing

OPEN MIND has been positioning *hyper*MILL as a vital building block in the digitalisation of process chains. Connected manufacturing will also be on the agenda at EMO, under the slogan 'Create the future of manufacturing together' to highlight the important role of the CAM system in a connected manufacturing environment. This includes the Hummingbird component of CAM/CNC integration.

OPEN MIND Technologies AG is a leading developer of powerful CADCAM solutions for machine and controller-independent programming.

OPEN MIND develops optimised CADCAM solutions that include innovative and unique features that can deliver significantly higher performance in both programming and machining.

*hyper*MILL is a completely modular CADCAM solution that provides state-of-the-art CAM technologies on its own CAD platform, from 2.5D, 3D and 5-axis machining as well as turning strategies and solutions for additive manufacturing, HSC and HPC machining. Whether automation, simulation or virtual machine, trendsetting technologies expand the product range and enable continuous digital process chains. Special applications, seamless interaction with all popular CAD solutions and exceptional customer service rounds out the company's products and capabilities.

OPEN MIND's majority stake in Manufacturing Execution System (MES) developer Hummingbird expands the CADCAM manufacturer's product portfolio and enhances the range of connected digitalised manufacturing technologies.

OPEN MIND is a Mensch und Maschine company and has subsidiaries and qualified sales partners on all continents.

Source: OPEN MIND

***OPEN MIND uses machining examples to give people at trade fairs a firsthand look at CADCAM technologies.***

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**www.openmind-tech.com**

**EMO 2025: Hall 6 - Stand A41**

# Renishaw helps Irish Manufacturing Research (IMR) to advance aerospace optics manufacturing

Renishaw has collaborated with Irish Manufacturing Research (IMR) to support groundbreaking research into Additive Manufacturing (AM) for novel aerospace materials. This collaboration is part of a Disruptive Technology Innovation Fund (DTIF) project led by mBryonics, a leading manufacturer of freeform optics for the pace industry.

Through the placement of a Renishaw RenAM 500Q Flex system at IMR's facility near Dublin, researchers are developing advanced process parameters for metal 3D printing of freeform optical components used in laser-based satellite communications. By shifting from conventional machining, where parts are cut from large metal blocks, to near-net-shape AM, the project aims to improve production speed and efficiency.

The RenAM 500Q Flex, equipped with Renishaw's TEMPUS™ technology, was selected for this project due to its ability to overcome the specific challenges of printing highly temperature-sensitive aerospace materials. Traditional Laser Powder Bed Fusion (LPBF) systems often struggle with thermal fluctuations, which can lead to defects such as cracking. The 500Q Flex's four-laser configuration and enhanced process control enable faster layer completion, while minimising temperature variations.

"Our approach will improve build quality and enable scalability," explains Colin Meade, additive manufacturing technologist at IMR. "This research isn't just about lab-based experimentation; it's about developing technology that is ready for full-scale production as quickly as possible. We need to reach a Technology Readiness Level (TRL) of around seven or higher to ensure rapid transfer to industry."

Looking ahead to the project's ambitious completion target of autumn 2026, Colin Meade adds: "In practice, this research could enable mBryonics to scale production from single-digit units per month to hundreds or even thousands."

The partnership reinforces the importance of collaboration between industry leaders and research institutions in advancing Ireland's aerospace manufacturing sector. Combining


IMR's expertise in advanced manufacturing research, Renishaw's cutting-edge AM technology and mBryonics' leadership in freeform optics, the project is set to deliver transformative results.

"Our collaboration with IMR is about more than just supplying technology, it's about providing the expertise and support needed to drive innovation," says Chris Dimery, AM business manager (EMEA) at Renishaw. "By working closely with IMR, we're ensuring that advanced additive manufacturing solutions are developed with real-world industrial adoption in mind."

For further information on the RenAM 500Q Flex, visit: ***www.renishaw.com/en/renam-500-flex***

Renishaw is a leading supplier of measuring systems and manufacturing systems. Its products give high accuracy and precision, gathering data to provide customers and end users with traceability and confidence in what they're making. This technology also helps its customers to innovate their products and processes.

It is a global business with over 5,000 employees located in the 36 countries where it has wholly owned subsidiary operations. The majority of R&D work takes place in the UK, with the largest manufacturing sites located in the UK, Ireland and India. The company's largest markets are China, USA, Japan and Germany.

Renishaw is guided by its purpose: Transforming Tomorrow Together. This means working with its customers to make the products, create the materials, and develop the therapies that are going to be needed for the future.

Irish Manufacturing Research (IMR) is a leading research and technology organisation providing a portfolio of research, training and consultancy services to industry across the following four thematic pillars: Digitisation, Sustainable Manufacturing, Design for Manufacturing and Robotics & Automation.

IMR works with leading global and indigenous brands to demystify and derisk new and emerging technologies and to deliver high impact collaborative research and services to enable advanced manufacturing for a broad range of clients across Ireland's manufacturing network.

mBryonics is a leading manufacturer of freeform optics for the space industry. The company is dedicated to developing disruptive technology and innovation to improve cost efficiencies in the face of material limitations and the cost of weight.

mBryonics is working in collaboration with a number of space agencies to build the internet in space and with the University of Galway's College of Science and Engineering and J.E. Cairnes School of Business & Economics, to establish more efficient and adaptive manufacturing technology, driving innovation and investment in the west of Ireland.

**Renishaw plc**
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**www.renishaw.com**

**EMO 2025: Hall 5 - Stand D06**

# P3 Silicone 25A for industrial-grade Additive Manufacturing applications

Stratasys Ltd has commercially launched P3™ Silicone 25A, a high-performance material developed through a strategic collaboration with Shin-Etsu, a global leader in silicone science. Designed exclusively for the Stratasys Origin® DLP platform, this general-purpose silicone enables production of flexible parts that match the performance of traditionally molded silicone.

The new material addresses a longstanding gap in industrial 3D printing, the need for genuine silicone parts that offer precision, durability and repeatability, without the time and cost constraints of injection molding. P3 Silicone 25A delivers the chemical resistance, thermal stability and mechanical behavior of conventional silicones, while enabling manufacturers to eliminate tooling, reduce lead times and support localised, low-volume production. The material has been validated in thermal aging tests up to 1,000 hours at 150°C and passed biocompatibility and flame retardancy certification.

As manufacturers seek to customise products, streamline inventory and accelerate time to market, silicone has become essential for applications such as seals, gaskets, vibration dampers, wearables and soft-touch components. Until now, few 3D printing materials have matched the performance of traditionally molded silicones. P3 Silicone 25A brings together Stratasys' production-grade P3™ DLP technology and Shin-Etsu's expertise in silicone chemistry to deliver a robust solution for end-use silicone parts.

"The proliferation of additive manufacturing in production environments depends on specialty materials that perform to the standards of traditional methods," says Rich Garrity, chief business unit officer for Stratasys. "Our collaboration with Shin-Etsu delivers precisely that. P3 Silicone 25A gives manufacturers the flexibility of additive with the trusted performance of true silicone backed by repeatable results and real-world data."

The launch marks the first in a planned portfolio of silicone materials co-developed by Stratasys and Shin-Etsu, with additional hardness levels and application-specific variants expected in the future.

"We are excited and proud to be working with Stratasys, the global leader in additive manufacturing, to bring 3D printable true silicone to market and grow together," says

Makoto Ohara, head of sales and marketing department S4, Shin-Etsu Silicones Europe B.V. "P3 Silicone 25A combines excellent physical properties and long-term reliability with detailed and precise printability. It can rightly be considered 'true silicone' in both composition and performance."

To learn more about P3 Silicone 25A and its industrial applications, visit ***www.stratasys.com***

**Stratasys Solutions Ltd**
**Tel: 01223 750296**
**www.stratasys.com**

# Lantek and TCI Cutting drive automation with an advanced sheet unloading system

Lantek, global experts in sheet metal software solutions and TCI Cutting, a specialist in high-autonomy industrial cutting systems, have jointly developed an innovative automated sheet unloading system.

Successfully implemented at several strategic customer sites, this solution optimises post-cutting material handling by eliminating manual intervention and significantly reducing downtime in the production cycle.

## Efficient automation in sheet unloading

Integrated with Lantek Expert software, the system leverages technology developed by TCI Cutting, combining an intelligent suction cup grid with its Automation Systems Load & Unload® platform for laser cutting machines. This integration enables fully automated and highly precise removal of parts directly from the cutting table.

The system detects the exact position of each part, activates only the required suction cups and ensures precise handling based on the geometry and centre of gravity of each piece. As a result, parts are unloaded without error, avoiding the suction of skeleton material or unwanted components and ensuring that each part is safely and accurately handled.

Machines equipped with TCI Cutting's Automation Systems Load & Unload manage material loading and unloading autonomously and can be connected to intelligent storage systems. Once the cutting process is complete, the processed table exits the working area and the suction system automatically removes the finished parts without any operator intervention. This streamlines the production flow while improving both safety and ergonomics.

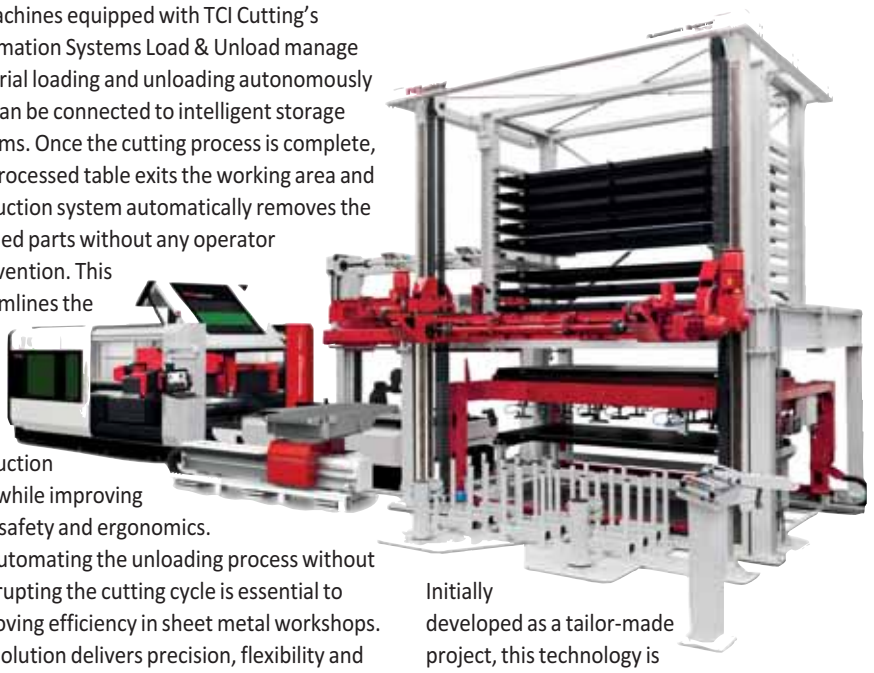
"Automating the unloading process without interrupting the cutting cycle is essential to improving efficiency in sheet metal workshops. This solution delivers precision, flexibility and better machine utilisation, reducing operator workload and optimising the entire production process," explains Francisco Pérez, OEM channel director at Lantek.

## A flexible and automated solution to optimise production

"This system not only prevents unloading errors but also provides a flexible, modular and fully customer-adaptable solution," TCI Cutting states. "Unlike traditional systems that only allow stacking of identical parts, this solution deposits all cut parts at a single point, giving the operator freedom to organise them according to production needs."

Suction cup activation can also be manually configured, giving users full flexibility to manage parts with micro-joints or complex geometries. Integration with Lantek Expert ensures advanced process control, allowing operators to fine-tune settings based on production requirements and maximise operational efficiency in every cycle.

## Scalable, modular and customisable automation for the sheet metal industry



Initially developed as a tailor-made project, this technology is now available for broader implementation. It stands as an adaptable and scalable automation solution for the sheet metal industry. With this innovation, Lantek and TCI Cutting have strengthened their commitment to industrial digitalisation and production process improvement offering sheet metal manufacturers a powerful tool to boost productivity, streamline workflows and enhance competitiveness.

## Lantek

Lantek is a multinational that is leading the digital transformation of companies in the sheet metal and metal industry. With its patented smart manufacturing software, it enables factories to be connected, turning them into Smart Factories. Lantek's services include CADCAM, MES and ERP solutions for companies that manufacture metal parts from sheet metal, tubes and profiles using any cutting technology. Founded in 1986 in the Basque Country, Spain, one of the main European hubs of machine tool development, Lantek enables the integration of sheet metal and metal processing technologies using the most advanced manufacturing management software.

The company is currently the outstanding leader in its sector thanks to its capacity for innovation and commitment to internationalisation. With more than 36.000 customers in over 100 countries and 22 offices in 16 countries, it has an extensive network of distributors with an international presence.

**Lantek Systems Ltd**
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**www.lantek.com**

## AMRC spinout company set to revolutionise advanced manufacturing

Silicon Valley veterans have partnered with the University of Sheffield AMRC and one of its leading industrial research fellows to launch DigitalCNC, a groundbreaking AI-driven precision manufacturing software company that promises to revolutionise industry. Yorkshire AI Labs teamed up with Dr Rob Ward to back the innovative AMRC spin-out venture, which represents a significant leap forward in applying artificial intelligence technologies to the manufacturing industry reinforcing Sheffield's status as a global centre of industrial innovation.

DigitalCNC is set to transform precision manufacturing by leveraging cutting-edge AI technologies to dramatically improve quality, efficiency and productivity. Its pioneering solutions have already drawn strong interest from leading aerospace manufacturers, including Rolls-Royce and Boeing.

Dr Rob Ward, who holds a joint academic position between the University of Sheffield School of Electrical and Electronic Engineering and the AMRC, is chief executive officer of DigitalCNC.

He says: "DigitalCNC represents the culmination of years of research and

development in artificial intelligence and advanced manufacturing. With my chief technology officer, David Wilkinson, we have taken our fundamental research and transformed it into an industry-ready product, which has already seen tangible benefits to UK manufacturing.

"Partnering with Yorkshire AI Labs to co-found DigitalCNC was the smart choice, bringing together our deep expertise in AI and manufacturing with a world-class team of Silicon Valley veterans, renowned for building and scaling successful businesses."

Yorkshire AI Labs is an ensemble of Silicon Valley luminaries that specialises in nurturing early-stage tech companies by combining strategic investment with practical expertise. Its involvement in DigitalCNC underlines its commitment to fostering technological innovation in the Yorkshire region.

David Richards, co-founder of Yorkshire AI Labs and a technology entrepreneur with a 25 year career in Silicon Valley, says: "DigitalCNC is built upon rigorous academic research, sophisticated mathematical modelling and real-world validation by the University of Sheffield AMRC.

"Dr Rob Ward's globally recognised expertise in machining science and control engineering is central to this pioneering venture. We are proud to support such innovative initiatives that reinforce Yorkshire's position at the forefront of global technology developments."

DigitalCNC's advanced technology has been extensively developed and validated through many years of collaborative research and development with the AMRC, renowned internationally for its excellence in translational manufacturing research and with the School of Electrical and Electronic Engineering, which has been a leader in control and systems engineering for more than 50 years.

**AMRC**
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# On the right Trak

Having successfully diversified its sheet metal offering, Hertfordshire-based Ludwick Precision was looking to grow its business. It enlisted the ERP expertise of 5S Technologies to optimise its processes and improve operational efficiency. Here, MD Ryian Ludwick outlines how MIETrak Pro software is proving an essential tool for sustainable success.

Ludwick has implemented a meticulous growth strategy, a large part of which has been integrating ERP software from Worcestershire-based providers 5S Technologies, as MD Ryian Ludwick explains: "I'm a firm believer in processes. Without an operating procedure, you're not going to grow your company," he says. "We needed a comprehensive ERP solution to seamlessly change our production inventory and scheduling. 5S Technologies caught our attention for their proven track record in addressing these specific challenges within the manufacturing sector."

### MIETrak Pro ERP Software

MIETrak Pro is MIE Solution's most comprehensive ERP system. Designed to empower manufacturing companies in overseeing all areas of their operations, it encompasses production planning, scheduling, inventory control, procurement and quality management. By optimising these processes, MIETrak Pro helps manufacturers enhance their overall efficiency, respond more effectively to customer demands and boost profitability.

Designed with flexibility at its core, MIETrak Pro software offers a fully customisable approach to optimising manufacturing processes. "MIE created dashboard widgets for individual departments to optimise the front end for our various users," Ryian Ludwick explains. "Prior to MIETrak we'd use spreadsheets and emails for generating RFQs; now our estimators have standard operating procedures that are faster, smoother and make it easy to onboard new staff."

"We've also been able to set up all our own inventory categories for consumables and create our own sequential, internal codes for everything. You can change up the whole system to suit your needs and it allows you to go deep.

### A supportive partner

MIE Solution's comprehensive training and user onboarding has helped smooth the introduction of the new software and the 5S Technologies team are always on hand when Ludwick requires assistance. Ryian Ludwick concludes: "MIE have gone out of their way to help tailor the solution to our manufacturing needs. They've got excellent customer service and they're competitive in terms of what other ERP systems are offering.

"If you're looking to achieve sustainable growth, MIETrak is a leading software in terms of its flexibility and agility. It isn't an instant fix, but it is the answer."

**5S Technologies**
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**https://5-s.co.uk/**

# Four reasons to always use OMAX genuine parts

The appeal of saving money can sometimes overshadow the importance of quality and compatibility. However, when it comes to critical components of your waterjet system, those short-term savings can often lead to long-term compromises. Aftermarket parts frequently fall short of matching genuine OEM components' precision, durability and reliability, resulting in diminished performance, premature wear and potential issues that could cost you more in the long run.

Since 1993, the OMAX brand has revolutionised the world of waterjet cutting machines, offering precise, affordable and user-friendly systems. Today, as a leader in advanced abrasive waterjet systems, the company understands the importance of safeguarding your investment with genuine OEM parts. Choosing genuine OMAX OEM parts ensures you work with the best possible parts for your waterjet system. Here are four compelling reasons why this choice is a smart one:


## Quality

**1. Made with quality and precision**

OMAX OEM waterjet parts are crafted with the same expertise, attention to detail and high standards for designing these state-of-the-art abrasive waterjet machines. Every part is engineered to OMAX-specific dimensions and tolerances, ensuring exact compatibility and reliability. Additionally, these parts are manufactured from the highest quality materials and alloys, providing durability that aftermarket waterjet cutting components often fail to achieve. While aftermarket components may seem cost-effective initially, their frequent failures frequently lead to higher expenses over time. With OMAX OEM parts, performance issues are resolved with lasting effectiveness, making them the best possible parts for a wiser long-term investment.

## Tested

**2. Designed and tested for OMAX systems**

OMAX genuine parts result from meticulous engineering and rigorous testing, crafted by the same experts who develop the company's cutting-edge waterjet cutting systems. These parts are specifically designed to integrate seamlessly into your OMAX machine, ensuring maximum reliability and functionality while eliminating risks associated with using non-compatible aftermarket parts. With OMAX OEM parts, you get peace of mind from knowing your abrasive waterjet operates with components designed exclusively for optimal performance.

## Uptime

**3. Maximise system performance**

Using genuine OMAX waterjet parts guarantees your machine's high-pressure plumbing, precision systems and pump components remain in peak condition. This translates to consistent, high-quality waterjet cutting performance that saves time and money. Maintaining your system with OMAX OEM parts protects your manufacturer's warranty, offering you extended service and security. In contrast, aftermarket waterjet cutting parts can often lead to warranty complications and unexpected downtime, compromising your investment's value.

## Cost

**4. Less downtime when issues arise**

If maintenance issues ever occur, troubleshooting becomes significantly simpler when OMAX genuine parts and consumables are involved. OMAX expert support technicians can quickly and accurately identify the problem, ensuring minimal disruption to your waterjet operations. In many instances, aftermarket components cause failures, including pressure spikes, dead heads and early fatigue. These non-OEM parts can damage your abrasive waterjet machine, leading to costly repairs. Genuine OMAX parts streamline diagnostics and repairs, giving you confidence in the longevity and efficiency of your waterjet cutting system.

By choosing OMAX OEM parts, you're protecting your waterjet system and ensuring it runs like new for years to come. The OMAX dedicated team of engineers, field service technicians and phone specialists are ready to help you select the best possible parts and consumables for your waterjet cutting machine when needed. While saving money is always a consideration, genuine OMAX parts are the key to long-term savings, enhanced waterjet cutting performance and maximum cost-effectiveness.

**UK agent:**
**Aquajet Machining Systems Ltd**
**Email: sales@aquajet.co.uk**
**www.aquajet.co.uk**

# Why waterjet cutting is surprisingly eco-friendly

When you hear the phrase "high-pressure jet slicing through metal," you might not immediately think "eco-friendly." But in the world of manufacturing and fabrication, water jet cutting has quietly built a reputation as one of the greener options available.

Let's explore why this high-tech process has more eco-friendly credentials than alternate options.

## No nasty fumes or airborne toxins

Unlike laser or plasma cutting, waterjet cutting is a cold-cutting process. There's no heat involved, which means there's no burning, melting, or vaporising of materials and, crucially, no toxic fumes or dust released into the air.

That's not just better for the planet, it's better for the people working nearby. Clean air, safer workspace.

## Less waste, more efficiency

Waterjet cutting is famously accurate, we're talking tolerances as tight as 0.1 mm. That means less offcut waste, fewer rejected pieces and a more efficient use of materials overall.

For industries trying to reduce landfill contributions or improve sustainability credentials, that's a big win. Less waste means lower costs and a lighter environmental footprint.


## It's mostly just water

This one seems obvious, but it's worth saying: the main ingredient in waterjet cutting is just ordinary water, boosted with abrasives for tougher materials. There are no harsh chemicals, gases, or oils involved and, better still, many modern systems are built to recycle the water used; collecting it, filtering it and sending it back round again. It's not quite an eternal water feature, but it's close.

Sure, waterjet machines still use power, after all those pumps don't pressurise themselves. But compared to laser cutting, which needs high-energy beams, or plasma systems, which require gas heating, waterjets can be a more efficient option.

When combined with smart systems that only use the power and water when needed, the overall footprint can be impressively small, especially for what they're capable of producing.

## Safer disposal and clean-up

There's also less to clean up, no toxic sludge, no chemical-laden dust, no hazardous materials to dispose of. As the process works across so many materials, from food-grade rubber to stone and steel, it often avoids the need for separate, more wasteful methods.

Everything is contained, clean and safe to manage. It's as neat as industrial processes get.

**TMC Waterjet**
**Tel: 01625 610 441**
**www.tmcwaterjet.co.uk**

# "Your wish is our command" A tradition of tailored solutions

"Your wish is my command." These iconic words from the tale of Aladdin perfectly capture the spirit in which Waterjet Sweden (WJS) approaches product development and customer solutions at, transforming complex challenges into high-performance results.

Over the years, the evolving needs and valuable insights of WJS customers have shaped its products into one of the most comprehensive and adaptable waterjet cutting machine ranges in the industry. Whether you're in search of a standard machine or have unique or complex requirements, its machines are engineered to meet the demands of a wide variety of industries and applications. However, what if standard options don't quite meet your needs? That's when its expertise in custom engineering really comes into play.

Flexibility, innovation and close cooperation are at the heart of everything that the company does. Each custom solution is developed with the same uncompromising commitment to quality and precision that defines all of its products. The product range isn't just broad, it's designed to adapt to today's demanding and dynamic manufacturing environments. When specific requirements call for something more, the WJS team works side by side with clients to develop tailor-made solutions that ensure their exact specifications are met, delivering machines that are as unique as the challenges they're built to solve.

*Machine specially adapted for cutting roof tiles.*

## Bespoke solutions in action

Here are just a few real-world examples of how WJS has turned customer requests into cutting-edge technology:

**Tile cutting, perfected**

A machine specially adapted for the precision cutting of roof tiles, built to handle distinct material properties and shapes with minimal waste and maximum efficiency.

**Abrasive cutting for high-volume output**

A powerful system featuring eight high-performance abrasive nozzles mounted on a beam, enabling efficient volume production without compromising on accuracy.

**Complex geometry, controlled precision**

An advanced setup with six independently controlled cutting heads, including two 5-axis Beveljet 60 units. With 18 synchronised axes, this system delivers exceptional precision and multi-angle capabilities for intricate components.

**High-performance composite cutting**

A specialised station designed for full 3D production of carbon fibre parts, meeting the stringent demands of industries where strength, lightness and precision are critical.

*Eight high-performance abrasive nozzles strategically mounted on a beam for efficient volume production.*

**Integrated into the line**
A fully integrated waterjet cutting station developed for high-efficiency production lines, ensuring seamless operation and streamlined throughput within complex manufacturing setups.

## Upgrade your 2D cutting with Alphajet TVL

Alphajet® TVL is the new generation of mechatronics for vertical cutting. With a design of 45-30-30 mechatronics, fixed TCP and low rotation point, only very small, precise movements are required to achieve a perpendicular cut. The concept of TVL includes three functions that compensate for the dynamics of the waterjet cutting process, TAC, VOC and LAG.

### Quick and easy upgrade

The Alphajet TVL can handle both 4100 and 6200 bar water pressure. An upgrade from 2D to Alphajet TVL cutting tools includes the Alphajet unit, software upgrades, any new hardware needed, installation, commissioning, performance measurement and user training. To minimise downtime, WJS delivers Alphajet pre-assembled. Installation and commissioning take about two business days and one day of user training.

The main requirement for the upgrade is a machine with a 4-axis FANUC-CNC control with PanelOne®. On older machines, the control system can also be upgraded.

### TVL functions explained

The TVL functions compensate for the dynamic properties if the waterjet cutting process.

### Taper Angle Control (TAC)

The TAC controls the incision size of the bottom side of the part. To be able to make a vertical cut and correct measurements the jet need to be tilted in different directions. With a fast-cutting speed, the jet will make a conical cut. On example B the speed is slower, getting a wider bottom. At C the jet is tilted with the angle of V and one side becomes vertical.

### Variable Offset Control (VOC)

The VOC controls the size of the top side of the part. The jet will remove more material when you cut with a slow speed than when you cut with a fast speed. To obtain correct measurements the VOC change the kerf depending on the actual cutting speed. In the picture the kerf is smaller at A and wider at B since the speed is faster at this point.

### Lag Control (LAG)

When cutting through the material the jet on the downside will be reflected opposite to the cutting direction F. The reflection is called the LAG. The LAG will increase with a faster cutting speed than with a low speed. Lag Control means that the cutting angle V is adjusted so the front position on the topside is perpendicular to the front position on the bottom side, B and C.

### World class waterjet cutting machines for industry

Water Jet Sweden develop, design and build world-class, industrial waterjet cutting machines. Starting at entry-level with a wide range of optional functions through to systems for highly bespoke waterjet cutting optimised to specific requirements, all its waterjet cutting machines are built to order in Sweden.

From 1m², up to the largest at 6 m x 15 m, these are professional, heavy-duty waterjet cutting machines made to last with typically 20+ years of machine life. Available from single head up to 6 abrasive cutting heads, or 12 pure water heads there's a choice of cutting table configurations and Z axis units with linear motors for maximum flexibility. WJS UK has been the authorised partner for sales, service and technical support of the full range of Waterjet Sweden Machines in the UK since 2004.

**WJS UK Ltd**
**Tel: 01937 845 499**
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**www.waterjetsweden.co.uk**

# Rethinking subcontracting with smart bending

## The Unifabs journey with Salvagnini

Founded in 2007, Unifabs was born from a clear ambition: to go beyond basic subcontracting and become a strategic manufacturing partner. In just over a decade, the company has undergone a remarkable transformation, growing from a small metalworking shop into a highly structured operation in Nuneaton, with 160 employees working across two shifts and an annual turnover exceeding £16 million. This growth has been driven by a steady expansion of capabilities, a strong commitment to vertical integration and, crucially, the strategic adoption of automation across the business: from product design and engineering to laser cutting, CNC punching, bending, welding, powder coating, assembly and logistics.

While the foundations of this evolution were laid early on, a decisive turning point came in the past five years with a focused investment in smart, automated processes, among them Salvagnini panel bending technology. The first P2, installed in 2021 and a second in 2023, have significantly boosted productivity and flexibility in the bending department enabling Unifabs to handle higher volumes, greater product variety, and tighter lead times with ease. Far from being just a new machine on the floor, these investments have marked a step change in Unifabs' operational efficiency and service offering, reinforcing its role as a reliable, end-to-end partner for OEMs.

### A CEO with a clear vision

Jason Austin, CEO and co-founder, has been at the helm since day one. He states: "We always knew we had to differentiate ourselves. For a subcontractor, you're often judged on price, but we've worked hard to shift that conversation to value: how fast we can deliver, how consistent our quality is and how we help our customers improve their own designs.''

That shift gained momentum in 2020, when Unifabs invested in its first Salvagnini P2-2516, fully equipped with CLA, P Tool, DPM and RSU options for maximum flexibility. Jason Austin explains: "We'd looked at panel benders before,


but we thought they were limited. The truth is, panel bending has always been this capable. It's not the technology that's changed, it's the way we think about it. You need to approach it with a different mindset. Once we did, a whole new set of possibilities opened up.''

As a matter of fact, like all Salvagnini panel benders, the P2-2516 chosen by Unifabs natively combines productivity with automatic bending and handling cycles averaging 17 bends per minute and flexibility, thanks to its universal bending tools. No retooling is required, as the upper and lower blades, counterblade and blankholder are universal and can process the full range of thicknesses and material types. The ABA automatic blankholder adjusts the tool length in-cycle based on the size of the part being produced, eliminating downtime or manual intervention for tool changes. The P2-2516 offers a maximum bending length of 2,500 mm and a maximum bending height of 165 mm and it is capable of processing sheet thicknesses up to 3.2 mm, making it suitable for a wide range of applications in sheet metalworking.

Moreover, the CLA auxiliary blades, modular in length and available in both positive and negative configurations, enable the creation of upward or downward tabs and short-side bends.

### Panel bender: the great equaliser

For Jason Austin, the impact was immediate and transformative: "What we gained with Salvagnini was repeatability, speed and a level of design flexibility we didn't think was possible before. Suddenly, we weren't just making the parts we were helping our customers rethink them."

In 2023, Unifabs purchased a second unit, a P2-2120, this time equipped purely with CLA blades. This second panel bender features a configuration similar to the P2-2516, but with different dimensional limits. It offers a maximum bending length of 2,180 mm and a maximum bending height of 203 mm.

### Subcontracting, redefined

Subcontractors face a constant balancing act of fast lead times, small batch sizes, constant variation. It's a world that demands both flexibility and control.

Steve Williams, managing director of Salvagnini UK, puts it plainly: "For subcontractors, a panel bender like the P2 isn't just a productivity tool, it's a positioning tool. When OEMs ask me which subcontractors have Salvagnini, it's because they know those companies will deliver consistent quality, fast turnaround and the design intelligence to do more with less. That's what makes them stand out."

**Salvagnini UK & Ireland Ltd**
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# RK International Machine Tools and HACO launch OptiForm CNC Press Brake in the UK & Ireland

RK International Machine Tools is proud to continue its partnership with Belgian sheet metal machinery manufacturer HACO, introducing the HACO OptiForm 30150 CNC Press Brake to the UK market. This collaboration brings a new generation of high-performance, cost-effective bending technology to British manufacturers, combining European engineering with local support and service.

## A smart investment for UK fabricators

The OptiForm Series (OPF), launched in 2025, is HACO's reimagining of the entry-level CNC press brake. Designed for efficiency, ergonomics and fast delivery, the OptiForm 30150, 3.0m, 150T, is ideal for workshops upgrading from manual brakes or expanding capacity.

Key features

- A compact footprint with a rigid frame.
- HACO EasyBEND multi-touch CNC: a PC-based 2D graphical control for intuitive operation.
- Two configurations:
  - o Standard: 2-axis backgauge with manual crowning.
  - o "+" Version: 4-axis backgauge (X, R, Z1, Z2) with CNC crowning.
- The HACO OptiForm is manufactured in the EU.

UK manufacturers benefit from shorter lead times, budget-friendly pricing and full UK-based support from RK International, including installation, training and after-sales service.

"The OptiForm is a smart, future-ready solution for fabricators who want to modernise without overinvesting," says Bart Huys, global sales manager at HACO. "We've combined the simplicity of our SynchroMaster with a modern design and intuitive control, making it perfect for the UK market where flexibility, reliability and value are key."

## Expanding the HACO range in the UK

The OptiForm complements HACO's established range of sheet metal equipment, now available through RK International, including:

- Guillotine shears with up to 6,000 mm cutting capacities.
- Fibre laser cutting systems.
- Plate rolls.
- Steelworkers.
- EuroMaster, SynchroMaster and HDSY press brake series.
- Robotic bending cell with the HACO Robobend FLEX: Ideal for UK manufacturers seeking to streamline production.

## See it in action

With the proximity of HACO to RK Live, demonstrations of the OptiForm 30150 are now available. For more information, visit ***www.rk-int.com*** or contact the sales team at ***sales@rk-int.com***

**RK International Machine Tools Ltd**
**Tel: 01322 447611**
**www.rk-int.com**

# How MEBA customers have revolutionised their production with efficient sawing solutions

Sawing steel and stainless steel is the first step in the value creation and production chain, in other words this first step must be of the highest quality and must be carried out efficiently to ensure smooth processing and successful, economically profitable end products. MEBA is a professional metal bandsaw manufacturer and has specialised in the production of mitre and double mitre bandsaws for many decades.

The current market environment demands a high degree of efficiency and cost-effectiveness in all companies, whether small or large. So, it is not enough to have a top band saw. You need intelligent solutions around the saw. The trend has therefore long been moving away from individual saws and towards intelligent overall concepts: top modern bandsaws for metal are at the heart of this. These are embedded in systems for automation, material handling, measuring stops, additive manufacturing or even IT solutions such as an intelligent control system for a high degree of networking and efficient processes from start to finish. Of course, MEBA does not implement these systems alone but has strong solution partners in its network. This is how the return on investment in sawing technology is achieved in the first step. In the next step, the overall concepts make a fundamental contribution to the efficiency and success of MEBA customers.

## Advantages of MEBA sawing systems in different industries

The trained car mechanic founded his own company for mass finishing work in a garage at the age of almost 40. Thanks to his commitment and customer focus, the company grew quickly, so that after eight years the entrepreneur already had 14 employees and had to relocate several times because the premises kept becoming too small. Today, the company generates a third of its turnover from contract sawing work. In order to be able to process these reliably in terms of quality, time and price, the entrepreneur invested in modern machines, including a MEBAeco 335 double mitre saw with infeed roller conveyor. The sawing machine has significantly increased the company's productivity and ultimately made new orders possible.

## Efficient sawing solutions for metal construction

A metal construction company from Heroldstadt in the Swabian Alb has three MEBA saws in use and recently expanded its MEBAmat 330 straight-cutting machine to include automation with a robot. Together with the existing MEBAmat 407A and MEBAmat 434 models, the company now uses three generations of the carbide-compatible machines, which are designed for efficient use in industry and the steel trade.

The MEBAmat 330, just like the other models in the MEBAmat family, is characterised by its ability to effortlessly cut solid or difficult-to-cut materials and offers technical features that increase productivity, quality and user-friendliness. An employee of the company emphasises the reliability and ease of use of the 330 model, which includes a material database that facilitates the selection of cutting values. The machine offers a search function for materials and automatically recommends the right saw blade.

## Automation in sawing technology

The company reports that employees can be deployed much more flexibly thanks to the robot. There were also frequent stops in the production line during cleaning. Since the robot has been carrying out the tasks, this happens much less frequently. The MEBA robot works around the clock and always delivers the same high level of work. The robot has often processed the parts unmanned overnight on the band saw for metal so that work can continue straight away in the morning.

MEBArobots contain know-how specifically geared towards sawing applications. Not just any robot is connected to a saw. With the robot manufacturer Nachi and MEBA, two professionals are working together to ensure that robots and saws communicate smoothly with each other. The user receives an integrated, customer-specific system solution from a single source. The company from Heroldstadt also worked together during the planning phase to determine what exactly the robot should do and how it should support the further processing of the parts.

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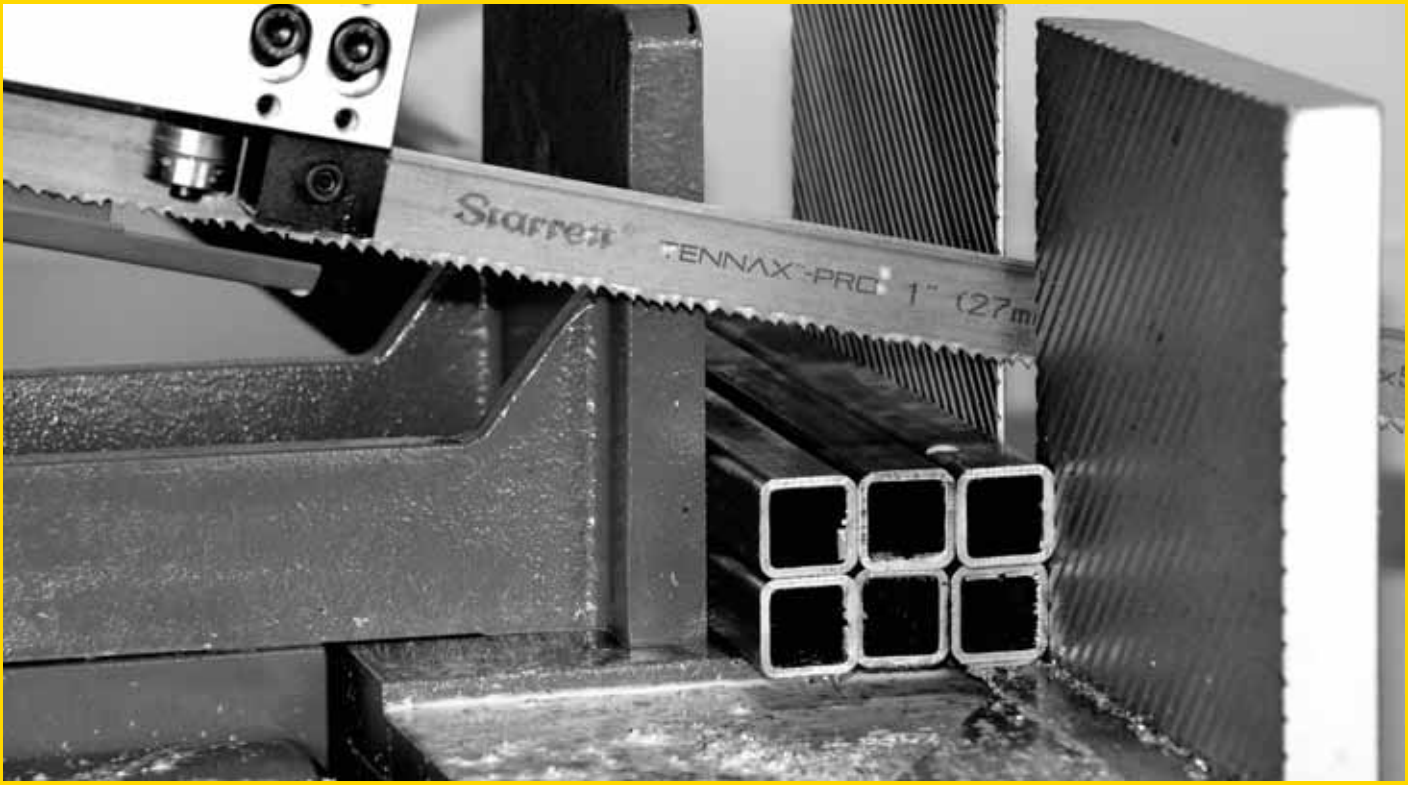


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# Intelligent automation

## Sawing and stacking cylindrical tubes

Neumeister Hydraulik, based in Germany, modernised its sawing centre and relies on a fully automatic system from BEHRINGER. Thanks to the new system, cylinder tubes can now be sawn fully automatically and the sections automatically stacked in pallet cages, an important step towards efficiency and futureproofing.

In 2024, the transport of the 330-tonne submarine U17 from the Technik Museum Speyer to the Technik Museum Sinsheim became a special event in southern Germany.

The challenge: How do you safely move a colossus of steel and iron that was built for use in the water over the road? Such heavy transports require special equipment, from special tractor units to low-loaders with up to 30 axles and numerous hydraulic cylinders that act as axle compensation cylinders and carry the enormous weight. These special hydraulic cylinders for heavy loads are manufactured by a hidden champion from Neuenstadt am Kocher, Neumeister Hydraulik GmbH.

Neumeister Hydraulik GmbH was founded in 1929 by Otto Neumeister in Neuenstadt am Kocher. The first product was a simple grease gun. The company continued to develop over the decades and today employs around 300 people. Neumeister specialises in the development and manufacture of hydraulic cylinders for lifting heavy loads.

"All major manufacturers of heavy-duty vehicles for moving heavy goods are customers of ours. With a suspension cylinder in particular, we can claim to be the market leader in this area," says managing director Karl Reinhard, describing the company.

Neumeister's main sales markets are in Germany and Europe, although America and Asia are also important regions. Stephan Reinhard, head of production planning and authorised signatory, explains: "There is hardly a country where a Neumeister product is not on the road. They reach their sales markets via our customers."

"We are not the typical series supplier, but the one who solves the customer's problems and then sells the product," says Ulrich Möller, production manager at Neumeister, describing the company's motivation.

### The need for a new, efficient sawing solution

Neumeister invested in a BEHRINGER sawing centre back in 2000/2001. After more than 20 years of intensive use in two-shift operation, the gearbox broke down. Thanks to BEHRINGER's dedicated service team and co-operation with the gearbox manufacturer, the old system could be repaired. Nevertheless, it was clear that a long-term modernisation of the sawing system was necessary. The new investment was intended to further increase the degree of automation, reduce setup times and increase system throughput. The challenge was that the system had to be replaced within a tight time frame.

### Range of materials

Neumeister Hydraulik produces around 100,000 hydraulic cylinders per year for a wide range of applications. For cylinder production, mainly round tubes with outer diameters of 50 to 250 mm are sawn. The tube sections usually have a length of 1 to 1.2 m.

In addition, many short sections with a length of around 20 mm are required for the production of flanges.

The sawing centre is located in the transition

area between the material warehouse and production. The tubes and rods, which can be up to nine metres long, are stored in high-bay warehouses and stanchion warehouses. They are loaded via an indoor crane, both for individual bars and for entire bundles.

### Chain magazine for bundles

Neumeister opted for a modern chain magazine that enables entire bundles to be efficiently loaded and easily separated. This reduced crane movements and simplified operation. In addition, the magazine has a remnant storage system to divert long remnants back to the infeed side and store them again. The entire material handling process is fully automated. "Initially, the employees were somewhat sceptical about the larger dimensions of the loading magazine," explains production manager Stephan Reinhard. "In the meantime, they have recognised the noticeable added value in terms of convenience when loading materials."

### High-performance band saw for maximum precision

At the heart of the new sawing centre is the HBM440A-PC-E high-performance band saw with a cutting range of 440 mms. Thanks to the PC control system, it is designed for fully automatic operation and is easy to use.
The SpeedCutting technology of the HBM440A, in combination with dynamic process control for pipes, significantly increases system

throughput. The machine continuously adjusts the saw feed to the material cross-section and thus ensures optimum utilisation of the tool. This increases both the cutting performance and the service life of the saw blades.

While the old sawing system required a saw blade change every two days, the HBM440A-PC-E has extended the service life of the saw blade to one week. Chip accumulation is no longer a problem thanks to the powerful hinged belt chip conveyor in the funnel-shaped machine bed.

"The run-in programme for the band saw blade was a major step forward. Previously, the bi-metal band saw blade was permanently damaged right from the start," explains Stephan Reinhard, production manager and authorised signatory at Neumeister Hydraulik.

On the discharge side, a cut-off sorting device consisting of a cut-off gripper, a double-sided push-off device and individual storage compartments ensures efficient sorting of the sawn parts. The discharge-side gripper enables the reliable disposal of even very short parts, off-cuts and remnants.

## Automatic stacking with the magnetic gantry

One highlight of the system is the integrated magnetic gantry, which enables the sawn cylinder tubes to be stacked fully automatically in up to three mesh boxes. Depending on the material diameter, the system uses different stacking patterns and fills the mesh boxes to the defined filling height.

The magnetic gantry is designed for bar weights of up to 500 kg. Compared to an industrial robot with a similar lifting force, it is significantly cheaper to purchase.

## Tangible benefits from the new sawing centre

The investment in the new fully automatic HBM440A-PC-E sawing centre from BEHRINGER brings numerous benefits for Neumeister Hydraulik. Fully automated processes and reduced staff retention counter the shortage of skilled labour and ensure the future viability of the company. Particularly noteworthy is the significant increase in system throughput thanks to the powerful band saw. The precise, repeatable processes ensure greater transparency in production and enable better planning.

Thanks to the high cutting quality, the allowance could be significantly reduced, which saves material and minimises reworking. The system was installed smoothly within a tight time frame and the saw is now running reliably in 2 to 2.5-shift operation, a complete success for Neumeister Hydraulik.

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# Amada sawing machines, blades, spare and service now available exclusively from Amada UK Ltd


AMADA sawing machines, blades, spares and service will be available from AMADA UK. The previous UK representative for these products, Accurate Cutting Services, has ceased its distribution commitments. The reason behind the mutually agreed new arrangement is twofold: firstly the projected growth of AMADA's core products with direct global support, but also a shift in business strategy at Accurate Cutting Services, which wishes to concentrate on its subcontract sawing services. AMADA UK and Accurate Cutting are currently working together to ensure a smooth transition. During this period, customers can continue placing orders through Accurate Cutting Services, but AMADA UK will undertake fulfilment. A notification will be issued when the transition process is complete.

In the short term, nothing will change. Customers can expect the same prices, shipping, delivery, customer support and warranties. AMADA UK will honour existing warranties on new AMADA machines sold by Accurate Cutting Services.

"We would like to thank Mark Fleeming, Bryn Pritchard and the Accurate Cutting team for their years of commitment to our products," says Paul Mansfield, managing director at AMADA UK Ltd. "We now look forward to providing their customers with the same level of service but supported by a larger organisation with worldwide support."

AMADA sawing machines span a wide range of high-performance bandsaw, horizontal, pulse, vertical and circular sawing models. The machines are adept at performing high-quality cuts in all engineering materials.

Existing customers of Accurate Cutting Services are cordially invited to attend upcoming events at AMADA UK's Technical Centre in Kidderminster, either for a friendly introductory chat with the company's team of expert professionals, or to discuss any current or future sawing challenges.

## About AMADA

Established over 50 years ago, one of the fundamental principles of AMADA UK is to work closely with its customers. This allows it to continually assess and improve the levels of service that it offers.

The UK Group consists of the UK, Ireland, Spain, Portugal, Denmark, Sweden and Norway. Utilising a vast resource of staff within the block, it has established dedicated teams of specialists in installation, planned servicing, breakdown repair as well as centralising key services such as marketing and IT.

AMADA UK Technical Centre based in the Midlands is specifically designed for machine demonstrations and verification of the latest technology in lasers, punches, press brakes, tooling, automation and software.

## About Accurate Cutting Services

Accurate Cutting Services can provide sawing solutions to a wide range of cutting problems, producing results where other technologies fail.

Subcontract cutting services sawing metals and non-metals in finished, part finished, rolled, cast, forged or mill form with a 25-tonne max lift capacity, 1,600 x 2,000 mm section, 1,000 mm high by 6,000 mm long for all metals. Cutting of metal plate, bar, castings, forgings, fabrications and part machined items in stainless steel, nickel alloys, steel alloys, titanium, aluminium etc. is within its capability.

Even with the saw maximum capacities, it can often cut larger items depending on the particular cut to be achieved, contact the company directly to discuss your requirements. Accurate Cutting Services can provide sawing solutions to a wide range of cutting problems, producing cost-effective answers where other techniques have failed.

Its sawing skills are founded on over 55 years' actual sawing experience from a vast range of jobs with almost all metals used in manufacturing and in either as mill or finished machined forms. The Midlands based saw shop can take most ferrous and non-ferrous metals, with sections from 12 mm to 2,000 mm thick and slab and plate up to 6,000 mm long, 1,060 mm thick and 25 tonnes in weight.

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# Advanced Engineering 2025

Taking place on 29th & 30th October 2025 at the NEC Birmingham, Advanced Engineering is the UK's only event that connects the entire industrial ecosystem, now featuring exciting new additions like the expanded Composites Pavilion, the SME Village, the ADS Pavilion, AM2 Forum (Additive Manufacturing and Advanced Materials Forum) and a focused Electronics Zone. Together, these zones provide fresh opportunities for innovation, collaboration and growth, all designed to power the possible.

This year's event comes at a pivotal moment for UK industry, following the government's announcement of a new 10-year industrial strategy. With measures that could reduce electricity bills by up to 25 percent for over 7,000 manufacturing firms and billions earmarked for innovation, R&D and AI, the strategy signals a renewed focus on long-term industrial growth, a direction that will be reflected across the show floor at Advanced Engineering 2025.

The show will also champion real-world problem-solving and high-value manufacturing, from net-zero composites to energy-efficient processes. By bringing engineers and innovators together, meaningful change and the industry's most pressing challenges across all sectors can be addressed, including sustainability and skills development.

Following a record-breaking 2024 event that welcomed over 9,800 professionals, attendees can therefore look forward to two action-packed days, filled with cutting-edge technology demonstrations, expert-led forums and networking opportunities.

A highlight for 2025 is the newly expanded Composites Pavilion, now in its fourth year and fully booked well in advance. Delivered in partnership with Composites UK, the pavilion offers smaller companies and SMEs turnkey exhibition pods, complete with branded displays, video screens and shelving making it easy and cost-effective to showcase their innovations. Strategically located next to the

Composites Networking Zone, the pavilion provides high visibility and attracts key OEM visitors.

Alongside the pavilion, the Composites Networking Zone will feature hands-on demos from PRF Composite Materials, showcasing cutting-edge prepreg systems including rapid processing RP570 presses and innovative recycled carbon solutions. Insights from end users across aerospace, automotive, marine and renewables will highlight how composites are driving high-performance applications and net-zero ambitions across sectors.

Building on this, Composites UK has reimagined the Composites Forum for 2025, curating two full days of expert-led sessions focused on sustainability, material circularity and new product development, all aimed at strengthening the sector's innovation and collaboration. Here, the Composites Networking Zone will be a key feature, with PRF Composite Materials hosting interactive demos and networking sessions designed to foster valuable industry connections.

The event will also reinforce the role of SMEs and agile innovators through dedicated spaces such as the SME Village, platforming disruptive technologies across automation, embedded systems, semiconductors and more. These zones underscore the crucial role SMEs play in driving innovation and growth across the UK's engineering and manufacturing sectors.

"Advanced Engineering is the only UK event that connects every corner of the industrial ecosystem," says Simon Farnfield, event director of Advanced Engineering at Easyfairs UK & Global. "With zones focused on composites, electronics and SME innovation and forums designed to address the industry's biggest challenges, the 2025 edition is set to deliver even more value for visitors and exhibitors alike. This edition will feature over 400 exhibitors, including more than 130 making their debut, meaning that a lot of the stands will offer something brand new to discover."

What's more, Atlas Copco is returning as the sponsor of the Automotive & Aerospace networking lounge for this year's event, following great success at the 2024 Advanced Engineering show.

Over 200 expert speakers are also set to take stage across multiple forums to explore key topics including digitalisation, supply chain resilience, sustainability and government policy. The event will also continue its #MINDTHEskillsGAP initiative, launched to help tackle the UK's ongoing shortage of engineering and manufacturing talent.

In addition, Composites UK will co-locate its prestigious Industry Awards Dinner on the evening of 29th October at the neighbouring National Motorcycle Museum, providing a prime networking opportunity for sector leaders.

Advanced Engineering is once again co-located with Lab Innovations, with all attendees receiving a single badge granting access to both events. Register today at: ***https://www.advancedengineeringuk.com***

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