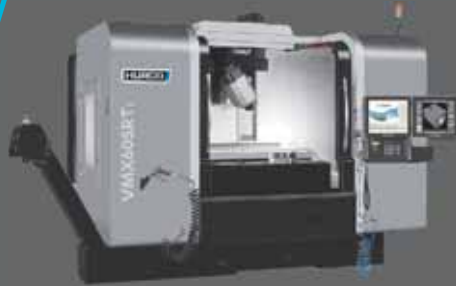


HURCO

Your partner for 5 axis machining

See us at Southern Manufacturing and Electronics 6th-8th February 2024

SRTi Range



- Features a swivel B axis and a rotary C axis set in the table
- Maximum 5 axis capacity within a minimum footprint
- Can also be used as a full-capacity 3 axis machine
- Machines available ex stock

Ui Range

- Most economical 5 axis configuration
- 3 model sizes and several spindle options
- Easy to automate with ProCobot or Erowa options
- Machines available ex stock



Transform plane feature for 5-sided programming

DCX-5Si Range

- For the BIGGEST of 5 axis jobs
- Machines up to 4.2m in X and 2.6m travel in Y
- High-speed or High-torque spindle options available
- Massive rigid structure for improved accuracy



Simultaneous 5 axis is standard on all Hurco 5 axis machines

Vci/VcXi Range

- Cantilever design allows excellent access
- Ideal for one-offs
- Greater Z clearance
- Entry-level and high performance models available



Several configurations to suit your application



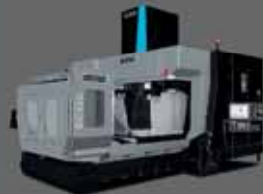
MACHINING CENTRES

TURNING CENTRES

5 AXIS

DOUBLE COLUMN

SUPERIOR CONTROLS



Same Iron,

XYZ 750 LR



SIEMENS

*With over 15,000 ProtoTRAK®
have the programmer/*

*Our ProtoTRAK® machines are now
so it is capable on volume production*



XYZ 500 LR



XYZ 750 LR



XYZ 1000 LR



XYZ 1600 LR

XYZ
Machine Tools

01823 674200 | sales@xyzmachinetools.com

www.xyzmachinetools.com



Different Control.

XYZ 750 TMC

Brilliant
for 'one offs'
and small
batches



or ProtoTRAK®

controls in use today, you may
operator already in your building.

available fully enclosed with a toolchanger,
and still great for a 'one off'.



XYZ RMX 2-OP



XYZ 500 TMC



XYZ 750 TMC



XYZ 1000 TMC



XYZ 1600 TMC

**XYZ Showrooms | Livingston | Huddersfield
Sheffield | Nuneaton | London | Devon | Zabrze**



CITIZEN

Market-leading CNC machining with every turn

Whatever your bar-turning requirements, Citizen Machinery leads the way with two of the foremost names in CNC machining – **Cincom** and **Miyano**.

Our highly-efficient technologies including **Low Frequency Vibration cutting**, **Eco Function** and **Integrated Laser Solutions** ensure you maximise your return on investment **with every turn**.

LFV
technology



Cincom

CNC sliding head lathes - bar capacity ranging from 1mm to 38mm diameter



Miyano

Fixed headstock mill-turn centres - bar capacity up to 80mm and larger billet sizes



Talk to our experts and experience our machines at our **Citizen Solution Centre** in Hertfordshire and **Turning Centre of Excellence** in the Midlands, contact us today to discuss your CNC machining bar-turning requirements.



+44 (0)1923 691500
sales@citizenmachinery.co.uk
citizenmachinery.co.uk



www.engineering subcontractor.com

Contents

Special Report: Mazak	6
Show Preview: Southern Manufacturing 2024	8
Show Preview: MACH 2024	18
5-Axis Machining Feature	24
Metal Cutting	30
Automation Special Report: FANUC	32
Cutting Tools Feature	34
Workholding	42
Metal Marking Feature	44
Measurement & Inspection Feature	48
CADCAM	54
Advanced Manufacturing	56
Waterjet Machining Feature	58
Sawing & Cutting Off Feature	62

MAR/APR 2024 - Features:

- | | |
|---------------------|--------------------------|
| ■ MACH 2024 Preview | ■ CADCAM |
| ■ Aerospace Report | ■ Laser Cutting |
| ■ EDM | ■ Advanced Manufacturing |
| ■ Workholding | ■ Welding |

Published by Roger Barber Publishing

Publisher/Editor:

John Barber
Email: john@rbpublishing.co.uk

Accounts:

Jackie Barber
Tel: 01403 563791

Production manager:

Anna Rodrigues - 01472 210712
Email: studio@rbpublishing.co.uk

Design & Production:

Roger Barber Publishing

Print:

Holbrooks Printers Ltd,
Portsmouth, Hampshire

Engineering Subcontractor is published six times a year and mailed to a controlled circulation of readers with a legitimate interest in the content.

Roger Barber Publishing stores all business data securely and does not share with third parties.

No part of this publication may be reproduced without express written permission.

Hurco bucks the trend with record sales

Against a backdrop of difficult trading conditions in the UK machine tool industry during 2023, Hurco Europe's turnover to the end of its financial year in November was surprising. It turned out to be a record year for sales, higher than the best previous figure, achieved in 2018.

When interviewed at the latest Hurco Open House in High Wycombe on 4th and 5th December, attended by almost 100 customers and prospects from the UK and Ireland, managing director David Waghorn said: "We delivered a few more lathes than last year and, while the number of Vertical Machining Centres (VMCs) we sold did not increase, their unit price was significantly higher. 30 percent of them were delivered to users new to Hurco.



"Well over one-third of the VMCs ordered were 5-axis machines, either trunnion-type, B-axis, or with an add-on compound rotary table. They command a higher value than 3- and 4-axis machines, while other models we sold had larger working volumes, which also increases the value per sale.

"Additionally, many negotiations included requests for extras like mist extraction, through-spindle coolant, probing and extended warranties. Likewise, since the 2022 launch of the TMX lathes with live tooling, Y-axis and sub-spindle, we are selling more lathes and at higher prices. This is because a greater number of operations can be completed on these machines in a single handling."

He added that another option that raised the value of some orders was the addition of a Hurco ProCobot collaborative robot to feed components autonomously into VMCs. The number delivered was two and a half times up on the previous year and all are operating 24/7 in UK factories.

Software also contributed to the record sales, with the proprietary Solid Model Import option for the WinMax control taken up by triple the number of customers compared with 2022. David Waghorn advised that engineers really need to see it in action; it cannot be sold efficiently from the literature. Once people discover how effective it is at programming 3+2 routines on the shop floor from an imported IGES CAD model, they frequently add the software to all their machines.

Sales of German-built Roeders super-high-accuracy machining centres, for which Hurco is the sole sales and service agent in the UK and Ireland, were maintained during 2023 with four units sold, often 5-axis models and most with automation.

Hurco Europe Ltd Tel: 01494 442222.

Email: sales@hurco.co.uk www.hurco.co.uk

Building for the future

The latest edition of Yamazaki Mazak UK's annual Open House attracted over 700 people to the company's European Technology Centre in Worcester.

Steed Webzell reports

Yamazaki Mazak's UK Open Houses are festivals of live cutting demonstrations and factory tours. As a bona-fide UK machine tool manufacturer outputting 85 machines a month from its Worcester-based European Technology Centre, the company has plenty of reasons to feel positive about the future.

Alan Mucklow, UK sales & service managing director at Yamazaki Mazak UK, echoed these sentiments in his opening address at the December 2023 event: "The theme for this year's Open House is 'Building for the Future', which reflects the importance of investment," he said. "Investment over several years here at Worcester has been vital for our success in developing and building the company's manufacturing capability. Recent investments have included new high-precision grinding systems and large-capacity machining resources; we've also invested in our people. One of our key Open House events is the factory tours, which this year will see teams of apprentices act as guides. Our apprentice intake this year was 25, amounting to 250 over the past 10 years and we're very proud of them all."

He continued: "Investment is also



Alan Mucklow, UK sales & service managing director at Yamazaki Mazak UK, delivers his opening address.

important for products and that's one of the key reasons we hold these Open Houses: to showcase new technologies and manufacturing solutions. The 2023 EMO exhibition in Hannover saw many new introductions and a number of those machines are here. Furthermore, a high percentage of the 18 machines on show feature automation, which is a central theme

for this event. Automation is becoming increasingly important to UK manufacturers due to a lack of skills availability."

Model performance

Today, Mazak UK manufactures a range of models at Worcester, including the CV5-500 high-accuracy simultaneous 5-axis machining centre featuring a fully supported trunnion table with roller gear cam in the B/C axes and roller linear guides in the X, Y and Z axes. The result is high-rigidity, high-accuracy machining supported by the company's MAZATROL SmoothX CNC for ease of operation. The plant began manufacturing the CV5-500 in 2019, since when Mazak UK has sold over 400 of these high-performance machines.

Further Mazak models produced at the European Technology Centre include: the QUICK TURN 250M turning centre for demanding workpiece applications; the VCN-430A vertical machining centre which the company says offers the highest productivity in its class; the VTC-760C vertical travelling-column machining centre and the VTC-800/30SR travelling-column machining centre with full 5-axis capability and 3 m of X-axis travel.

"You can see we are now designing, developing, producing and supporting UK products, which is a real fillip for the country's



A CV5-500 5-axis machining centre in live cutting action.



QUICK TURN 250 MSY turning centre with integrated robot cell.

manufacturing arena,” stated Alan Mucklow. “Our Open House will also promote the Mazak i-Connect remote service and support package, which gives customers the opportunity to have direct connection through a free-of-charge portal to their on-site assets. Mazak i-Connect provides customers with information, manuals, downloads, maintenance videos, access to parts and service history and much more.”

Action stations

The showroom was a hive of activity. Among the stand-out machines providing cutting demonstrations was a VTC-800/30SR 5-axis travelling column machining centre. Suitable for subcontract machine shops that do not know what job will arrive tomorrow, this innovatively configured machine features a central partition so users can load on side of the machine bed while full 5-axis machining takes place on the other. Alternatively, machine shops can remove the partition to accommodate parts over 3 m in length.

A number of VARIAXIS 5-axis machining centres were also in action, including the i-800 NEO for fully automatic operation over extended periods, courtesy of the Mazak MPP multi-pallet pool and the i-300 AWC compact model with automatic work changer. Elsewhere in the showroom, visitors could see a CV5-500 simultaneous 5-axis machining centre featuring Indunorm pallet



A component that shows the capabilities of Mazak Integrex machines.

technology and a HCR-5000 horizontal 5-axis machining centre.

Also catching the eye were: INTEGREX i-450H S and i-200H S next-generation 5-axis multi-tasking machines; a VCN-700 next-generation vertical machining centre with optional Mazak Ultraspindle offering speeds of 60,000 rpm, or 80,000 rpm; and two QUICK TURN 250 MSY turning

centres, one featuring a Mazak TA-20 integrated robot cell and the other with Mazak GL-100 gantry loader. For those interested in laser cutting, the Mazak OPTIPLEX 3015 NEO fibre laser processing machine with TEK MAG automated storage system was the focal point.

Partnering up

Some 25 Mazak applications engineers were on hand to assist with any specific customer challenges. Keeping the numbers in balance were 25 Mazak technology partners, including Finance for Industry, a subsidiary of Close Brothers, which is able to offer hire purchase and lease agreements as well as creative finance options like payment holidays and low-start finance. Further partners at the event included: tooling specialists CERATIZIT, Cutwel, Guhring, Iscar, Mitsubishi and Sandvik Coromant; clamping experts Hainbuch, Lang, Nikken and Röhme; metrology specialists Hexagon and Renishaw and software experts CGTech and SolidCAM.

The factory tour, guided by bright and enthusiastic Mazak apprentices, was a real eye-opener. It provided the opportunity to see what goes on behind the scenes at a highly advanced manufacturing facility, including Mazak machines making Mazak machines. Visitors could witness everything from the machining of castings and linear ways, to spindle build, jig boring, sheet metal

manufacture, powder coating, assembly, test and despatch. Recent plant investments were in action, including high-specification Studer universal cylindrical grinders for producing high-precision spindles in temperature controlled conditions, twin-pallet VERSATECH V-140N/280 and FJV-60/80 double-column vertical machining centres and two manufacturing cells equipped with INTEGREX i-series multi-tasking machines

featuring RoboJob automation systems. All are helping to offer significantly shorter lead times on core machines.



The Mazak i-Connect remote service and support package.

In their hundreds

Across the four-day Open House, Mazak hosted more than 700 visitors. Jason Butler, sales director for Yamazaki Mazak UK, said



Over 700 people attended the Mazak Open House over four days.

the strong attendance vindicated Mazak's national strategy: “We had a packed European Technology Centre over each day with plenty of potential new customers visiting us for the first time. That says to me our message of continued investment in Worcester, which has led to increased production capacity and very short lead times on key machines, is getting through and really resonating with UK manufacturers.”

Alan Mucklow had the final word: “There's been a very positive outlook during the week from all visitors, with a sense of confidence returning to the market. The Government's recent announcement of a permanent extension to the full expensing of capital investment against corporation tax was very welcome and demonstrated a real understanding of the importance of manufacturing to the UK economy. We've seen that confidence this week in Worcester and we're excited about 2024.”

Yamazaki Mazak UK Ltd
Tel: 01905 755755
Email: sales@mazak.co.uk
www.mazakeu.co.uk



Southern Manufacturing returns stronger than ever

Early next month, the annual Southern Manufacturing & Electronics show returns and this year it will be an even more international event than previously due to a sharp uptick in stand bookings by overseas companies. Anyone involved in design, production or management in the manufacturing sector will do well to visit to see what many hundreds of exhibitors can offer to help make factories run more smoothly and profitably. The show opens from 6th to 8th February at the Farnborough International Exhibition & Conference Centre.

Now in its 27th year, the event has evolved from a small, local gathering of engineering firms into a popular, pan-European showcase for new technology. The stands are split approximately equally between exhibitors operating in the mechanical engineering and electronics sectors. However, there is no demarcation between the two areas, allowing visitors to walk freely between stands and perhaps discover things that they were not expecting to at the outset.

Hosting exhibitors offering so many products and subcontract services under one roof makes the exhibition an ideal venue for addressing multiple sourcing requirements quickly and efficiently, especially when supply chains are under pressure. It is the place to see all the latest in machine tools, tooling, workholding and other production hardware, automation and robotics, test, measurement inspection and metrology, and other diverse technologies serving a wide range of industries.

There will be mechanical, electro-mechanical, hydraulic and pneumatic components and assemblies, plastic injection and rubber mouldings, connectors, sensors, drives, encoders, fasteners, pressings and more. Other products and services on offer will encompass business and manufacturing software, production and planning aids, oil and coolant supply, workshop equipment, dust and fume extraction, humidity control, workplace storage systems, waste removal and recycling, training, freight services and financial consultancy.

Automation will feature strongly, driven by a skills shortage in Britain and across Europe. Industry 4.0 solutions, robot and cobot



machine tending and other technology for autonomous manufacture will be evident around the show. There will also be an accent on reshoring of production and new technologies such as green energy and power-saving machinery. Additive manufacturing, which continues its progress towards becoming a mainstream production technique, will be represented by numerous companies offering hardware and consumables or subcontract design and production services.

Additive by Matsuura, for example, will feature a range of different 3D printing technologies it offers from its Additive Manufacturing Facility in the Midlands, including HP Multi-Jet Fusion equipment. Without the need for support structures, it is said to achieve consistency, uniformity and repeatability when printing white parts, while offering more post-processing freedom to achieve vibrant colours and good light refraction.

Additive-X will advise on how to implement 3D printing and maximise profitability, as well as solve bottlenecks and other production problems. CREAT3D will promote its latest 3D printers and materials including nylons, high-temperature materials, composites and fibre reinforcements, metals, and flexible materials. IPFL will discuss precision micro 3D printing, high resolution stereo-lithography,

durable nylon multi-jet fusion and fused deposition modelling materials.

Conventional subtractive machine tool suppliers will be well represented. Yamazaki Mazak will host a stand focused on maximising productivity and profitability for manufacturers. Taking centre stage will be the Integrex i-200H S multi-tasking turning and milling centre having a compact, 12,000 rpm milling spindle with a versatile B-axis range of -30 to +120 degrees. It is ideally suited to done-in-one production in a broad range of industry sectors from automotive and aerospace through to general subcontract machining. As with all models in the i-H series, it features a flat-fronted design with rear-mounted tool magazine to accommodate the growing requirement for automation while preserving accessibility for the operator. The i-200H S can be fitted with a variety of automation solutions, including bar feeders, robot machine tending and gantry loading systems.

Mills CNC will showcase two new DN Solutions machines, a compact DVF 4000 5-axis machining centre and a Lynx 2100LSYB multi-tasking turning centre. Hurco will demonstrate a 3-axis VM10i with proprietary Max5 control and a TM8Mi CNC lathe with driven tooling. XYZ Machine Tools will exhibit seven machines on two stands including TMC machining centres with ProtoTRAK control

and an RMX 2-OP for cost-effectively carrying out second operations on parts. RK International Machine Tools will show a Cyclematic 618E toolroom lathe and a PFG-1545AH surface grinder from Perfect Machine along the Velum range of extra protection machine filters, which are making their UK debut.



Colchester Machine Tool Solutions will be presenting an all-new product range. Leading the line-up is the Storm vertical machining centre range, offering variants with linear guideways or box ways. Tornado CNC turning centres have returned with an updated, modern configuration to provide more rigidity and accuracy. Recently, Colchester launched the Student CNC lathe, a modern variant designed in the UK and fitted with the latest FANUC controls, giving the user flexibility in programming including ISO, conversational Manual Guide i, or via CAD/CAM. Rounding up the new range will be a revamped CNC turret mill, which provides reliability, accuracy and versatility for small to medium size production runs.

Chester Machine Tools will promote its

own-brand platforms, as well as Brierley grinding, polishing and finishing machines, Kitchen & Walker drilling machines and Astra lathes, mills and saws. Matsuura will be keen to discuss the horizontal and vertical, 3- to 5-axis machining centres it manufactures as single-table machines, twin- and multi-pallet systems, cell systems and ultra-high speed linear motor machines. YMT Technologies will be there to promote its Hedelius and YCM machining centres as well as Goodway CNC lathes.

Software will be all around the exhibition hall. MIE Solutions will advise on the many aspects of Enterprise Resource Planning (ERP). Utilising a central database, MIETrak Pro allows different departments to access real-time information and automate everyday tasks. Cost control, Materials Requirement Planning (MRP), scheduling, reporting, quoting, inventory control and real-time tracking are all included. Sapman provides end-to-end traceability with its ERP software and the firm's latest version 12 has added comprehensive connectivity. Customers are being offered free mobile apps that let a user in the factory or warehouse scan a product, or select an item from a list and see stock by location, goods received notes, batch details and other criteria.

VKS will show how paperless work instructions and industry 4.0 integration support frontline workers, increase productivity and raise quality. Visitors will learn how to optimise production by leveraging visual manufacturing techniques, interactive smart forms, IoT-connected tools and real-time data capture. MRP and Customer Relationship Management (CRM) software provider Flowlens will launch



powerful, cloud-based manufacturing software that is fully Application Programming Interface (API) enabled and shopfloor ready.

Technical Training Solutions, an engineering skills training company that has been providing mechanical, electrical and instrumentation courses since June 1980, will be on hand to discuss how a programme can be put together relevant to candidates' needs and delivered in an interesting and enjoyable way. The courses employ many practical activities, where trainees are given the opportunity to learn using actual industrial components to ensure the experiences are realistic.

Alongside the exhibition and demonstration areas, technical seminars will give visitors and exhibitors alike valuable learning opportunities, with a particular focus on the technical, managerial and environmental issues facing manufacturers today. Presentations will include advice for small manufacturers looking to improve their relationship with customers, how to enhance a sales team's performance, CE and UKCA marking compliance, sustainable practices in manufacturing, management skills coaching including how to address the challenges of hybrid working and digital process management.

Southern Manufacturing & Electronics 2024 will co-locate with AutoAero, a specialist theme within the exhibition devoted to aerospace and automotive engineering. There is plenty of free car parking space and the site is well served by road and public transport links. A regular, complimentary bus service runs between Farnborough's Main and North Camp railway stations and the showground. Admission is also free of charge.

More information and tickets are available from www.industrysouth.co.uk

European Trade & Exhibition Services
Tel: 01784 880 890





Mazak to display next generation Multi-Tasking machining at Southern Manufacturing

Yamazaki Mazak will be hosting a stand focused on maximising productivity and profitability for manufacturers throughout the supply chain at Southern Manufacturing & Electronics 2024.

Taking centre stage at the show will be the INTEGREGX i-200H S Multi-Tasking machining centre, which is ideally suited to a broad range of industry sectors, from automotive and aerospace through to general subcontract machining. It forms part of Mazak's i-H series, which culminates 40 years of Multi-Tasking innovation and learnings that has produced the most innovative, compact, automation-friendly and productive INTEGREGX range ever manufactured.

As with all models in the i-H series, the i-200H S features a flat-fronted design with rear-mounted tool magazine to easily accommodate the growing requirement for automation while maintaining excellent accessibility for the operator. The i-200H S can be fitted with a variety of automation solutions, including bar feeders, robotised machine tending and gantry loading systems.

The powerful 5,000 rpm main spindle is supported by a compact 12,000 rpm milling spindle with versatile B-axis range of -30 to +120° for the complete DONE-IN-ONE machining of complex components. An equal Ø65 mm bar capacity across both spindles allows for a balanced cutting process while maximising component rigidity.

The i-200H S is controlled via Mazak's SmoothAi CNC, which incorporates a suite of software packages to deliver the practical application of Artificial Intelligence, Digital Twinning and automation technology. The model on display at Southern Manufacturing features the new Smooth Oscillation Cutting program, which is built into the SmoothAi CNC. It provides chip control for further process stability, even when cutting challenging materials.

Mazak will also be using its presence at



Southern Manufacturing & Electronics to highlight its Mazak iCONNECT remote service and support package, which now has over 1,500 active users across Europe.

The Mazak iCONNECT portal is available to all registered Mazak customers with compatible machines, regardless of the age of the machine. It aims to unlock the potential of machine investments through faster maintenance and servicing, while also improving uptime and productivity. The free portal version of Mazak iCONNECT offers customers all the information required for their existing machines, from manuals through to service and parts order histories, how-to videos, e-learning modules and new 'try-before-you-buy' software options.

Alan Mucklow, managing director for UK, Eire and national distributors at Yamazaki Mazak, comments: "Manufacturers need their machines to work harder than ever before in order to remain competitive and drive productivity. The INTEGREGX i-200H S is

ideally suited to servicing subcontract demand across a wide variety of sectors, while its compatibility with diverse range of automation systems from bar feeders and gantry loaders to robotised machine-tending solutions, can help manufacturers maximise machining output.

The new Mazak iCONNECT portal provides high-value insights to help subcontractors to truly unlock the potential of their investment. Over 1,500 Mazak users have already turned to Mazak iCONNECT to drive further productivity and profitability and we are excited to demonstrate its potential to a much wider audience at Southern Manufacturing & Electronics in February."

Yamazaki Mazak UK Ltd
Tel: 01905 755755
Email: sales@mazak.co.uk
www.mazak.co.uk

Stand F180

tcardsonline

Making processes **easier**
Making the workplace more **productive**



21 day
FREE
trial

Proven management tool to help keep track, allocate and improve efficiency

- Improving Task Management
- Clear, Precise, Simple
- Easy to customise to your requirements
- Free Mobile APP
- Integrate with other Software
- From £10 + VAT per month



tcardsonline 

t 01732 871 417 w tcardsonline.co.uk



Solutions at Southern from T cards Online

The most straightforward approach is often the most effective and for many organisations, having a well-structured visual plan is essential.

Enter T Cards, a tried-and-tested method for planning and control. Now, as a web-based system, T Cards Online serves as the perfect management tool for tracking, allocating and improving efficiency. It's easy setup and user-friendly interface provides clear and precise "information at a glance."

The standard system can be tailored to your specific requirements at little or no extra cost. In addition, further personalised customisation can be developed to align the system precisely with your business. Seamlessly integrate with other systems through simple Import/Export functions or create automated processes using the Rest API. The system is designed to grow and adapt alongside your evolving needs. You don't pay for what you don't need.

Effortlessly communicate information using the app and analyse your data with simple to use tools. Streamlining workload management has never been easier than with T Cards Online.

Simple to customise to your application, it can instantly help improve the efficiency of your operation. Benefits are seen immediately as you can start using the software as soon as you have registered for the NO-Obligation 21-day trial. This includes T Cards UK-based support team providing personal assistance to get you up and running with the minimum of fuss.

T Cards Online is designed to be used like the tried and tested manual system. Clients often need a clear and precise status of work and this does exactly that but with all the benefits and analysis tools available digitally.

Having a "Go to Board" at your fingertips can help staff get on with the day-to-day business and assist with customer service. Our clients have seen these benefits and lots more.

Over the past 10 years the development of T Cards Online has been driven by clients. Suggestions

and improvements have been woven into the basic premise of keeping it simple. Being at the Southern Manufacturing Show has given the company a platform to discuss these improvements with clients and potential customers alike.

It has now been a regular exhibitor for the past 20 years, initially promoting the manual systems and now demonstrating the power of its Online System. It has always found it a busy and productive show with a broad range of companies interested in T Cards Online. It is a great opportunity to explore the benefits of the system. The venue has certainly improved over the years and access is fantastic compared to other venues in the UK.

There will be a new release being showcased which is an exciting development for planning and the control of workflow. There are many new features and it also includes a "What IF" engine that can generate automated workflows.

Think of it as an "If this then that". Action then consequence. For example, if a card or job is moved to a pre-defined position a consequence or alert is automatically triggered. That consequence could be a clear visual change in colour or an email alert or

just a flashing card on the screen. You decide.

There are many other new features that T Cards has been working on in the last 12 months, but the lean philosophy remains the same: Utilising the KISS (Keep It Simple Stupid) mentality to streamline your business processes.

T Cards Online is built and maintained by T Cards Direct, a family business with over 50 years experience designing, manufacturing and supplying T Cards and T Card Systems for a wide range of industries.

A subscription to T Cards Online includes full access to this experience offering support and advice to improve your processes. The company is constantly adding new features to T Cards Online based on clients' needs so if there's a feature your business needs which we're missing, contact T Cards as it could be coming soon.

T Cards Online

Tel: 01732 871417

Email: support@tcardsonline.com

www.tcardsonline.co.uk

Stand P140



Vision Engineering's new manufacturing partnership opportunity

Microscope and 3D digital inspection and measurement specialist, Vision Engineering has created a Technology Exploitation Division, led by Harry Curtis, to explore new business opportunities for its innovations and strengthen the manufacturing services and capability it offers to potential partners. The company will be exhibiting at Southern Manufacturing.

Widely recognised and awarded for its expertise in both optical and digital microscopes and imaging systems, including a Queens Award for Enterprise in 2020 for its Lynx EVO stereo microscope, the Send, the Surrey-based company has been partnering for some time with other companies, start-ups or entrepreneurs who have needed help with manufacturing expertise.

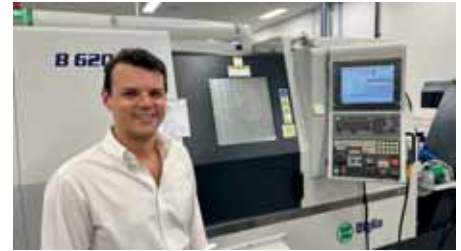
Mark Curtis, managing director of Vision Engineering explains: "We've been manufacturing our own products for 65 years and this starts with a blank piece of paper, progressing to a fully-fledged product being distributed and sold all around the globe. We are very experienced in all the development

steps in between, so we help with any or all of those stages to help facilitate any partner who comes to us.

"We utilise our manufacturing capabilities to work both as a solution development partner and a subcontracting manufacturer. Over the years, a number of companies have come to us with product ideas at various stages of development and we have advised and supported them with our own experience of product development.

Previous projects that Vision has worked on with partners include a high magnification viewer used in jewellery to identify identification numbers inscribed on diamonds in submicron text, a device to clean surgical instruments, micro welding systems and even a range of men's luxury grooming products.

"Additionally, we have very good machining and manufacturing capabilities, further enhanced with Miltorn Anodising and its expertise within the Vision Engineering Group. So, we assist customers with design, utilise our optical, mechanical and electronics expertise, provide rapid prototyping with our



machine shop and additive manufacturing processes, deliver design for manufacture and production engineering services and help with verification, assembly, quality assurance and distribution needs."

In terms of its own manufacturing capability, Vision's UK investment in its headquarters in Send probably represents one of the most state-of-the-art sites available. Aside from the machine shop it houses assembly stations, temperature controlled environments, clean rooms, a paint shop and quality and inspection facilities.

Vision Engineering Manufacturing Services
Tel: 01483 248300
www.visionengmanufacturingservices.com

Stand J260



Bringing your ideas to life.

Vision Engineering Manufacturing and Optical Services offer comprehensive contract manufacturing, design and commercialisation packages.

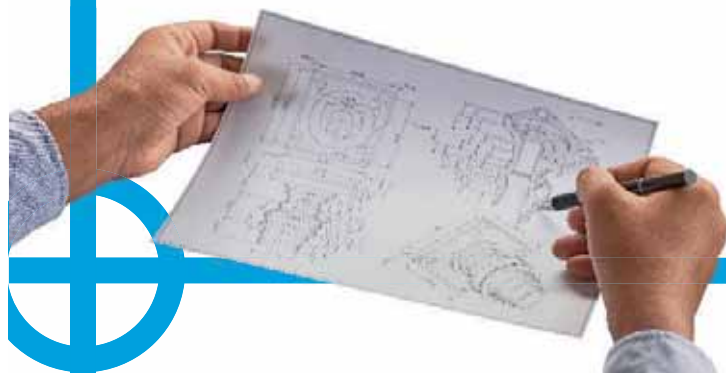
- Product Development
- Manufacturing & Logistics
- Maintenance
- Commercialisation
- Machining & Finishing
- Global Purchasing
- Service
- Innovation Funding



Meet us on **Stand J260** at **Southern Manufacturing (6-8 February 2024)** to discuss your new idea.

Or to find out more, scan the QR code to visit our website

www.visionengmanufacturingservices.com





ITC to present new platforms

As one of the UK's leading cutting tool manufacturers, Industrial Tooling Corporation (ITC) will be returning to the Southern Manufacturing & Electronics exhibition to present its latest product lines. The event will also allow the Midlands manufacturer to introduce its new e-commerce platform.

All of the company's latest innovations will be presented on Stand H250 where manufacturers will also be invited to try out the new e-commerce suite that has proven a huge success since its introduction in November 2023. The online portal provides enhanced accessibility to the exponentially growing product lines. The informative and easy-to-navigate e-commerce platform allows manufacturers to create an account and place orders, browse through stock and see everything ITC has to offer.

At the Farnborough event, visitors will be able to discuss their manufacturing challenges with the ITC cutting tool experts who will be on hand to introduce the very latest cutting tool technologies. In addition, ITC will be keen to present the latest innovations from partners such as WIDIA, BIG KAISER, Kemmler and Bass. With many of these technology partners presenting world premières at the EMO exhibition in September, the booth will provide a great opportunity for UK manufacturers to witness the next generation in cutting tool innovation. This will include ITC's latest solid carbide end mills, drills and thread milling ranges.

To cater for engineers that require high-end indexable solutions, ITC's team of WIDIA experts will also be on stand H250 at Farnborough to present everything from the new WIDIA line of M1600 face mills, the M8065HD milling system through to the WIDIA TOP DRILL™ TDMX modular drilling line and much more. As a

leader in indexable cutting tool solutions and solid carbide products, the WIDIA range at the show will be comprehensive.

Complementing the UK manufactured ITC cutting tools and indexable solutions from WIDIA, ITC will also showcase the BIG KAISER portfolio of high-precision tooling systems. BIG KAISER is the world leader in precision tooling systems and at the Farnborough event, some of the range will be on show for visitors to investigate. A few of the highlights from BIG KAISER that will be on show will be the Smart Damper-equipped arbour-style face mill holders, precision toolholders and chucks as well as the Mega Synchro Tapping Chuck. As the original manufacturer of the robust 'face and taper' dual contact system, the BIG KAISER portfolio stands way above anything else in the industry. ITC will also be showing a Karnasch range



of Micro and Composite tools. For more information, contact ITC, visit stand H250 at Southern Manufacturing or visit the website, www.itc-ltd.co.uk, to register your account on the new e-commerce platform where you can view and download the latest product catalogues and place your orders.

Industrial Tooling Corporation Ltd
Tel: 01827 304500
Email: sales@itc-ltd.co.uk

Stand H250



GUHRING

**£5m STANDARD TOOL STOCK IN UK
AVAILABLE FOR NEXT DAY DELIVERY**

* LARGEST UK TOOLING STOCK *

Order online at www.guhring.co.uk

T: 0121 749 5544 | e: info@guhring.co.uk



**Visit us on
Stand: H185**

Production metrology solutions

Visitors to the Optimax stand at Southern Manufacturing will discover innovative production metrology. As a UKAS (United Kingdom Accreditation Service) approved supplier, the company delivers and supports high quality inspection and measurement systems, supporting the UK manufacturing industry. The latest instruments from Optimax allow manufacturers to achieve and uphold high-quality results.

It will showcase production metrology, featuring a diverse range of instruments that can be seamlessly integrated into manufacturing processes for inspection and measurement purposes. The exhibited products include 3D scanners, vision inspection instruments, vision CNC 3-axis measurement systems, benchtop optical comparators, Coordinate Measurement Machines (CMM) and autonomous AI-based automated machine vision.

Additionally, the stand will encompass HD and manual remote visual inspection borescopes, along with a selection of handheld measurement tools for everyday

use. For those seeking integrated solutions, Optimax offers tailored options by combining various products to meet specific customer needs. Its aim is to provide the most effective and cost-efficient solution to your optical inspection and non-contact measurement requirements.

Optimax has hand-picked some of the very latest inspection technologies, from established, leading-edge manufacturers, to provide a core of products that encompass quality, technical excellence and value for money. It enjoys seeking out the very latest innovations and designs to ensure the widest choice.

Since 2002, it has been selling solutions to applications. Its business is to understand the intricacies of all the products it offers and their suitability to the application in question.

Optimax wants to develop ongoing relationships with all its customers, large and small and hope to be providing them with microscopy and metrology solutions well into the future. Aftercare is hugely important to the company, with training to ensure that



customers get the best from their equipment and service and calibration contracts to keep it in great shape and help maintain your business.

Having long standing links with its manufacturing partners, Optimax is striving to supply exclusively for them for many more years to come. It believes in their products and, importantly, their people and works with them to bring you the most beneficial result in terms of suitability, time and cost.

Optimax Imaging & Inspection Ltd

Tel: 01858 436940

Email: info@optimaxonline.com

www.optimaxonline.com

Stand D190

mie solutions™
ERP Production Control Software

RUN YOUR BUSINESS AT OPTIMAL PERFORMANCE

- ✓ Quotation/Estimating
- ✓ Sales Order Processing
- ✓ Works Order/ Router Design
- ✓ MRP Systems
- ✓ Purchasing
- ✓ Scheduling
- ✓ Shop Floor Data Capture
- ✓ Paperless
- ✓ Time Clock/HR
- ✓ Costing/ Reporting
- ✓ Cloud Or Server Hosted
- ✓ Shipping/Invoices
- ✓ Quality Control
- ✓ Stock Control

MIETrak Pro- The Complete Production Control Solution

Made By Manufacturing Professionals For Manufacturing Professionals

To Discuss Your ERP Requirements:

- ☎ 01527 576444
- ✉ sales@mie-solutions.co.uk
- 🌐 www.mie-solutions.co.uk

SOUTHERN 24 Manufacturing & Electronics
Farnborough International Exhibition Centre
6th to 8th February 2024

Stand B230



Advanced 'one-hit' machine tools take centre stage

Mills CNC, the exclusive distributor of DN Solutions and Zayer machine tools in the UK and Ireland, will showcase two advanced DN Solutions' machine tools at the exhibition in February.

The machines comprising a new 5-axis machining centre and a popular and proven, multi-tasking lathe will demonstrate the significant productivity and process efficiency gains component manufacturers can expect to achieve by investing in fast, accurate and flexible 'one-hit' machine tool technologies from Mills CNC.

By taking two machines, both under power, to the event also demonstrates the growing importance of the Southern Manufacturing Show to Mills' marketing plans and programmes and recognises that not all manufacturers can, or will, attend the MACH 2024 exhibition later in April.

"Although much smaller in scope and scale, Southern Manufacturing attracts many visitors from the South of England, some of whom will, for a variety of reasons, not be attending MACH 2024," says Tony Dale, Mills CNC's CEO.

"It is for this reason why we have decided

to take two high-performance machines to Southern Manufacturing."

The compact DVF 4000 is the latest addition to Mills' best-selling DVF-series of 5-axis, simultaneous machining centres and provides component manufacturers with an ideal 'one-hit' machining solution.

The machine is equipped with an 18.5 kW/12,000 rpm (BT 40) directly-coupled spindle as standard and features a 400 mm diameter, built-in rotary, tilting table with a zero-backlash roller gear cam design for improved process reliability.

A 60-tool servo-driven ATC and integrated thermal compensation deliver increased productivity and part accuracies and roller LM guideways ensure fast processing speeds. The machine's FANUC 31i-Plus control enables the DVF 4000 to be used in full simultaneous 5-axis machining mode and provides fast and reliable contouring capabilities. The 8" chuck/65 mm bar capacity Lynx 2100LSYB is an ultra-productive, multi-tasking turning centre equipped with a 5" chuck, 6,000 rpm sub-spindle, a Y-axis, +/-52.5 mm and driven tooling capabilities, 6,000 rpm. The machine features a 15 kW/4,500 rpm spindle, a



12-station turret and the latest FANUC i Plus control with a 15" touchscreen iHMI.

The Lynx 2100LSYB's flexibility, speed and precision have helped it to become the number one choice lathe for small part processing.

Mills CNC Ltd
Tel: 01926 736736
Email: sales@millsnc.co.uk
www.millsnc.co.uk

Stand C160

XYZ brings seven machines with live cutting demonstrations to Southern Manufacturing

The recently introduced TMC toolroom machines have been designed with low to medium volume and tool making applications in mind. These machines use the same platform and linear rails as XYZ's proven LR VMC range combined with the ease of use of the ProtoTRAK® control, ideal for the rapid programming and setup of 1 off and small to medium quantity parts. The enclosed construction, automatic tool carousel and optional TRAKing® hand wheels which allow

the user to run forwards and backwards through the machining cycle deliver the advantages of a machining centre with the flexibility and quick turnaround of a bed mill such as the RMX 3500, which will also be there.

For flexible manufacture, the XYZ RMX 2-OP is the way to go. This machine forms part of a machining cell offering a quick and cost-effective solution for second operations to finish a part. The machine is easily moved and setup within an hour so is a fast way of reconfiguring a workshop to meet changing demand.

As well as two TMC machines and the RMX 2-OP, XYZ is bringing the XYZ 800 HD vertical machining centre to the show. This powerful machine is built for volume manufacture and comes with a Siemens 828D control with ShopMill.

For turning, XYZ considers the differing requirements for low and high-volume parts. The XYZ PROTURN RLX 355 is a solution for low to medium volumes, featuring the



ProtoTRAK control, it is a fast way of getting parts cut in a machine that offers 1,000 mm between centres. For more parts, the XYZ CT 52 LR turning centre gives 52 mm bar capacity and has linear rail technology and Siemens 828D.

XYZ Machine Tools
Tel: 01823 674200
Email: sales@xyzmachinetools.com
www.xyzmachinetools.com

Stand G260/H260



Elevating precision in UK manufacturing with high-precision machine tools

RK International Machine Tools, a resolute supporter of UK manufacturing since 1951, continues its legacy of excellence by specialising in the supply of high-precision machine tools from global best-in-class manufacturers. With a commitment to advancing precision engineering, RK International invites attendees to explore its showcase at Southern Manufacturing. Showcasing high-quality machine tools RK International will proudly present its dedication to precision with the spotlight on the Cyclematic 618 series of Precision Toolroom Lathe and the Perfect PFG-1545AH Surface Grinder.



Working alongside its long-term partner, Mid-Bucks Machine Tools, the Cyclematic 618 Series is a paragon of precision engineering. It sets the standard for toolroom lathe technology, offering a spindle runout of 0.00125 mm.

Meanwhile, the Perfect PFG-1545AH Surface Grinder, boasting the toolroom standard of a 450 x 150 mm grinding capacity, is tailored for optimal performance in both production and toolroom applications with its automatic downfeed control.

Velum extra protection machine filters debut in the UK

Breaking new ground, RK International will introduce the Velum extra protection machine filters for the first time in the UK. These cutting-edge filters represent a leap forward in machine protection, ensuring unparalleled precision, longevity and reliability. Attendees are encouraged to visit the RK stand to witness the debut of the machine filters and discover how this innovation elevates the reliability and performance on machine tools.

Tailored solutions

RK International welcomes visitors to explore its stand, engage with industry experts and discuss their new or used machine tool requirements and disposals. With a rich history of providing tailored solutions, RK International's team is dedicated to assisting manufacturers in achieving precision and efficiency in their operations.

Where precision meets expertise

Take advantage of this exclusive opportunity to experience RK International's commitment to precision at Stand F195. Immerse yourself in a showcase of high-precision machine tools and discover why RK International Machine Tools has been a trusted partner in advancing UK manufacturing for over seven decades.

RK International Machine Tools

Tel: 01322 447611

Email: sales@rk-int.com

www.rk-int.com

Stand F195

Sustainable and recycled plastic packaging options

As part of its sustainability commitment, rose plastic now offers a range of packaging solutions manufactured from sugar cane and PCR (Post-Consumer Recycled). The environmentally conscious packaging specialist can now offer an economical option that is recyclable and available with an unfathomable range of options to contain, protect



and secure your sensors, instruments and other components.

The PCR material is made up of cleverly processed plastic household waste. Products made from PCR are just as good as those made from virgin material. The Bio HDPE blow-moulded packaging is 96 percent manufactured from bio-based content and is fully recyclable to meet the demands of

environmentally conscious businesses.

Even the supply chain of environmentally friendly manufacturers comply with socially responsible production methods. So, if you are looking for the most environmentally sustainable packaging for your cutting tools and precision parts, rose plastic has a complete range of Bio-HDPE and PCR products that guarantee a secure, protective, resilient and re-usable option for your business.

To request a free sample of PCR or Bio HDPE, email info@rose-plastic.co.uk or call the customer service team on 01709 721794.

Stand K135

The key to safe storage and transportation of your cutting tools

SystemBoard: Interchangeable inserts available in 3-40mm shank diameters



rose plastic®
protective packaging pioneers

Sample kits available on request. Please email us: info@rose-plastic.co.uk www.rose-plastic.co.uk



Knowledge Hub initiative to be core theme of MACH 2024

Reversing UK manufacturing’s poor record for adopting new technology will be tackled head on at MACH 2024. The Manufacturing Technologies Association (MTA) has made it its mission to spearhead growth by using its flagship event to launch its new Knowledge Hubs initiative.

The programme showcases the latest technology to exhibitors, helping manufacturers learn more about the potential offered by such technology, as well as when to adopt it and how to implement it to best effect.

The initiative has been handed a major shot-in-the-arm with the announcement by chancellor Jeremy Hunt of £4.5 billion of funding to support advanced manufacturing. The funding will directly benefit several of the exhibition’s key themes, especially energy efficiency, where £960 million has been earmarked for clean energy manufacturing through a Green Industries Growth Accelerator.



The MTA, which organises the MACH event on behalf of the engineering-based manufacturing industry, has been campaigning for greater adoption of new technology for some time.

It will expand upon this at MACH 2024, which opens its doors at the NEC in Birmingham on 15th April, by explaining that implementing latest techniques in manufacturing processes is the fastest way to boost the UK’s output.

Knowledge hubs

The focus for this will be a series of new Knowledge Hubs. These will focus on educating manufacturers in when and how to

adopt new technologies. The hubs, which will have dedicated stands within the various exhibition zones, will each focus on a particular type of technology: Automation and Robotics; Data and Artificial Intelligence; Energy Efficiency; Additive Manufacturing; Tooling.

In recognition of the importance being placed on these hubs, each is being managed by one of the specialist centres from the High Value Manufacturing Catapult, such as the Manufacturing Technology Centre (MTC) and the Advanced Manufacturing Research Centre (AMRC). The Catapult network is recognised for the cutting-edge research and development work being conducted at its various centres.

The network collaborates with thousands of innovative businesses across a wide range of sectors, including manufacturing, space, health, digital, energy, transport, telecoms, the urban environment and many others.

The MTC at Ansty Park, Coventry, is one of the largest public-sector investments in UK manufacturing, with impressive facilities proving innovative manufacturing processes and technologies in an agile environment.

The AMRC, which is spread across several sites in Yorkshire, works with companies of all sizes, including SMEs, start-ups and large-scale manufacturers to help them improve their productivity and save time, money and energy. The Factory 2050 facility in Sheffield combines a range of technologies including advanced robotics and automation.

United front

James Selka DL, CEO of the MTA, says: “The MTA is part of a united front of UK manufacturing organisations, along with the Manufacturing Technology Centre (MTC) and MACH 2024 headline sponsor Lloyds Bank, to increase the uptake of technologies such as automation and robotics.

“Only by embracing what the hubs are trying to achieve will the UK restore its position as a sovereign manufacturer, re-establishing itself as a major player on the global stage.



“To have the High Value Manufacturing Catapult Centre running our Knowledge Hubs is an indication of the importance these organisations place on our initiative and with MACH 2024 providing the showcase and the opportunity to see the latest technology live and in action, we couldn’t ask for anything better.”

The need for this approach was recently brought into sharp focus in a new report highlighting the UK’s lack of investment in technology and its poor adoption of robotics in industry. The figures, from the International Federation of Robotics, showed the UK languishing outside the top 20 developed nations in terms of the global utilisation of industrial robots in manufacturing, lagging not just behind the economic superpowers, but also the likes of Spain and Finland.

Sovereign manufacturer

James Selka concludes: “The UK must re-establish itself as a sovereign manufacturer. Greater adoption of the latest technologies will be vital to achieving this, helping improve manufacturing efficiency and optimising productivity. We will do everything we can to help UK manufacturers focus on the new technology, explain when to adopt it and how to implement it to best effect.”

MTA

Tel: 020 7298 6400

Email: mach@mta.org.uk

www.machexhibition.com

BE PART OF IT...

MACH

Making UK manufacturing more
**ADVANCED TECHNOLOGY
FOCUSED**



GET INVOLVED

REGISTER TODAY FOR YOUR FREE
FAST-TRACK PACK



SCAN ME

Visit MACH 2024 – the UK's national event for engineering and manufacturing, live and in action

- Visit MACH 2024 to **discover** how your business can sustainably adopt new technology and techniques to **improve productivity, efficiency and reduce waste**
- Learn how to adopt new processes and techniques in the **MACH Knowledge Hubs** – from automation to additive, AI and data to sustainable manufacturing
- See a comprehensive display of **LIVE**, working machines and manufacturing systems demonstrating innovative, **sustainable solutions** relevant to your challenges
- Meet like minded professionals looking to **share ideas**, designed to solve your business issues and **improve competitiveness**
- Meet new suppliers and build on existing relationships, **face-to-face**, at the UK's national exhibition for engineering and manufacturing

Register today visit: machexhibition.com

Organised by



Sponsored by



Co-located with



MACH
15-19 April **2024**
NEC Birmingham UK
machexhibition.com



Unison family to exhibit its latest technologies at MACH

April is set to be a particularly exciting time for Unison Ltd, the inventor of all-electric tube manipulation with Nukon Lasers UK and wire bending machinery manufacturer, Pneufarm Machines Ltd

Three innovative British companies make up the Unison family and MACH 2024 will provide the first opportunity for their respective technologies to be presented side by side since Pneufarm was acquired by Unison Ltd in 2023. At the same time, over at Tube Düsseldorf, the tube and wire bending capabilities of Unison and Pneufarm machines will be showcased together.

On show and operational at MACH will be an all-electric Unison Breeze ‘Twinhead’ tube bending machine, a Unison Synergy hybrid dual-stack tube bender and a Pneufarm 3D wire bending machine. A highly powerful European-built Nukon Rex 6 kW flat sheet metal fibre laser machine from Nukon Lasers UK will also be on display.

“We are incredibly pleased to be showcasing machines from all three Unison machine tool companies at MACH 2024, and to be presenting technologies from Unison and Pneufarm at Tube Düsseldorf,” comments Unison Ltd’s joint managing director, Alan Pickering. “With our world-class, British-built Unison tube bending machines, Nukon’s highly accessible premium-quality fibre laser machines and our recent acquisition of Pneufarm, we now offer what I believe is the most comprehensive choice of quality machine tool technologies for organisations and subcontractors wanting to provide precision tube and wire bending and/or laser cutting. We have also made significant enhancements to the Pneufarm model range for 2024 and are proud to support Pneufarm machines with our uncompromising levels of aftersales care.”

Unison Breeze ‘Twinhead’ machines

As a leading UK manufacturer of tube bending machinery, Unison has pioneered ultra-precise, all-electric tube manipulation and today offers the largest range of all-electric tube and pipe bending machines

for diameters from 4 mm to 275 mm. Unison’s range of ‘Twinhead’ machines has been developed for the high-speed manufacture of symmetrical tubular shapes, such as those typically used in automotive, agricultural, transport and furniture applications. Models include a 5-axis machine with optional weld-seam detection, end forming, tube marking and barcode batch reading, and an 11-axis multi-stack, multi-radius option for more complex shapes.

Unison Synergy hybrid machines

Developed to make Unison quality and reliability accessible to organisations that typically carry out repetitive tube bending tasks and don’t require the rapid setup time and all-electric operation of Unison’s Breeze tube bending machines, Unison Synergy models combine electric control with advanced hydraulic operation. Available in 50 mm and 80 mm, maximum tube diameter versions, Synergy models offer exceptional power and robust design with user-friendly touchscreen control and a choice of industry leading motors and drives.

Pneufarm wire bending machines

Pneufarm was a pioneer of CNC 3D wire bending. Today its wire and small diameter tube bending machines have become the industry standard with many manufacturers of beer coolers, drink dispensers, HVAC equipment and small diameter automotive parts. Pneufarm’s range of wire bending machines includes rotary head models, flat rotary line bending machines and enamelled wire bending machines. Available in 2-axis and 3-axis versions, Pneufarm machines cater



for outside tube diameters ranging from 3 mm to 11 mm in stainless steel and 3 mm to 15 mm in copper.

Nukon Lasers UK

The Nukon Rex fibre laser machine that will be on display at MACH 2024 combines powerful 2D flat sheet metal cutting capability with optional pipe and tube cutting and marking features. Developed primarily for subcontractors and organisations cutting small batches of varying shapes and sizes, Nukon Rex machines have an extremely compact footprint and are available with power outputs ranging from 2 kW to 6 kW. Nukon Rex fibre lasers offer high-spec features that are standard across the wider Nukon range. These include advanced Lantek Expert CAD/CAM nesting software and American-made nLIGHT fibre lasers. Nukon Lasers UK is the exclusive UK and Ireland distributor for Nukon’s European-built 2D, 3D and tube fibre laser cutting machines and loading & unloading solutions. Nukon fibre lasers combine high speed and high precision with exceptional value and build quality, as well as exceptionally low running costs.

Unison Ltd

Tel: 01723 582 868

Email: sales@unisonltd.com

www.unisonltd.com

Stand: 20-550

TNC7

HEIDENHAIN

Come see us at
MACH
15-19 April 2024
NEC Birmingham UK
Stand 20-310



CO₂

TCO



Reduce your TCO and CO₂ footprint
Less cost and more sustainability

Save resources and make your manufacturing environment more cost-efficient. Products from HEIDENHAIN help you lower your total cost of ownership. You can increase your productive time, for example, with the smart functions of the TNC7. This new CNC control delivers faster results while preventing machine overload. Mean-

while, be sure to optimize your processes with machine data collection from the HEIDENHAIN StateMonitor software. You can even reduce your CO₂ footprint by up to 99% with the new generation of LC and RCN encoders, whose enhanced optics ensure reliable measurement without compressed air.

Good for
productivity
and
sustainability

www.heidenhain.co.uk

HEIDENHAIN (G.B.) Limited
+44 (0) 1444 247711
sales@heidenhain.co.uk



EROWA launches a range of new products for the 'Smart Factory'

Automation and productivity specialist, EROWA recently launched a range of products designed to help manufacturing companies take steps towards a 'smarter' and, therefore, more efficient and sustainable factory. All of these and more are available from the Swiss company's exclusive partner in the UK and Eire, REM Systems.

These new products include a bench-top electrode pre-setter and a wireless digital zero-point clamping system, as well as an extensive range of chucks and vices developed to improve standardisation.

EROWA states there are several key stages when automating a manufacturing process, and each step will result in specific efficiency gains and business rewards. According to the automation and productivity specialist, the key stages are standardisation; organisation; automation and integration. With each contributing towards the goal of being productive for each of the 8,760 total hours available each year.

The bench-top PreSet 2D electrode pre-setter falls under the organisation stage and could yield up to 500 productive hours per year. A development of EROWA's popular floor-standing unit, this new model can be set on any suitable bench, thereby freeing up productive workshop space. The customisable multi-function measuring and pre-setting system allows measurements in the X-, Y-, Z- and C-axes to be carried out quickly and accurately. The data output of the measured values can be integrated into CAD/CAM software or directly into the CNC system. The pre-setting station can be equipped with various tooling systems.

The 2D edge probe is simply ingenious: the EROWA patented 2D edge probe enables users to make the necessary measurements on radii, edges, corners and oblique surfaces. While the optional measuring microscope can be used to measure and generate diagrams of edges that are not accessible with a dial gauge or 2D edge probe. When checking concentricity, the air bearing on the C-axis



provides high-precision rotational motion to identify even the most minute deviations on the electrodes.

The HEIDENHAIN display unit offers reliable recording and easy evaluations of measured values. The practical user guidance in the EROWA mode shows users in a step-by-step mode how offset values are determined. While prepared programs facilitate the determination of offset data of electrodes and workpieces on EROWA pallets. Programs are available for all variants. With a mouse click, the recorded offset data can be transmitted to all the EROWA process control systems.

All the other new products fit within the standardisation step, such as the new Vice PowerClamp, 'VPC' for short, that has been introduced with industry-standard pitch dimensions of 52 or 96 mm. The VPC system delivers powerful, precise, and process-reliable clamping of vices, fixtures, and workpieces. With pneumatic control aiding automated or manual exchanges. The two VPC chuck sizes with the matching VPC clamping spigots form the foundation while the universal application possibilities open up a spectrum of workpiece production options. With the VPC system this flexibility does not come with any downside as a repeatability of better than 3 µm is achieved.

Also within this category is the world's first zero-point clamping system with wireless

digital status monitoring. The smart version of the MTS clamping system family, it provides all the information that the process control needs for safe machining.

Fully integrated into the machine tool, signals describing the status of the chuck are available. The data is sent wirelessly from the chuck to a receiver integrated in the machine. Such signals include chuck open no pallet, ready to load; chuck open with pallet, ready to unload; chuck clamped, ready to work; chuck closed no pallet, standby mode; and error, please check chuck.

Industry 4.0 ready, the new digital chuck features a wireless connection from the machine table to the radio receiver integrated into the machine tool which overcomes the challenge of signal transmission without cables. Electronic monitoring enables real-time evaluation of every chuck's condition.

Managing director, Ian Holbeche, says: "This new zero-point clamping system from EROWA is another step towards the Smart Factory."

REM Systems Ltd
Tel: 01452 750581
Email: sales@remsystems.co.uk
www.remsystems.co.uk

Stand: 20-362

Guess who's MACH!

The MACH exhibition is renowned for inspiring, innovating and connecting engineering-based manufacturing and FourJaw is delighted to be part of the event this year.

When MACH returns in April, it looks set to focus on providing ideas and solutions to help resolve the current challenges facing the manufacturing industry, including, the rise in energy and labour costs, skills shortages, the escalating price of raw materials, supply chain disruption and the need to proactively identify where manufacturers can become more sustainable.

Designed for the manufacturing industry, by the manufacturing industry, MACH promises to provide a platform for delegates to find solutions to help them navigate and overcome the challenges they face while also leveraging solutions to identify and create opportunities within their manufacturing operations. It's for this reason, that FourJaw is exhibiting at the event.

The company will be located in between

the Digital Solutions for Manufacturing Zone and the Education and Development Zone. Its team will be on hand to demonstrate how its machine monitoring platform enables manufacturers to improve productivity, support sustainability and drive profitability.

Can't wait until MACH? Book a free, no-obligation demo of its award-winning manufacturing analytics platform now.

Born from a passion for manufacturing

FourJaw was founded as a spinout from the University of Sheffield's Advanced Manufacturing Research Centre in 2020 and from then it has been focused on its mission: To deliver accessible technology that empowers manufacturers to achieve their productivity potential.

Today, it is proud that its award-winning technology is trusted by manufacturers around the world. It is even prouder of the people behind its technology, made up of a diverse team of talented individuals, who



individually and collectively share its passion to harness the power of technology to drive efficiency, productivity and profitability for manufacturers throughout the world.

FourJaw manufacturing analytics software enables manufacturers to unlock manufacturing excellence by allowing them to understand the past, manage the present and optimise for the future to drive continuous improvement.

FourJaw

Tel: 0114 4000158

Email: info@fourjaw.com

www.fourjaw.com

Stand: 17-362

"UNBEATABLE"



Axe & Status

All New MasterLINE Fibre Laser Machine

- Beckhoff CNC
- Precitec Head
- Dynamic Tables
- Filter and Dust Collector
- Power from 2kW - 40kW
- Full Conformity to CE Requirements
- 3-Year Warranty
- High Quality
- Exceptional Value



**2kW - 40kW
Fibre Laser**

Exclusive UK
Distributor



Axe & Status

DEPENDABLE SERVICE & SUPPORT

A05

www.axestatus.com

email: sales@axestatus.com

call: +44 (0)1908 647707

Subcontractor progresses to 5-axis machining

Established in 1995 and located in County Cork, Southern Ireland, Maas Precision Engineering not only manufactures and supplies machined parts and components to a variety of customers and industries, but also offers design, prototyping and product development as additional services. The firm's motto is "dimensionally correct, cosmetically perfect", on the basis that components must look aesthetically pleasing as well as being accurate and functional.

As far as CNC milling is concerned, it is carried out on seven Hurco Vertical Machining Centres (VMCs). The first was supplied more than 20 years ago and is still running today. All quantities are catered for, with Maas manufacturing anything from one-offs and small batches up to volumes of 20,000 or more.

Managing director Tadhg Hurley says: "We owe our business success to Hurco and are confident in the machines. We know we can turn parts around quickly, making prototypes in one day or a maximum of two days. Every person here can program every machine.

"Whether it be a 20-year-old machine or a new 5-axis model, we usually program directly at the machines and can process

orders really quickly because we know they are going to be right."

The machines play their part, but Maas is clearly a well-managed business that is committed to training its people and to making the right investment at the right time. In 2018 it purchased its first 5-axis VMC, a Hurco VMX42SRTi with swivelling B-axis and rotary C-axis set in the table. The main benefit was that more operations could be completed in a single setup.

The versatility of the machine design allows it to be used as a full-capacity 3- or 4-axis machine when needed. For 5-axis work, some additional training was required so that operators learned the axes of rotation and how to set up parts. 5-sided and 3+2 jobs can all be programmed at the Hurco Max 5 control using the same easy-to-use conversational prompts that are employed for 3-axis applications.

The transition to 5-axis machining was clearly a success as a second 5-axis model has been installed, this time a Hurco VMX30Ui of more compact design with a swivelling trunnion carrying a rotary table.



Programs can easily be transferred between the Hurco machines, new and old, to balance capacity utilisation. Maas needs to be able to respond quickly to changing customer demands, so knowledge that production runs can be readily swapped between machines helps to build confidence that challenging targets can be achieved.

Production manager Dale Thomas describes a variety of components manufactured by Maas for a Remotely Operated Vehicle (ROV) used in bomb disposal.



Many of these parts are made on a 5-axis Hurco machine, avoiding the need for additional fixtures that would be required if only three axes were available.

For example, the arm for an ROV that previously required six setups was moved to a 5-axis machine. Production time was reduced significantly, shaving several hours off the run. There is a lot of metal to remove to minimise weight, while retaining strength. Parts are programmed either offline or directly at the machine control, with considerable benefit derived using the Ultipocket and DXF software options, which are on all the Hurco machines at Maas.

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

New 5-axis machining centre is automation-ready

A new, horizontal-spindle, 5-axis machining centre has been introduced by DMG Mori capable of maximising productivity when machining complex workpieces weighing up to one tonne. The robust INH 63 has a working volume of 1,070 diameter by 1,000 mm high and a maximum pallet size of 630 x 630 mm. Due to its compact dimensions, it can be integrated easily into automated production systems.

Dies, moulds, battery boxes for electric vehicles and aerospace valve bodies are typical components that might be produced on the machine. Its stable design with a symmetrical structure optimised by FEM and twin ballscrews in all orthogonal axes promote precise, dynamic milling. Magnescale linear encoders result in high

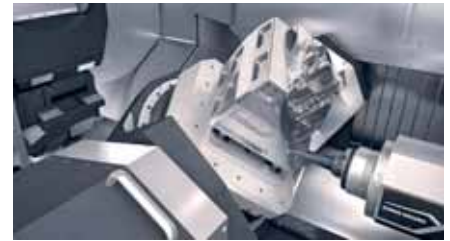


positioning accuracy, while reliable cooling of the ballscrews and other sources of heat suppress thermal displacement and changes in the machine structure.

Compared to the previous model, the manufacturer has increased the cutting capacity by 65 percent. For 5-axis machining, the INH 63 swivels the rotary table from +45 to -195°, direct drive motors delivering speeds of 90 rpm and 30 rpm respectively. The powerMASTER spindle is rated at 12,000 rpm, 808 Nm and 85 kW, while a version with up to 16,000 rpm or 1,414 Nm at 8,000 rpm is optional for heavy-duty cutting. For MASTER spindles, DMG Mori provides a warranty of 36 months with no runtime limit.

The wheel magazine, which has 63 tool positions as standard, can be expanded to six wheels, providing space for 363 tools up to 320 mm in diameter by 700 mm long and weighing 35 kg, optionally 50 kg. The high capacity allows long periods of autonomous operation if a large pallet storage solution is integrated.

The INH 63 can be used flexibly in automated production. Either a linear pallet



pool or a circular storage system can be supplied, according to the required number of pallet positions and the available production space. Hydraulic clamping pressure is maintained even during automatic pallet change.

The machine is equipped with innovative features that enable energy-efficient operation. Coolant nozzles in the work area having a diameter of 3.8 mm do not clog and, with optional AI Chip Removal to take into account the volume of swarf being generated, a coolant delivery energy reduction of up to 57 percent is possible.

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

LOKUMA
 OPEN POSSIBILITIES

NCMT

Visit us at our Coventry Technical Centre
 for our Okuma GENOS Open Days!

CELEBRATE

60 YEARS OF NCMT



SIGN UP HERE VIA QR-CODE

Wed. 7th – Thurs. 8th February 2024
 9am – 3pm

NCMT Limited, Siskin Drive, Middlemarch, Coventry CV3 4FJ



Automated mill-turn cell halves cutting cycles and operations

British designer and manufacturer of bedpan macerators for healthcare institutions as well as sewage treatment systems for municipal water companies, Haigh Engineering has upgraded the capacity on its shop floor in Ross-on-Wye with the installation of a German-built, 5-axis Hermle C 42 UMT prismatic machining cell with turning capability.

Included are a multi-level tool magazine for holding 50 tools in addition to the standard 42 tools, making a total of 92 and a six-pallet storage system served by a 3-axis HS Flex Heavy robot for automatically transferring pallets with a maximum capacity of 1,200 kg into the working area and returning them after components have been machined. The cell was delivered in September 2022 by Kingsbury, sole UK agent for the German manufacturer.

Haigh Engineering's production manager Neil Phillips comments: "When buying new machine tools, we always look for the best equipment available and are delighted to have added this new Hermle C 42 cell.

"As well as allowing for future capacity increase and improved reliability, the Hermle C 42 has enabled us to take two older, less efficient machining centres off-line. These are a horizontal-spindle model that has now been scrapped and a vertical-spindle, 3-axis machine that is being phased out."

In 2021, Haigh Engineering identified the opportunity to upgrade. After considerable research, three suppliers were shortlisted based on their expertise within the required metal cutting applications. Additionally, Neil Phillips and machine shop manager Jeremy Allen visited a business on the South coast that has extensive experience with Hermle equipment, including a C 42 UMT. As well as the machine being the optimal size for the planned work, the integrated 6-pallet robotic loading system with the option to extend it, the Heidenhain control and the reputation of Kingsbury for UK-based support all swayed the decision.

Kingsbury provided Haigh Engineering with advice and contacts through the installation process. Even though the Hermle C 42 needed to be lifted through Haigh's factory roof, no small exercise, the project was completed within target dates, with successful



commissioning and operator training provided by the Kingsbury team.

A majority of the throughput involves machining of castings, mainly iron but also stainless steel and aluminium, ranging in size from 400 mm high by 600 mm square down to 150 mm diameter by 150 mm long. Some weigh as much as 250 kg.

While the machine is currently attended full time, as the setters optimise usage, the intention is to set up multiple parts on the six pallets and run the system lights-out. Some unattended machining is already achieved at the end of each day shift by loading a raw casting that requires 60 minutes or more of metal cutting time, allowing production to continue past normal working hours.

Before the arrival of the Hermle cell, the production process for most components when the former machining centres were in use involved two prismatic machining operations on either of them, preceded by two turning operations on lathes. With the provision of a torque table on the C 42 UMT, turning is now done in-cycle, so parts come off complete after just two operations. Overall, actual metal cutting time is about half compared with the equivalent machining cycles on the older mills. Moreover, only one inversion of the component at the HS Flex Heavy setup station is required, rather than



the three subsequent re-handlings as previously, saving even more time.

The pallet store is controlled and managed by HACS, Hermle's automation control system, which enables smart order management via the touch screen. It will be linked to Haigh Engineering's MRP system, as with other machine tools on site. The connectivity allows production orders to be sent directly to the machine, providing improved job sequencing and optimising output. The resulting availability of more and better data, especially of machine utilisation, will continue to enhance the manufacturer's operational efficiency.

Kingsbury

Tel: 023 9258 0371

Email: solutions@kingsburyuk.com

www.kingsburyuk.com

'Firsts' for Matsuura at Southern Manufacturing

Following the global success of the MX-330 PC10, Matsuura has introduced the MX-420 PC10 5-axis Vertical Machining Centre (VMC) configured with 10 pallets and 90 tools. The MX-420 PC10 was developed following global demand for a larger workpiece envelope on the same winning MX-330 PC10 platform. Possessing Matsuura's legendary OEM automation technology, the fully automated MX-420 PC10 provides affordable and reliable unmanned 5-axis production and is making its debut appearance at Southern Manufacturing. Live machining will take place throughout the show and will demonstrate just how flexible the 10-pallet changer can be during unmanned operation.



Already in operation with numerous UK customers, the MX-420 PC10 has proven itself as an equal to the MX-330 PC10 in terms of OEE, spindle uptime, ROI and reliability.

Following the success of last year's Southern Manufacturing and the interest from visitors in its additive manufacturing offer, for the first time Matsuura will have a separate stand entirely dedicated to 3D printers, AM software and raw parts post-processing, conveniently located opposite its CNC stand. As an award-winning reseller of HP 3D printers, the company will be demonstrating a wide range of actual customer parts from all industry sectors, including high-quality white parts printed in PA12W on the new industrial mass production MJF 3D printer - the HP 5420W. All UK end users of HP MJF 3D printing technology are Matsuura customers. There will also be a range of parts from Desktop Metal's 3D printer portfolio in a vast array of metals.

For the first time at Southern, Matsuura will be showcasing the component manufacturing capabilities of Roboze 3D printers using carbon PEEK, a composite material reinforced with carbon fibre. Offering extraordinary characteristics in terms of mechanical, thermal and chemical resistance, Carbon PEEK is ideal for aerospace and oil and gas industries.

Also on display will be components from DyeMansion, a leader in post-processing solutions for industrial 3D-printing that turn 3D-printed raw parts into high-value products.

Visitors to both stands will be amazed at just what is possible from both perspectives; CNC machining and 3D printing.

Matsuura Machinery Ltd
Tel: 01530 511400
Email marketing@matsuura.co.uk
www.matsuura.co.uk



WHITEHOUSE

ADVANCED | ENGINEERING | SOLUTIONS

WHEN A
 STANDARD VMC
 JUST DOESN'T CUT IT...

AVAILABLE
 EX-STOCK



BROTHER M200XD1 5 AXIS MILL TURN

KEY BENEFITS

- Multi-Functional 5 axis **simultaneous** machining combining Milling and Turning
- High Efficient IPM Motors uses Less Energy
 – **Up to 80% reduction** compared to BT40 machines
- Regenerative Power System
- Higher acceleration reducing cycle time
 - Compact Footprint
- Unmanned loading Systems available
 See Feedio interview with Hemlock at:
<https://youtu.be/-Ekg6g5LCzg>

WWW.WMTCNC.COM

The benchmark in cutting performance and precision

Heller 5-axis machining centre F 6000

With the presentation of the F 6000 5-axis machining centre at EMO, Heller has launched a new generation of the F series.

The benefits of the machining centre include: increased cutting performance and higher precision, maximum reliability for 24/7 production, optimum ease of operation and a compact machine footprint. Dr Eng. Manuel Gerst, head of development for the Heller Group, states: "With the F 6000, we have succeeded in raising the already high standard to a new level. This is due to newly developed key components 'Made by Hller' such as spindles, heads and tables whilst consistent standardisation also helps us to ensure full compatibility with previous models."

Following intensive development work, Heller's new F 6000 5-axis machining centre is now available to order. It can be used for all areas of 5-axis machining, including optional combined mill/turn operations, from heavy-duty cutting through to machining of light metals. The machine is just as efficient for the manufacture of single parts as it is for series production. As a result, the F 6000 offers a compelling solution for companies in a wide range of industries, from general mechanical engineering, powertrain and power engineering through to aerospace.

With its modular design, the F 6000 combines and extends the capabilities of the



HELLER's new F 6000 was unveiled at EMO 2023 and is now available for order.

previous F series and the mill/turn machining centres from the C series. Topology-optimised structural components and the improved machine design guarantee high basic stability. With a wide range of options available, the machine can be optimally tailored to the needs of each individual customer, ensuring maximum productivity in practical use.

Spindle units with in-house developed motor spindles

The Heller team, led by head of development Manuel Gerst, has made numerous improvements. Highlights of the new generation include the completely redesigned swivel heads with integrated motor spindles specially developed by Heller. The Speed Cutting Unit (SCU) in combination with the HSK-A 100 tool shank reaches speeds



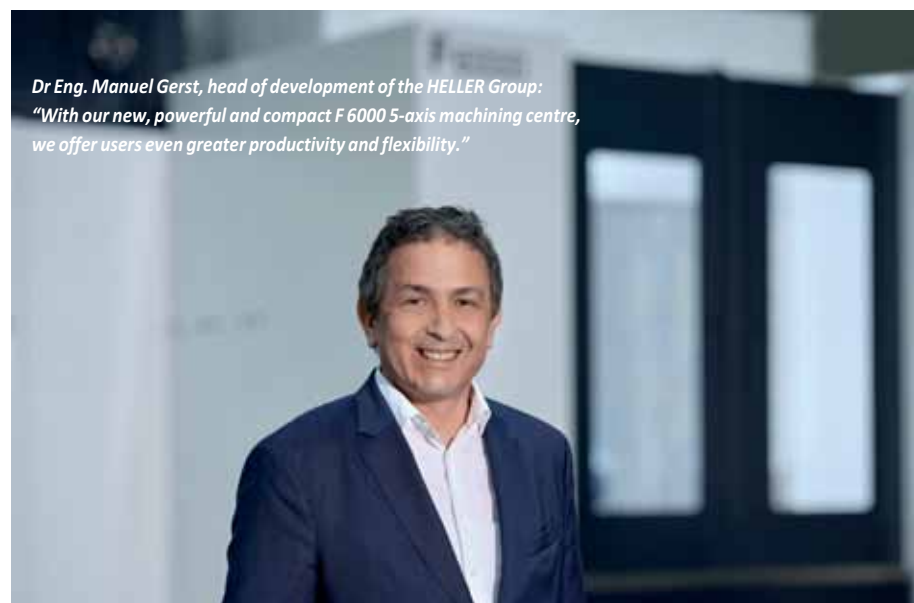
User-friendliness is paramount with the new F 6000. The standard SINUMERIK ONE control contributes to this, as does the significantly wider door to the work area.

of 15,000 rpm. As an alternative, Heller offers the Dynamic Cutting Unit (DCU) designed for universal use with 380 Nm and 12,000 rpm. For heavy-duty machining, the Power Cutting Unit (PCU) with a gear spindle and 1,150 Nm is still available.

Equally elementary is the revised drive concept of the linear axes, with two ball screws in the Z-axis and the significantly reinforced X-axis. "The machine offers much higher dynamics in the linear axes. At the same time, the positioning tolerances have been greatly reduced for the PRO package. The new standard is 5 µm, with 4 µm available as an option. Tolerances on the rotary B and C axes have also been reduced and are now 7 arc seconds as standard. Overall, this is reflected in the workpiece, reaching new top marks for accuracy and machining time," explains Manuel Gerst.

High-speed rotary table for complete machining

The F 6000's Mill-Turn option ensures greater precision and shorter production times for workpieces that also require turning in addition to complex milling operations. This is ensured by the high-speed Direct Drive Turning (DDT) rotary table available for the new machining centre. It offers high torque and can reach speeds of up to 700 rpm. This means that, in addition to conventional milling and drilling operations, external and internal contours can be machined in a single setup using the turning functionality. The wide range of machining cycles covers virtually all the capabilities of a conventional turning machine.



*Dr Eng. Manuel Gerst, head of development of the HELLER Group:
"With our new, powerful and compact F 6000 5-axis machining centre, we offer users even greater productivity and flexibility."*

New hardware and software ensure greatest possible ease of operation

Another major strength of the F 6000, according to Manuel Gerst, is the ease-of-use it offers in every respect. The comfortable main operating unit in console design with 24-inch touch screen and other features ensures that the operator quickly gets to grips with the machine. In addition, the significantly wider door to the work area provides easier access to the workpiece. Bright work area lighting, an additional LED light in the swivel head and an optional work area camera ensure good visibility when setting up new workpieces. The optional SETUP Assist allows new processes to be set



The completely redesigned swivel heads with integrated motor spindles, specially developed by HELLER, contribute significantly to the high accuracy and dynamics of the F 6000.

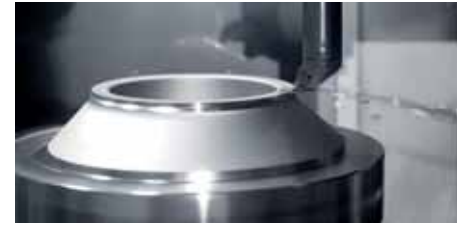
up quickly and safely on the machine.

The new Siemens SINUMERIK ONE control is available as standard. Existing NC programs from F- and C-series machines equipped with SINUMERIK 840D sl can be transferred directly and easily by the user. Head of development Manuel Gerst continues: "Compatibility with our previous machines is very important to us. This means that tools, machine pallets and fixtures from our 4-axis and 5-axis series are compatible and can continue to be used on the F 6000."

Automation for every requirement, even as a retrofit solution

The pallet changer, as the first level of automation, provides a reliable basis for automated series production of small, medium or large batches. The F 6000 is equipped with a pallet changer as standard and can easily be extended with a standardised linear or rotary storage. The new 'Automation-ready' option allows the Heller Rotary Pallet Storage (RSP) and Heller's standardised linear storage solutions to be retrofitted easily, cost-effectively and quickly without having to modify the machine.

Free chip fall below the spindle increases process reliability. To this end, the designers



The optional DDT (Direct Drive Turning) rotary table can reach speeds of up to 700 rpm. This allows simultaneous 5-axis machining and turning operations to be performed in a single setup.

have incorporated a wide chip conveyor, steep covers in the work area and stainless-steel cladding of the chip chutes to ensure effective chip evacuation.

The new machine design and in particular the direct chip disposal to the rear of the machine, has resulted in a significantly smaller footprint of the F 6000. The machine's narrow width of 3.70 metres is an advantage, especially when automating multiple machining centres and allows for a much better use of the available space.

Heller Machine Tools Ltd

Tel: 0121 275 3300

Email: sales.uk@heller.biz

<https://uk.heller.biz/>

starrag

Engineering precisely what you value

Starrag

For those who
aim for more.



Future-proof thanks to the highest titanium material removal rate on the market.

www.starrag.com

Mills CNC turns 50

UK's fastest-growing machine tool and automation systems supplier reaches historic landmark.

Mills CNC, the exclusive distributor of DN Solutions' and Zayer machine tools in the UK and Ireland and a leading supplier of advanced automation system solutions to component manufacturers, is celebrating its 50th anniversary in January.

The company which, by the end of this year is expected to achieve, or even exceed, sales turnover of £80M for the first time in its history, retains many of the same corporate values and business attributes it had when it was first incorporated back in January 1974 although, in many other respects, Mills CNC is a significantly different entity to what it was 50 years ago.



Tony Dale, CEO, Mills CNC.

Tony Dale, CEO, Mills CNC says: "Our 50th anniversary is a significant milestone for the company and the story of Mills CNC over the period is one of growth and success built on innovation, technical excellence and exemplary customer service."

The early days

Mills CNC was established in 1974 by entrepreneur Peter Mills, that is where the name originates. The company he created was called Mills Marketing Services and was located on an industrial estate in Norwich. Peter Mills was a flamboyant character and, if not a visionary, was certainly a man ahead of his time.

Toolmaker trained and with an extensive background in machine tool sales gained, in part, from his time at Beaver Engineering, also based in Norwich, Peter Mills could see, when many could not, the huge potential of importing high-quality and reliable CNC machine tools from Japan, South Korea and



Taiwan and selling them to UK and Irish manufacturers.

He put these assumptions to the test in 1974 when he made a deal with Japanese lathe and milling machine tool manufacturer, Howa, by taking 'ownership' of two machines, Howa NC-7 lathes, on a 'sale or return' basis.

The gamble paid off. Given six months to make the new business venture work, Peter Mills sold both machines within the time allotted, with one of them going to valve manufacturer, Shaw Son & Greenhalgh, based in Huddersfield, West Yorkshire.

With the wind in his sails and on the back of this initial success, Peter Mills set up his new company with a small group of people, a number of them also having worked at Beaver Engineering and the Mills' die was cast, so to speak.

Mills Marketing Services started life being a distributor for many international machine tool companies looking to gain a foothold in the UK, the first of these was, naturally, Howa. Other principals Mills represented in the early days included Nakamura-Tome and Toshiba.

The focus, for the fledgling company was to give UK and Irish customers access to advanced, high-quality and competitively priced machine tool technologies backed by proactive marketing and in-depth after-sales support and was designed to build strong, long-term relationships with end users.

A key strength and differentiator for Mills, at this time, was its applications' and projects' operations and a well-resourced and highly-skilled servicing team.

Peter Mills developed and grew the company during the 1970s and early 1980s before selling his controlling interest to Haden MacLellan Holdings in 1986. He then retired and emigrated to South Africa. Sadly, he passed away in 2011 aged 71.

When Peter Mills left the company, he had already added South Korean-based Daewoo Machinery, part of Daewoo Heavy Industries & Machinery, to the list of machine tool principals represented by Mills Marketing Services.

In the mid 1980s, with the company under new management, the company relocated its operations to new, larger premises in Norwich and, in 1986 achieved sales of 100 machines, a real landmark at the time.

In 1992, with Mills Marketing Services having established itself as a major UK machine tool distributor, the company changed its name to Mills Manufacturing Technology.

The name change reflected a change in focus away from being a traditional machine tool distributor to a company providing a wide range of technology solutions. Hand in hand with the repositioning was a change in the company's logo and livery and a streamlining of the machine tool principals it represented.

Going places

1996-2014 was an incredibly successful period for Mills Manufacturing Technology and, from 2009, for Mills CNC too.

Over these 18 years the company grew exponentially and notable highlights included:

- Relocation of its entire business operations to Tachbrook Drive in Leamington Spa. This started in 2000 and was completed in 2001.
- Closure of the two satellite sales offices and demonstration centres in Loughborough and Heathrow, both occurring around 2000.
- Rationalisation of its distributor network resulting in Mills focusing its resources on selling, supporting and servicing Daewoo machine tools.
- Creation of the CNC Training Academy in 2010.
- Entering the vertical machining centre market with a vengeance by introducing UK and Irish customers to a new range of Doosan NM-machines.
- Introducing the MX-range of mill-turn, multi-tasking machines into the market.

This time, for many, will be best remembered by the people who managed and led the company during this exciting, transitional period: Mike Jenkins, managing director, from 1998 – 2006 and Nick Frampton, managing director with Andrew Jack, technical director, from 2006-2014.

From 1996-2014, the Mills brand went from strength to strength as a direct result of the company focusing all its efforts and resources on Daewoo machine tools and strengthening and integrating its pre- and after-sales services to support its sales operations.

The company also invested significantly in creating best-in-class project and turnkey solutions, something that has become a real and tangible differentiator for the company ever since.

From 2009, the company began to develop a range of automation solutions in collaboration with FANUC, installing automated manufacturing cell systems for a number of large OEM customers.

The knowledge and expertise of robotic and automation systems gained during this period ultimately resulted in Mills creating its own Turnkey & Automation Centre in



Mike Jenkins, managing director, Mills CNC from 1998-2006.



Nick Frampton, managing director, Mills CNC 2006-2014.

2020/21 and in developing its own, highly-successful SYNERGi automated manufacturing cells powered by Mills' proprietary SYNERGi software in 2020.

This was the time when, the now, iconic Lynx and Puma lathes, started to become the UK's favourites and the NM-series of vertical machining centres, superseded later by the DNM range, rapidly became the 'go-to' verticals for UK and Irish component manufacturers.

A significant development during this period was the company's name change which went from Mills Manufacturing Technology to Mills CNC.

Coming of age

Since 2014, Mills CNC has become firmly established as the machine tool and automation systems' supplier of choice for many UK and Irish component manufacturers.

Despite a couple of economic setbacks in this period and the COVID-19 global pandemic, the decade has been one of

growth, and this, to a large extent, can be explained by the company's strong leadership headed up by Kevin Gilbert, 2014/15-2021 and Tony Dale, 2021-present and by its dedicated and loyal workforce.

The introduction of new and innovative machine tool models, including best-selling DVF and VCF 5-axis machining centres, multi-tasking SMX mill-turn machines and large-capacity horizontal borers and double-column milling machines clearly played their part in the company's growth, enabling Mills to enter new market sectors and consolidate its position in others.

The recently signed distributor agreement between Mills and Zayer machine tools in 2022 is further evidence of the company's commitment to continuous improvement and in providing customers with best-in-class machining solutions.

2014 - 2024 represents an important decade for Mills CNC, a 'coming of age' if you like. The company has grown exponentially over the period and now employs over 140 people.

A glimpse into the future

As far as the future is concerned, Mills is looking forward to introducing new DN Solutions' and Zayer machine tool models into the market. These include a new, smaller 5-axis machining centre, the DN Solutions' DVF 4000, from its popular and proven DVF range.

Demand for the company's customised 'SYNERGi' automated manufacturing cells is expected to increase, cementing Mills' position as a recognised and valued turnkey solutions' provider.

The future will also see further development of Mills' Campus facility. Other developments include a major 'environmental and sustainability' push, with Mills focusing on achieving its own Net Zero targets as well as promoting its energy-saving machine tool technologies and automation solutions to customers.

Tony Dale concludes: "Over the last 50-years, Mills has demonstrated that providing technically excellent machine tool technologies and innovative automation systems, backed by world-class after-sales services, is a winning combination. The company has everything in place to ensure that its future is as successful as its past."

Mills CNC Ltd

Tel: 01926 736736

Email: sales@millsnc.co.uk

www.millsnc.co.uk

Automate to accumulate

FANUC's recent annual Open House showcased the company's latest automation advances and how they can add value to UK manufacturing companies

Steed Webzell reports

FANUC Open Houses are like no other. Not only does the company open its showroom to reveal the latest innovations in automation and robotics, it also presents a comprehensive seminar programme, high-level panel debates, Q&A sessions, hands-on robot training, live demonstrations and a vibrant exhibition area involving nearly 40 technology partners. A FANUC open house is an immersive experience, offering insights and solutions to some of the biggest challenges facing manufacturers today, including productivity, sustainability, labour shortages and upskilling.



FANUC UK managing director, Tom Bouchier.

Day one of the three-day event was all about the future of manufacturing, with the opening address by FANUC UK managing director Tom Bouchier setting the tone: "FANUC is not here just to talk, but also to listen: it's a two-way street. Though a collective effort we can push the boundaries and shape an intelligent, sustainable future for manufacturing. It's down to all of us to make sure that happens, including the Government."

He added: "A recent Make UK report identified that 99 percent of manufacturers think the UK should have an industrial strategy and 87 percent believe it would give their business a long-term vision. I fully agree. What we need now is a coherent, joined-up strategy for manufacturing, with cross-party consensus, to give businesses the certainty they so badly need. As the only developed country without an industrial strategy, we're in danger of falling behind. So my plea to Westminster is let's get the stakeholders together, political parties, local government, metro mayors, education officers, OEMs, subcontractors and so on to

generate a manufacturing strategy for the UK."

Bright future?

Among the major facilitators of a better future for UK manufacturing is automation. So why then does the UK lag so far behind its peers? What are the barriers preventing greater uptake? This was the theme of the first panel discussion, staged in the impressive FANUC Academy training auditorium. Alongside Tom Bouchier, panel members included Stuart Whitehead, founder of the Jefferson Group and Dr Bob Struijk, vice-president and director of FANUC Europe.

Stuart Whitehead said: "Many UK firms are still addicted to cheap manual labour, focusing on short-term costs rather than long-term gains."

The panel agreed, highlighting that the longer-term payback of automation, including increased efficiency, better sustainability and compensating for worker shortages, is key to encouraging the uptake of robotics in the UK.

Tom Bouchier quoted a recent IFR (International Federation of Robotics) report that says the UK will see an 18 percent growth in robotics this year, compared to just 3 percent across wider Europe.

"Although the UK figure comes from a low base, it's encouraging nonetheless," he said. "If we can maintain that growth rate it bodes well for the future. We will close the gap."

Further discussion points and audience questions centred on return-on-investment, AaaS (Automation as a Service), reshoring, the skills gap and where to start if automating for the first time.

Hot-shot cobots

Two presentations followed the panel discussion. The first, focusing on trends in the cobot market, saw FANUC's Paul Richards, global customer coordination Europe for the cobot market, speak about growing demand for this innovative technology. He quoted figures from BARA (British Automation and Robot Association) and others that suggest the UK cobot market is currently seeing circa 30 percent year-on-year growth.

Svetan Ratchev, director of the Institute of Advanced Manufacturing at the University of Nottingham, delivered the second presentation, focusing on Omnifactory's approach to integrated robotics in a model-based enterprise. Omnifactory is a £3.8 million national demonstrator and test bed for smart manufacturing systems located within the University of Nottingham's Advanced Manufacturing building.



Panel discussions were a key part of the FANUC Open House.

A key technology at Omnifactory is industrial automation and robotics, including numerous FANUC robots, which allow the quick development of repeatable and consistent processes to enhance quality and reduce production costs. Among those already taking advantage of this new era in manufacturing efficiency and affordability are GKN, BAE Systems and Hamble Aerostructures.

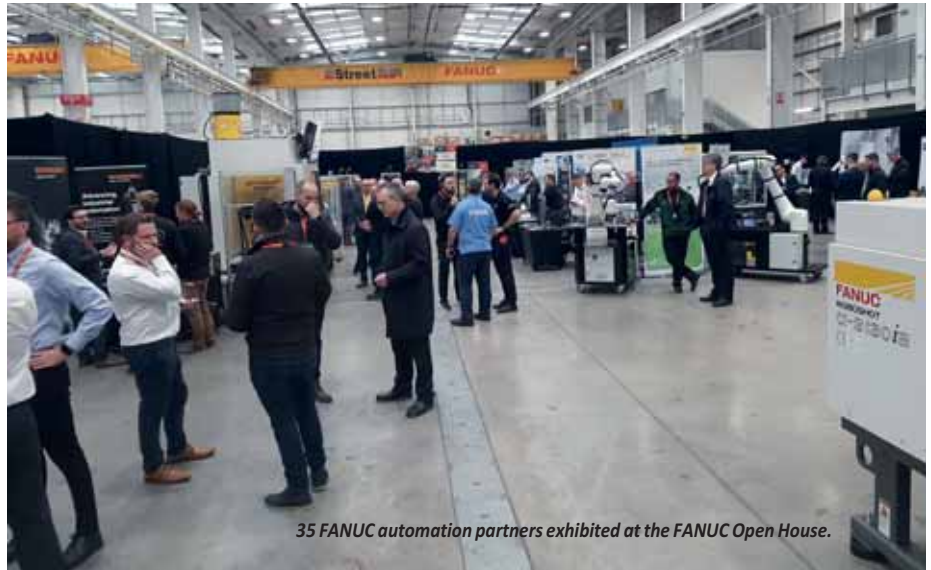
The final session on stage was another panel discussion: busting automation myths. Participants included Carl Patrick, FANUC's robot sales manager, with responsibility for machine tool automation, Gary Herbert, sales manager for utilities & transport at Rockwell Automation, Peter Williamson, CEO of PPMA and managing director of RARUK Automation and Martin Kidman, manager for safety for south and west Europe at SICK Sensor Intelligence. The panel neatly set out the arguments for dispelling myths such as robots take jobs and robots require overly complex set ups.

Call to arms

Out in the FANUC showroom, Open House visitors could see for themselves a broad range of real-world robotic and automation systems condensed into compact demonstration cells. Alongside the latest FANUC machining centre, ROBODRILL, wire EDM, ROBOCUT, injection moulding, ROBOSHOT and CNC control technologies were several impressive robot displays, including the company's R-2000iC high-payload 6-axis robot arm and ARC Mate 100iD robot showcasing dual-arm technology and coordinated motion in a flexible welding application.

Other robot demonstrations included a FANUC R-1000iA medium-payload 6-axis robot arm performing spot welding and a FANUC LR-10iA compact yet long-reach robot showcasing its force-sensing technology. This technology makes it possible to automate force-sensitive tasks such as deburring and polishing. Also on show was the UK unveiling of the upgraded FANUC CRX-25iA cobot, featuring the latest software and a higher payload capacity of 30 kg.

Aside from its own technologies, FANUC hosted 35 technology partners from the across the world of automation all keen to showcase their offers. For instance, Mills CNC exhibited a DN Solutions Lynx 2100LSY turning centre with loading and unloading performed by a FANUC M20iD/25 6-axis robot. Similarly, Zimmer Group



35 FANUC automation partners exhibited at the FANUC Open House.

demonstrated its ZiMo flexible robot cell, featuring FANUC CRX-10iA/L lightweight cobot, serving a FANUC ROBODRILL α-D21LiB5 Plus machining centre.



ZiMo flexible robot cell with FANUC cobot serving FANUC ROBODRILL machining centre

Further displays included a robot-served Mazak Quick Turn 250MSY turning centre and a Renishaw Equator gauging system checking parts from the latest FANUC ROBODRILL α-D21LiB5 ADV Plus machining centre. Among other exhibitors were CAD/CAM specialist Open Mind Technologies and workholding/robot gripper technology experts Schunk, Nikken and SMW Autoblok.



Automated Mazak Quick Turn 250MSY turning centre.

Streets ahead

A notable attendee on day one was Andy Street, mayor of the West Midlands, who encouraged businesses to embrace automation: "Manufacturing is a globally competitive race and, in order for UK firms to compete, they need to increase their productivity. Automation solutions such as those on display at the FANUC Open House can help UK companies to remain competitive in the long term. What's happening here is really important for the future of our economy."

He added: "One of my takeaways from today is that there are legions of opportunities for young people. Engineering offers a very vibrant career pathway for our youngsters."

On this note, FANUC is proud to be a 'Premium' sponsor of WorldSkills Europe. Three WorldSkills teams, from the UK, Hungary and Chinese Taipei, were present at the Open House preparing for the finals. The company believes strongly in nurturing future industry talent, which is why some 10 percent of FANUC UK employees are apprentices.

Once again, FANUC's annual Open House served to unite leading figures from the world of robotics, automation, manufacturing and academia. While day one centred on the future of manufacturing, day two tackled sustainability and day three focused solely on education, with highlights including the final of the WorldSkills UK Industrial Robotics competition.

FANUC UK Ltd
Tel: 024 76 05 3000
Email: sales@fanuc.co.uk
www.fanuc.eu/uk

Increased tool life and reduced cycle time

Addmore Engineering Ltd, based in Bedford, is a CNC machining company that supplies high-precision parts to the automotive, medical, oil and gas industries. What started from a barn in Watford is now a large operation which spans over three buildings, employs 48 skilled machinists and runs 24 hours a day.

Frank Vasquez, an engineer with an expertise in sliding head machines, started the company decades ago. Having bought two sliding-head machines, he launched Addmore Engineering Ltd and quickly began to build a solid reputation for the high-precision parts he was producing and the complex customer requirements he was able to meet. A family business at heart, his son, Ben Vasquez, joined the company when he was 17 years old and was put to work on the CNC machines. Remaining on the machines for 10 years, Ben Vasquez gained the same level of expertise that his father was known for. Once Frank Vasquez stepped down as managing director, Ben Vasquez took over his role and has been running Addmore ever since.

Specialising in highly precise and intricately machined parts, Addmore turned to CERATIZIT over 20 years ago to help them with their complex component and tooling needs. Regularly visited by an applications sales engineer and a technical sales engineer from CERATIZIT, a strong working relationship has been built over the years, which has had a profoundly positive impact the growth the company has seen over the past two decades.

While many of CERATIZIT's inserts have been used by the Bedford based company for such a long time that they have become machining staples, a recent switch made by Addmore was to CERATIZIT's Pentron Drill. The initial swap to the Pentron Drill was made in order to increase tool life and save money on tool-replacement costs. The tool Addmore were using previously was the 2XD 46 mm Dia C900 from CERATIZIT. Although this tool was successfully completing the job, the inserts were getting pickup and sticking to chips. After adjusting the cutting data to try and solve these problems, CERATIZIT suggested that Addmore try a Pentron drill on this machine, and a trial was book for the following week.

Immediate benefits were seen from using CERATIZIT's 2XD 46 mm KUB Pentron drill. Whereas the previous drill had an insert life of between 55-75 parts per edge, the Pentron



drill increased this to 120+ parts per edge, making an improvement of well over 50 percent. Shaun Thornton, technical manager for CERATIZIT UK, explains that 'this improvement is down to CERATIZIT's SOGX 03 geometry and BK8430 coating in combination with the Pentron Drill. This specialist coating minimises chip-sticking and increases swarf evacuation due to its optimised flutes.' As well as the cost-saving benefits which come from the extended insert life of the Pentron drill, switching to this insert also meant that machine cycle time was reduced by 10 percent, allowing for more parts to be machined per day.

Warren Howard, technical sales engineer for CERATIZIT UK, says: "CERATIZIT is always developing and improving upon our cutting tool technology and it's important for our technical sales engineers and application sales engineers to recognise areas where improvements can be made in our customers' machining processes. We recommended the Pentron drill, knowing that the significantly increased tool life of this insert would mean that we sold fewer inserts to the company. We want our customers to know that they can put their trust in us and will have faith in our machining solutions going forward."

Like many other companies who rely on CERATIZIT's reliable, durable and high-quality parts, Addmore have CERATIZIT vending machines on-site which allows them to access new tools as and when they are needed. Enabling 24-hour access to tooling and parts on hand to prevent machine stop-time aren't



the only benefits that were highlighted by Ben Vasquez, as he also remarked how useful it is to be able to see the company's tooling costs for specific parts and machines.

Ben Vasquez was also keen to highlight how CERATIZIT go over and above simply selling tools and providing a catalogue of products. The constant line of communication and 24/7 access to technical support is just as valued as the high-quality tooling for Addmore.

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



MASTERING PROCESSES DOWN TO THE SMALLEST DETAIL

EXPLORE HORN

Top quality comes from pairing the optimal machining process with the perfect tool. HORN combines cutting-edge technology with outstanding performance and reliability.



PHorn.co.uk

Guhring hits the spot with new mould and die range

As a leading supplier of cutting tool solutions, Guhring has released a new range of innovative tools designed especially for companies working in the mould and die industry. As the company celebrates its 125th anniversary, the new range incorporates more than a century of expertise and technology to present the very latest innovations. One standout performer is the G-Mold milling line which allows manufacturers to benefit from the longest possible tool life and the best component

surfaces. For maximum process reliability, precision and repeatability that delivers impeccable surface finishes, the rigid design is perfect for intricate parts that demand polished surfaces.

The new range, which can be seen in the new mould and die catalogue, presents a wealth of new product lines that include the latest milling, drilling, threading, reaming and countersinking innovations with the new G-Mold milling line for mould making already proving to be an extremely popular range. The new G-Mold milling series has been developed to maximise tool life when machining materials up to 65HRC. With the new Guhring Signum and Perrox coating technologies and the ultra-hard carbide substrate, the G-Mold demonstrates unprecedented levels of performance with long-lasting cutting-edge performance and impeccable levels of surface finish. The extended tool life and performance are further enhanced by the Guhrojet peripheral cooling system that delivers through tool coolant or compressed air to remove swarf while keeping the cutter body structurally sound and improving process reliability.

The G-Mold series is available with ball nose, torus, finishers, radius finisher, universal and high-feed variants that all incorporate micron precision radius accuracy. Three prominent new arrivals include the new 55 and 65 G-Mold Series ball nose tools and the high feed range.

The new G-Mold 65B series of high-precision 2- and 4-flute ball nose cutters for machining up to 65HRC incorporate a radius contour tolerance of ± 0.005 mm to ensure component contour accuracy and repeatability, with a centre cutting geometry, 25-degree flute and neck clearance for extended reach applications. Available in diameters from 0.2 to 12 mm with a reach from 9 to 75 mm depending upon the variant selected, the G-Mold 65B is suitable for hard materials, cast iron and steel machining where optimum performance, tool life and surface finishes are a necessity.

Alongside the G-Mold 65B series in the catalogue, is the new G-Mold 55B series.



More of an allrounder, the G-Mold 55B is suitable for machining steel, stainless steel, cast iron, super-alloys and hard materials up to 55HRC. Like the G-Mold 65B, the G-Mold 55B is available from 0.5 to 12 mm diameter with neck clearance and a centre cutting geometry.

For mould tool companies that demand the epitome of high-performance cutting, the G-Mold 65 HF high-feed series has been developed for high-feed roughing with low depths of cut and maximum feed rates to optimise metal removal rate. Presented in diameters from 1 to 16 mm, the G-Mold 65 HF high-feed series incorporates Guhring's Guhrojet peripheral cooling from 1 to 3 mm diameter with central through coolant for 4 mm diameter and above. With a corner radius and optimised tool geometry, the 4-flute end mills can perform high-feed rates on all material types.

Guhring Ltd, founded in 1973, was the first subsidiary of the Guhring Group. Initially starting as a sales, stocking and distribution operation the company has now grown into an established UK manufacturing company with capability to produce special tools on short deliveries and regrind/recoating service.

Guhring employs a team of field technical support engineers and in house design and application engineers who are focused on offering customers with a continuous stream of the very latest in cutting tool technology. The need to support manufacturing is the main goal and this is achieved by ensuring that optimised tools are designed, developed, manufactured and applied.

Guhring Ltd
Tel: 0121 749 5544
Email: info@guhring.co.uk
www.guhring.co.uk



Left: The ball nosed G-Mold series.

Right: The G-Mold is available with small diameters and long reach



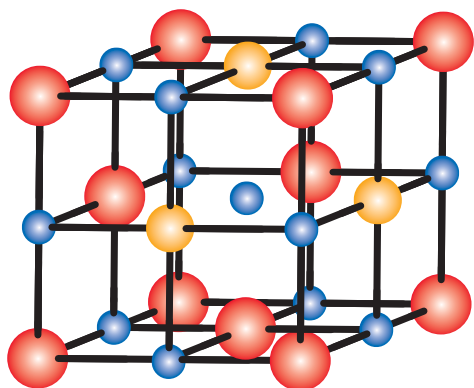
THE FUTURE IS HERE

MV INSERTS

A complete coating technology for **TURNING** and **MILLING** grades that sets new standards for tool life.

- UNPRECEDENTED CUTTING SPEEDS
- HIGHLY RESISTANT TO THERMAL SHOCKS
- OUTSTANDING WEAR RESISTANCE
- HUGE RANGE OF APPLICATIONS
- CLASS LEADING TOOL LIFE

(Al,Ti)N coating



The combination of atoms with different sizes creates an exceptionally hard crystal structure.

MV Milling

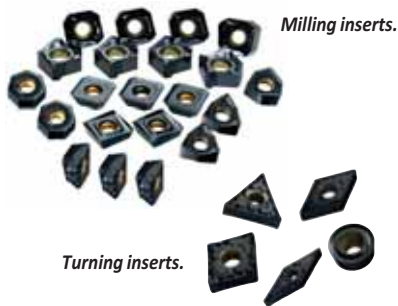


MV Turning



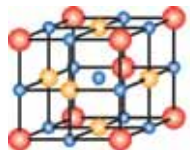
The future is here

New MV grades - turning and milling inserts



Mitsubishi Materials has developed a very special series of grades that reaches across both milling and turning applications.

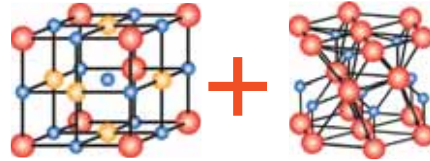
The key feature of this innovative grades is due to the adoption of the newly developed AL-Rich coating method. This advanced CVD coating of Aluminium titanium nitride (Al,Ti)N is a compound of aluminium and titanium that is widely used as a coating for advanced cutting tools because of its extremely hard and heat-resistant properties.



The combination of atoms with different sizes creates an exceptionally hard crystal structure.

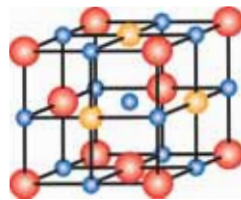
The hardness of (Al,Ti)N increases as the Al content ratio increases, but with conventional technology, when the Al content

ratio exceeds 60 percent, the crystal structure changes and the hardness of (Al,Ti)N decreases.



When the Al ratio is over 60 percent a softer crystal phase is formed.

It uses a new coating process based on Mitsubishi Materials' own original technology. In this way the AL-Rich coating does not change its crystal structure even when the Al content is increased. This enables a higher Al content and a provides a higher hardness (Al,Ti)N.



Crystal image of MV1000 series.

The MV1000 series includes two new grades for milling, MV1020 and MV1030 for machining a wide range of materials from alloy and stainless steels through to cast iron. The turning grade MV9005 specialises in the high efficiency machining of heat resistant super alloys.

Milling

MV1020: This grade has advanced wear and thermal shock resistance and also achieves stable cutting at unprecedented cutting speeds, especially when machining steel and ductile cast iron, thus greatly reducing work time.

MV1030: The new Al-Rich coating also provides excellent wear resistance. An unprecedented performance against sudden breakage was also realised especially during problematic wet cutting and when machining stainless steels. MV inserts are extremely versatile and are available for WWX, WSX, WJX, WSF, VPX, AHX and ASX cutters.

Turning

MV9005: This grade exceeds all current standards when machining heat resistant super alloys. A range of negative and positive inserts and five different chip breakers ensure the optimum combination for efficient turning can be found. Cutting speeds up to 110 m/min can be achieved.

Negative geometry inserts CNMG, DNMG, SNMG, TNMG and VNMG types are available, together with a 7° RCMT and RCMX positive geometry types.

MMC Hardmetal UK Ltd

Tel: 01827 312312

Email: sales@mitsubishicarbide.co.uk

www.mmc-hardmetal.com

Walter introduces the new WL17 indexable inserts

Cutting tool specialist Walter has expanded its WL copy turning system with the introduction of the new WL17 indexable inserts for Swiss type automatic lathes and small diameter machining. Used on the W1011-S-P external turning toolholder, which is also a new arrival along with the W1210/W1211 boring bars, they bring the benefits of the existing WL25 inserts to smaller dimensions.

The W1011-S-P toolholder has a square shank that is available in the most common shank sizes of 12 by 12 mm and 16 by 16 mm. They have been specially designed for use on automatic lathes and multi-spindle turning centres. Walter is as yet the only manufacturer to offer a turning system for automatic lathes with positive engagement and three-edge turning inserts.

As with the WL25 turning inserts and toolholders, the smaller indexable inserts



facilitate equally high cost efficiencies. This is partly thanks to the three cutting edges, as well as the stability and the 50 percent improved indexing accuracy when compared with ISO inserts. The targeted Walter precision cooling on the rake and flank faces also increases the tool edge life.

When it comes to internal turning, the inner diameter (Dmin) of the workpiece is often a limiting factor. ISO turning inserts, such as the VBMT11, have only two cutting

edges and can be used at a 93° approach angle from a Dmin of 22 mm. By contrast, the new Walter boring bars W1210 and W1211 with WL17 inserts can be used for internal turning from Dmin 18 mm and they also have one more cutting edge.

Furthermore, the operator can use the indexable inserts for both forward and reverse turning. Just like all WL inserts, the WL17 inserts can be used in a neutral, right-hand and left-hand version and are coated with the latest cutting tool materials and coatings, such as Tiger-tec® Gold. Thanks to its high stability and cost-efficiency, the WL17 copy turning system is ideal for internal turning of small diameters and for use on automatic lathes.

Walter GB Ltd

Tel: 01527 839450

www.walter-tools.com

Tools for sustainable manufacturing

Cutting tools and sustainable manufacturing

The term "sustainability" has become increasingly popular in recent years. It is frequently seen in headlines, featured in forms of news media, scientific research, and practical seminars. Is the word sustainability merely a trending word or the question of the hour? The emphasis on sustainability stems from global growing awareness intended for critical environmental issues and climate change, largely caused by human activity. The focus on sustainability reflects our deep commitment to the principles of securing a better future for the planet and generations to come.

Consequently, sustainability has gained prominence in various fields, ranging from everyday life and business to transportation, urban planning, and manufacturing. Manufacturing should unquestionably be sustainable. Today, there is widespread recognition and agreement regarding the correctness of this statement. Manufacturing processes use natural resources, consume energy, create waste, and pollute the environment. We can mitigate the negative environmental impact only by adopting sustainable production technologies.

Machining remains a primary method for producing parts of machines and mechanisms. Therefore, the question of how to make machining sustainable is relevant more than ever. A cutting tool contacts the machined workpiece directly and shapes it to its required form, removing the rest of the unnecessary material in the form of metal chips. Can a cutting tool be a key factor for improving sustainability? The answer to the above question is undoubtedly a resounding, yes.

Despite its smaller size in comparison to other elements of a technological system, the machine or workholding fixture called the cutting tool can play a pivotal role in achieving sustainable manufacturing practices. The cutting action involved in material removal during machining is an energy-intensive process. However, the cutting tool is designed to be energy-efficient and, therefore, can significantly reduce energy consumption.

The impact of key tool characteristics cannot be underestimated. Advanced cutting geometries minimise cutting forces while anti-vibration designs mitigate chatter, which causes force oscillation. Progressive coatings enhance lubricity, diminishing friction and



A LOGIQ-3-CHAM drill with an exchangeable carbide head has 3 flutes.

efficient cooling methods effectively reduce heat generation. Collectively, these tool elements substantially reduce the environmental impact of machining operations.

In many instances, a cutting tool can hinder productivity growth, limiting the full realisation and capabilities of modern machines. Therefore, tools that guarantee higher productivity play a crucial role in reducing cutting time, machine power consumption and Greenhouse Gas (GHG) emissions. Reliable, long-lasting cutting tools that enhance tool life, reduce the frequency of tool replacements, or insert indexing. This diminishes machine downtime associated with tool changes, ultimately improving overall manufacturing efficiency.

In addition, utilising cutting tools that provide a better surface finish can eliminate the need for finish machining operations, thereby decreasing the machining allowance or material stock to be removed. As a result, a dual effect is achieved reducing both machining time and material waste.

Hence, the term "sustainable cutting tool" is not merely a passing trend but a vital concept that is progressively embraced and integrated as a fundamental principle of sustainable manufacturing. Ultimately the main parameter to analyse a tool is its performance. However, the component of tool sustainability has become a contemporary factor of paramount

importance. Understanding the various aspects of how cutting tools impact sustainability largely shapes the requirements for modern tools and guides their development. ISCAR's tools improve machining sustainability. How can a cutting tool improve machining sustainability? A brief review of select ISCAR products helps us to understand this profoundly. The design concept of tools with replaceable cutting parts significantly contributes to the sustainable utilisation of cutting material.

ISCAR's tool systems with exchangeable carbide heads, such as MULTI-MASTER and SUMOCHAM, provide a good example of this concept by allowing the rational use of cemented carbides. In addition to the traditional approach of saving cutting material, the mentioned systems offer further advantages related to sustainability. Both the MULTI-MASTER and SUMOCHAM families feature high repeatability, which allows for the realisation of the NO-SETUP-TIME principle. This means that replacing a worn head does not require additional setup operations to adjust tool parameters. As a result, machine downtime is significantly reduced.

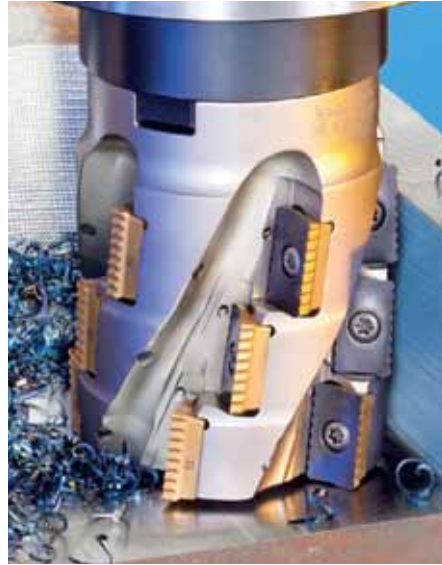
LOGIQ-3-CHAM represents the next step in the development of drilling tools with exchangeable heads, based on the features of its predecessor, the SUMOCHAM drilling line. One notable parameter that sets LOGIQ-3-CHAM apart from the other drilling systems is its three flutes as opposed to the traditional two. This change enables increased feed and speed of up to 50 percent. Alongside improved productivity,



In boring, using anti-vibration bars improves performance and reduces power consumption.

this new design also brings sustainability advantages by reducing energy consumption and GHG emissions. Drilling 16 mm diameter holes with an 80 mm depth in a part made from low alloy steel exemplifies these features well. With a tool life of 500 holes, when compared to a competitor's drill with replaceable two-flute head, the use of ISCAR's LOGIQ-3-CHAM tool results in a 26 percent decrease in cycle time and a 19 percent decrease in energy consumption. Consequently, CO₂ emission is reduced by 19 percent.

The anti-vibration design of cutting tools plays an essential role in reducing power consumption, extending tool life and improving the surface finish of the generated surface. ISCAR has developed vibration-damping solutions that use various principles. These include vibration damping through specially designed mechanisms, such as in boring bars, as well as the development of specific chatter-resistant cutting geometries. The geometry incorporates variable helix and unequal angular pitch in multi-flute solid carbide endmills and heads, along with a serrated cutting edge for effective chip splitting action in indexable inserts.



Chip-splitting geometry of MILLSHRED indexable milling cutters provides high stable milling and better chip handling.

Additionally, these tools and inserts ensure better chip handling, which enhances the performance of machining operations. The smart design of the pocket reducer allows mounting smaller size inserts, which provides the option of extending the use of existing

tool bodies instead of purchasing new ones. This not only reduces the waste of raw materials but also helps decrease GHG emissions.

Additive Manufacturing (AM) has introduced new sustainability features in tool design. Firstly, AM technologies enable the production of a tool body that closely resembles its final shape, minimising the need for finish machining and significantly reducing tool material consumption. Additionally, these technologies make it easier to create inner coolant channels in an optimal manner, improving the coolant flow through the tool body to the cutting zone.

The examples featured in this article illustrate how energy- and material-efficient, durable cutting tools can have a significant impact on technological sustainability. Such tools not only help reduce energy consumption and waste, but also contribute to cost savings and environmental stewardship.

Iscar Tools Ltd
Tel: 0121 422 8585
Email: sales@iscar.co.uk
www.iscar.co.uk

WOHLHAUPTER®

NEW 3E^{TECH+} Digital Readout Module & ES-Bore Lay Down Cartridge

**ACHIEVE YOUR DESIRED
 PRECISION & SURFACE FINISH**



High precision with absolute repeatability with standard as well as special tooling

ALLIED MACHINE & ENGINEERING | **WOHLHAUPTER®**
 Holmaking Solutions for Today's Manufacturing

+44 (0)1384 400 900 | alliedmachine.com



Key to the comprehensive SCHUNK jaw portfolio

With its new adapter jaw, SCHUNK has established compatibility between machine vises and the world's broadest portfolio of top jaws from SCHUNK/GRESSEL. These useful connecting elements offer new and flexible clamping options for any machining task.

The interface between the machine vise and the top jaws for the specific clamping task depends on the manufacturer. Until now, users have been bound to the respective vise manufacturer's jaw portfolio for this reason. This is now a thing of the past with the new SCHUNK adapter jaws. They enable SCHUNK to create compatibility between the vise and its top jaw portfolio, which is the most extensive on the market worldwide. Therefore, users are no longer tied to a specific system, but can now significantly expand their clamping options.

Fast amortisation due to a more favourable top jaw portfolio

The potential of the adapter jaws for machine vises with a jaw width of 125 mm is considerable. This is because they offer concrete advantages for stationary workpiece clamping on vises, especially in milling machines:

The SCHUNK adapter jaws open up any top jaw variation for virtually infinite clamping possibilities. Due to this flexibility, many different clamping options can be achieved not to mention the cost advantages. After the initial investment for the adapter jaws, this expenditure can be amortised very quickly by using the top jaws from the SCHUNK portfolio, since the top jaws are less expensive than comparable competitor

products. Another advantage is the setup time savings and process optimisation due to the quick-change function on some variants of the top jaws from the SCHUNK portfolio. Screws only have to be loosened slightly instead of completely and the jaw can be easily removed upwards along the grooves.

Depending on the workpiece and application, different top jaws are mounted on the adapter jaws for the respective clamping task. The customer can continue to use its original system jaws, which results in greater cost-effectiveness. Logistics and process planning also become easier, another plus point for users, because thanks to the adapter jaws, the same top jaws can be used on different vises. But there is also a sustainability benefit, as existing products can be reused. Finally, the short delivery times will certainly impress users, as they can access the standard portfolio of SCHUNK top jaws instead of having to wait for products in special design.

Plug and Work with no additional interface

This is how the SCHUNK adapter jaws turn third-party vises into "partners" for any clamping application, as they create a useful and flexible connection. Now the extensive range of adapter jaws fits vises from market players such as Allmatic, Roemheld or Röhm, for example. Replacing previous system jaws in the vise is quick and easy as the new SCHUNK adapter jaws can be replaced one-to-one and are instantly ready to use due to the easy handling, just mount them and get started. No other interfaces are required.

Positioning in high-end palletising in a matter of seconds

Flat, more stable and more high-performance: SCHUNK has further developed its VERO-S NSA plus palletising



module especially for automated machine tool loading and upgraded it to its new NSA3 generation.

The stainless steel clamping module is part of the extensive SCHUNK VERO-S modular system for efficient workpiece clamping.

The palletising module VERO-S NSA3 is a 100 percent compatible successor of the tried-and-tested VERO-S NSA-plus. Users can simply continue using their existing clamping pallets and programs.

When it comes to interaction between machine tool and robot loading, the pneumatic palletising module from SCHUNK has become an indispensable tool. It can be used to fix pallets on a machine table in a matter of seconds with highest precision. The low overall height of the modules enables maximum utilisation of the workspace. An integrated pallet lift-off function facilitates process-safe changeover via a robot, especially with heavy pallets.

In this latest generation, application expert SCHUNK has now optimised the maintenance-free, robust module, especially with regard to unmanned production. The height of the new, more compact NSA3 has been further reduced. The special shape of the module prevents formation of chips or accumulation of cooling lubricant. In addition, the integrated cleaning function has been enhanced.

SCHUNK Intec Ltd
Tel: 01908 611127
www.schunk.com



Meet the next generation of workholding

The Chick System 5

A powerful family of totally integrated workholding systems:

▶ Jaws ▶ Faceplates ▶ Jaw carriers and more.



OneLok

Setup and machine faster.

BoltFast™ jaw system means precision clamping in one screw turn

Clean and easy to operate



QwikLok

Keep your CNC machining running for longer with dual-station clamping.

Minimal jaw lift

Maximised clamping force

Clean, closed surfaces



MultiLok

Take full advantage of your horizontal CNC machine.

Decreased cycle times

Optimised machine real-estate

Flexible and configurable

Chick is a totally integrated system

All Chick products are designed with the QwikChange interface. This means workholding can be moved from machine to machine, vertical to horizontal, fixture to fixture, and be set up again with maximum efficiency.

How can Chick maximise your machine tool efficiency and productivity?

- Fast, simple, secure, rigid
- Maximum set-up flexibility
- Optimal placement in the machine for pinpoint accuracy
- Dead zone elimination for HMCs
- Optimised productivity for VMCs

Work with 1ST Machine Tool Accessories to make your shift to automation.

✉ enquiries@1mta.com ☎ 0800 783 0510 🌐 www.1mta.com

1ST MTA
Machine Tool Accessories

TLM Laser's job shop service offers multiple benefits

The flexibility of the laser means that the range of marking, cutting, and welding applications where this technology is being used continues to increase year on year. The capability of lasers to process multiple material types reliably and consistently means that they can be found at the heart of manufacturing processes across multiple market sectors. Many businesses using the technology will have one or more laser systems as part of their production processes.

In certain instances, although there may be a desire to take advantage of the many benefits which laser processing offers, it might be the case that the purchase of the laser system is difficult to justify, or some additional work is required to define the optimum laser processing solution for the application at hand before making the investment.

It is in these areas where the availability of subcontract laser processing services, such as those offered by Bromsgrove based TLM Laser, provide companies with the opportunity to fulfil their specific requirements. This could be the manufacture of prototype or pre-production components, use of the laser for high-value / low-volume manufacturing requirements, the production of personalised products, or to generate laser marks for traceability or branding purposes. In addition, the ability to access and use different laser technologies in this way also makes it possible to evaluate different laser types and parameters on various material substrates and obtain a clear understanding of how the laser can integrate as part of an overall production facility.

record of supplying and applying laser technology over many years, TLM is able to draw upon unparalleled levels of expertise in laser processing, itself a valuable asset for those seeking to introduce lasers as part of their manufacturing process. Our subcontract laser services have been used to date by customers from the aerospace, micro-electronics, and precision engineering sectors to name but a few. The TLM job shop has the capacity to undertake work for both low and high-volume projects."

As UK and Ireland distributors for a number of the world's leading laser companies, including FOBA Laser and Universal Laser Systems laser marking technologies, customers can be assured of the quality of the systems being used to mark their products. The laser systems available at TLM's facility for job shop processing include a FOBA Laser M1000. This 30W fibre laser, with a wavelength of 1,064 nm, can be used on a wide range of metals plus some plastics containing additives. There is also a Universal (ULS) 50W CO₂ laser suitable for marking other plastics, and organic materials. TLM offer a 3D marking capability, using .stl files from software packages such as Artcam Pro and Carveco.



LEFT - FOBA Laser M1000 System – Centre - Universal Laser's Flat Bed System – Right – 3D Marking.



TLM's subcontract laser marking service is used by a wide range of companies across multiple market sectors.

TLM's Andy Toms explains: "There is no doubt that the laser provides the quality, precision and resolution demanded by industry today for product identification and traceability purposes. With a track

Andy Toms continues: "With the range of both fibre and CO₂ laser marking technologies available to us, we are able to process a comprehensive array of part types, sizes and materials including metals, plastics, and other laser compatible materials. For marking applications which require strict compliance to pre-defined processes, particularly if the mark position accuracy is especially important, we use our IMP (Intelligent Mark Positioning) technology. IMP validates the part integrity, measures its position and automatically aligns the marking relative to the part.

The technology also provides the capability to perform pre-mark and/or post-mark verifications. Pre-mark verification prevents users from marking already marked parts and the post-mark verification validates that the mark and its placement are accurate. In all cases we apply the same levels of expertise and deliver the highest levels of laser marking clarity, quality and precision."

The subcontract laser marking service is available from Bromsgrove based TLM Laser and complements the comprehensive and growing range of laser-based technologies and systems offered by the company.

TLM Laser
Tel: 01527 959 099
Email: sales@tlm-laser.com
www.tlm-laser.com

Large industrial laser workstation from Gravotech

The only Gravotech class 1 laser enclosure for large direct part marking

Gravotech has introduced the LW3 large laser workstation. This product has been previously available under customisation versions, now it is officially integrated into the product range.

This solution is oriented to industrial companies wishing to implement laser part traceability to their production and want to avoid the installation of big class 1 facilities.

Through its design, the LW3 naturally encloses the laser marking head and the part being marked. The metal panels and laser resistant viewing window ensure the protection of the employee from the laser beam radiation.

While the laser marking takes place, tubing extracts the particles and fumes emitted during the marking process to a highly efficient exhaust system, preventing dust buildup within the enclosure, propagation into the workspace and risk for the operator.

Thanks to its Class 1 laser security certification, door closed, the operator and his/her working area are totally safe.

The robustness and specific technical features of the LW3 make it ideal for industrial environments. As the metal casing protects the operator from the laser beam, it also prevents dust and objects from entering the enclosure during the laser marking process.

The marking job is programmed in easy-to-use Lasertrace software, then sent to the machine so the operator only needs to press "start" on the touchscreen to execute the marking.

Several accessories are compatible with the new laser station, including rotary devices, 3D module, validation cameras, exhaust systems, Class 4 override etc.

The latter allows the LW3 to mark parts bigger than the enclosure itself. Increasing the maximum part size even more. Class 4 override accessory enables the trained user to switch from Class 1 to Class 4 laser marking. The operator must be trained to use a Class 4 laser and wear proper protection equipment.

Its capacity and compatibility with the laser marking systems makes the LW3 the perfect



choice when it comes to marking a wide range of metal and plastic parts, in every industrial environment, from the aeronautical industry to the most exigent automobile manufacturing industries.

The LW3 can host parts up to 1100 x 750 x 628 mm. Furthermore, it's possible to inscribe multiple identifiers on the parts thanks to the Z axis, or ZX bridge configurations.

Gravotech Ltd
Tel: 01926 884433
Email: info.uk@gravotech.com
www.gravotech.co.uk

XXL-BOX

LASER MARKING WORKSTATIONS

The most competitive solutions for marking large workpieces



- ▶ 3 WIDTHS AVAILABLE
- ▶ ERGONOMIC & SECURED
- ▶ MANUAL OR AUTOMATIC AXES ON DEMAND



SIC MARKING LIMITED

Unit B1, Harris Road, Wedgnoek Industrial Estate
 CV34 5JU, Warwick - England

sic-marking.co.uk



The mark of quality

CONTACT US

0044 (0) 1926 830372

salesuk@sic-marking.com

Graphix all-in-one laser marking workstation with Smartview camera technology

The Graphix II laser workstation has been designed to make laser marking accessible to all. The Graphix fibre laser, developed by Technomark, takes laser marking to a new level with intuitive software for both novice and experienced users making it the easiest laser marking machine to use. It delivers rapid, high quality permanent marks in as little as just three clicks.

The Smartview function is a revolutionary step forward in laser marking technology. This innovative feature integrates a camera into the laser marking head allowing you to overlay the marking data in realtime on the component with a live video feed. It allows you to see how the mark will look on the component before marking. This reduces the setup time and eliminates the risk of a data positioning error.

The Graphix has been designed with a larger loading capacity to allow more space for larger components up to 500 x 500 x 400 mm, with an assisted door opening with 2 positions for ease and speed of loading components. The marking window of 100 x 100 mm is standard, with 140 x 140 mm also available as an option. The illuminated marking area makes it quick and easy to position and view components while the motorised Z-axis has a stroke of 400 mm.



A side opening is also available, either on one side or both, for the loading and marking of long parts. Other options include a retractable drawer for the keyboard and mouse as well as fume extraction.

Arguably, its best asset is the brand-new control software developed by Technomark. The new materials database enables a novice to start marking without any specific knowledge. Quick setup times are achieved simply by selecting the material to mark, the data to mark and whether contrast, depth or speed is the most important characteristic and the software will do the rest. More advanced users can adjust the settings such as frequency, scan speed, power and fill style.

The Graphix II can mark a wide range of data including alphanumeric, symbols, logos, 1d and 2d codes such as datamatrix

Multi-level marking can be achieved with the multiplane software function, which optimises the laser path in three dimensions, allowing multilevel marking on stepped or curved components with help from the motorised column that automatically adjusts the marking height.

A wide variety of materials can be marked using the Graphix which comes in either a 20 W, 30 W or 50 W version.

The workstation is more adaptable than ever with the option use a rotary axis to mark around the circumference of curved surfaces. UMS have in-house capability to manufacture fixtures if required.

The Graphix has been designed with Industry 4.0 in mind and has network connection via an Ethernet port as standard as well as 3 USB ports. The Graphix workstation is all about making laser marking as easy as possible while maintaining versatility and access to all the features needed to meet a wide variety of applications.

Universal Marking Systems offers long term support for all of its customers from the first enquiry to full after sales support. Send in a sample and the company can video the setup and mark it so you can see how easy it is to use and the quality that can be achieved. Onsite demonstrations are available or UMS warmly invites you to visit its showroom to see the whole range of the equipment it has. It would welcome the opportunity to support you with any current or forthcoming marking applications.

Universal Marking Systems Ltd
Email: Info@ums.co.uk
Tel: 01420 565800
www.ums.co.uk



and QR codes as well as built in serial numbering, date/time stamping.

Data can either be input manually or use the new csv manager which allows data to be imported directly from an ERP system ready for marking. A barcode reader for data input can also be used.

TYKMA ElectroX supplies systems for laser engraving moulds

Regularly utilised in the manufacturing industry for mass producing products, moulds are essential in facilitating quick and precise injection moulding, die casting, rotational moulding, and more. So, when utilising your manufacturing equipment, having systems for laser engraving moulds and laser engraving mould cavities can help create the long-lasting markings of your choosing.

Why is laser engraving mould cavities and moulds important?

Since manufacturing equipment is usually comprised of metals, like aluminum and stainless steel, using a system for laser engraving moulds or mould cavities will help leave definitive and lasting impressions on your workpieces, facilitating marks that will carry over to the final products.

Having a workstation for laser engraving mould cavities can also be used to incorporate the proper identification information for your equipment, whether it is via logos and branding or barcodes and serial numbers. Additionally, you can engrave alignment marks and parting line details to ensure the most precise product as well as venting channels to help air and gases escape the mould cavities during the formulation process.

Solutions for custom mould engraving

When it comes to deep laser engraving of mould cavities, the team at TYKMA ElectroX wants to provide you with comprehensive solutions to exceed your application expectations. That includes laser marking workstations for engraving metal. When working with laser engraving moulds made of metal, a MOPA fibre laser is preferred.

On top of the high-quality results, TYKMA ElectroX also offers 24/7 customer service and support and onsite assistance for those who have any additional questions about its laser technology. This also includes additional training and start-up assistance during the initial application and beyond.

How long does it take to create custom mould engraving?

The length of time it takes to mark moulds or mould cavities can depend on what design you are choosing to mark. For example, if you are looking to engrave serial numbers onto your mould, it should only take a couple of minutes for each workpiece. Anything larger than that can be expected to take more time to complete.

Can laser engraving be done while there is a mould in the machine?

Yes. As long as the laser head has proper access to the part of the mould that you wish to engrave, you should be able to go through with the laser marking process with no problems. Though that is the case, it is not recommended to conduct the laser engraving of moulds while there is molten material cooling within the cavity.

Does laser engraving moulds affect the integrity of the workpiece?

Not at all. When custom mould engraving, the workstation simply marks the surface of the material without affecting the underlying



product. With the proper laser settings, your mould will not be impacted beyond the mark you are wishing to incorporate.

TYKMA ElectroX

Tel: 001 740 558 8481

Email: sales@permanentmarking.com

www.permanentmarking.com





LASER PROCESS SOLUTIONS






UK Laser Solution & Job Shop Specialists for Industrial Applications

**CUTTING | WELDING | ENGRAVING & MARKING
CLEANING | IN HOUSE JOB SHOP**

sales@tlm-laser.com | 01527 959099 | tlm-laser.com



Scan to Register for Tickets

Visit us at
**SOUTHERN
MANUFACTURING 2024**
6th - 8th February | Stand C245



Hexagon introduces fast, cost-effective surface measurement with new laser scanner for CMMs

The HP-L-10.10 LITE offers economical 3D point cloud measurement to manufacturers for more efficient inspection and higher throughput.

Hexagon's Manufacturing Intelligence division has announced the release of a new laser scanner for Coordinate Measuring Machines (CMMs) designed for manufacturers looking for a cost-effective option for more efficient surface measurement and higher throughput.

Concentrating on the core laser scanning functions, the new HP-L-10.10 LITE laser scanner makes it easy and affordable for manufacturers to benefit from the measurement speed and coverage of laser scanning. The scanner captures the complete surface data of a part in a fraction of the time compared to measuring many points or lines with tactile measurement methods.

"When launching the standard-setting HP-L-10.10 CMM laser scanner in 2021, we knew many manufacturers wanted to increase their inspection efficiency and throughput but did not necessarily require that scanner's full feature set of capabilities," says Patryk Wroclawski, non-contact sensors product manager at Hexagon. "The HP-L-10.10 LITE is our answer to this need. While this might be our entry-level scanner, it's a high-speed and accurate device that delivers big productivity improvements across multiple measurement applications."

The scanner is built upon Hexagon's latest cross-platform laser line scanning technology. It employs the same SHINE (Systematic High-Intelligence Noise Elimination) technology as the flagship HP-L-10.10, allowing it to quickly and accurately collect clean 3D measurement data from almost any surface material and finish.

Fast point cloud creation at up to 240 000 points per second acquisition rate and a 120 Hz frame rate make the HP-L-10.10 LITE ideal for scanning surfaces quickly and its probing form error of just 14 microns is strong performance for laser scanning on a CMM.

The HP-L-10.10 LITE is designed for use with a wide range of applications and measurement surfaces, including shape



measurements of sheet-metal parts, moulds, or castings; colour mapping for quick quality insights over a complete surface and capturing point clouds to create meshes for reverse engineering applications.

Equipped with the HP-L-10.10 LITE, a CMM becomes a multisensor machine that can handle most measurement tasks. When combined with tactile probing, it enables manufacturers to balance the requirements for accuracy with the demand for higher throughput in a single part program.

The scanner is ideal for manufacturers looking to economically add rapid point cloud measurement to their metrology toolkit and who don't require the full speed, finer accuracy or the additional collaborative capabilities of the flagship HP-L-10.10.

The HP-L-10.10 LITE is available to order now from local Hexagon representatives and more information is available on the Industrial 3D laser scanners section of the Hexagon website.

Get it right first time with the insights from last time. Hexagon's metrology solutions help you to close the gap between design intent and real-world operation with actionable, real-time insight that revolutionises upstream and downstream decision-making.

The role of metrology within the manufacturing process has long been associated with quality assurance, a post-production inspection of the dimensional measurements of a part against specifications. Results indicated that the part was either good to go, or not to standard, at best requiring reworking or at worst

scrapping. Metrology was the necessary evil, quality almost becoming a barrier to productivity.

Yet quality data provides manufacturers with far greater opportunities than simple component checks. If harnessed correctly, it is a foundation for future productivity. By analysing quality data to its full potential, the quality team can embed vital insight ensuring design, manufacturability, production, quality, productivity and performance can all be optimised.

Putting power at the fingertips of makers, metrology technologies capture quality data for measurement, positioning and inspection. They are the key bridge between the real and virtual worlds, bringing real-world data into the digital domain to power smarter manufacturing approaches.

Hexagon technology is helping manufacturers pioneer new manufacturing digitalisation strategies that use quality data more effectively, informing design and engineering processes and providing feedback to production. Its measurement-assisted production technology is best-in-class and the company continues to innovate towards more real-time feedback and machine learning applications that leverage digital transformation to make manufacturing smarter.

Hexagon
Tel: 0870 4462667
Email: enquiry.uk@hexagon.com
www.hexagonmi.com

Mitutoyo



30% OFF

SJ-210 special offer – SAVE 30%!

Don't miss out – arrange your on-site demonstration today.

The small portable surface roughness tester with a big discount. Valid while stocks last!

- › The portable instrument allows for easy and accurate surface roughness measurement.
- › Made for on-site use, the SJ-210 has a sturdy design perfect for industrial environments.
- › EN ISO conform stylus radius of 5 μm , measuring force of 4 mN and skid radius of 40 mm.
- › The colour LCD provides excellent readability and includes a backlight for improved visibility.
- › Easy and intuitive menu navigation.
- › Using coloured tolerance judgment, provides users with a quick but accurate analysis.
- › The SJ-210 comes in two different language sets with a total support of 21 languages.

MeasurLink[®] ENABLED

Data Management Software by Mitutoyo



Scan here for further information or visit www.mitutoyo.co.uk/sj210



Subcontractor reaches new standard with Mitutoyo

Cwm Engineering Ltd has been on an acquisition trail over the last few years to target growth in high-tech industry sectors. As part of its journey, the West Wales company has moved to a new purpose-built 10,000 sq/ft factory to make space for its investment in new machine tools. With more than five machine tools purchased in the last three years, the company recognised a requirement for a dedicated inspection department with high-end metrology equipment. That is why the company has just installed a CMM and a surface roughness machine from Mitutoyo.

With a machine shop full of turning centres and 3-, 4- and 5-axis machining centres from Mazak, Cross Hands based Cwm Engineering is aiming to expand its work with aerospace OEMs and Tier 1 manufacturers. To expand in this area, the family-run business has just built a dedicated temperature-controlled inspection department with a Mitutoyo Crysta-Apex V 7106 CNC Coordinate Measurement Machine (CMM) and a Mitutoyo surface roughness machine.

Founded in 2011, the ISO: 9001 certified company nestled in rural West Wales, an area known more for its tourism and farming, started its metrology journey like all subcontract businesses with precision hand tools. In 2014, the business bought a manual Mitutoyo CMM. This was subsequently followed by two shop floor CMMs to allow operators to conduct inspection at the side of the machines to prevent potential bottlenecks on the Mitutoyo CMM. However, Cwm Engineering realised that to win business from its OEM and Tier 1 target audience, it needed to stand out from rival subcontract manufacturers with a dedicated temperature-controlled facility with high-end metrology technology.

Commenting upon this investment, Cwm Engineering's managing director Malcolm Walters says: "We have invested heavily in high-end machine tools and this has given us the ability to manufacture extremely precise and complex components. However, to set ourselves apart from other subcontract companies, we recognised the importance of investing in a dedicated temperature-controlled quality assurance department. We are fully aware that when potential



customers visit a subcontract manufacturer, they want to see a dedicated metrology department to instil confidence in their supply chain choices. When it came to selecting equipment for this dedicated department, Mitutoyo was the standout brand for our business. Mitutoyo is a brand that everyone knows and respects as an industry leader and our previous experience with Mitutoyo gave us the confidence that it was the brand for our business. Our previous experience with Mitutoyo was exceptional."

Cwm Engineering did its due diligence and fully reviewed the marketplace, but its experience with Mitutoyo led the company to invest in a Mitutoyo Crysta-Apex V 7106 CNC CMM that was delivered in April along with a surface roughness machine. The staff at Cwm Engineering have undergone comprehensive training on the new equipment, but the Carmarthenshire business is taking its commitment a step further and has employed an experienced quality control engineer with vast experience using Mitutoyo CMMs.

Why the company invested in the Mitutoyo Crysta-Apex V 7106, Malcolm Walters adds: "We chose this machine as it has a measurement range of 700 by 1,000 by 600 mm that is packed into a small footprint. The

compact footprint is perfect for our inspection department and the work area covers the diverse dimensions of the work we undertake. Furthermore, the level of information that can be obtained from the reporting system far exceeds anything we previously had."

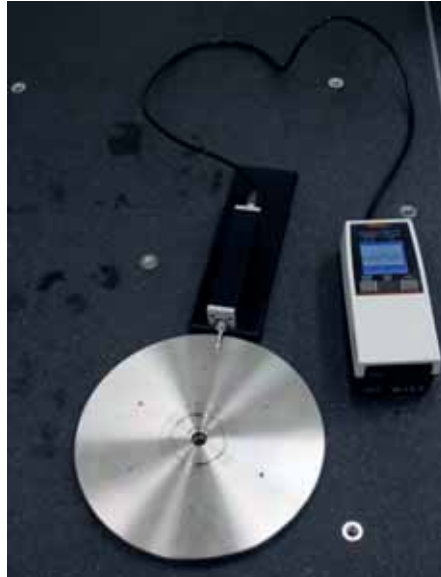
The Mitutoyo Crysta-Apex V 7106 is crammed with the latest technology and this includes Mitutoyo's ABS linear scales, SMS capability for status and service monitoring and Mitutoyo's renowned MCOSMOS software. The Crysta-Apex V 7106 is extremely accurate and fast with high acceleration rates which are credited to its lightweight bridge construction, temperature compensation sensors and the UC480 controller that supports the multi-sensor and Smart Measuring System (SMS) functionality. With a digital step of 0.1 μm , the machine has an accuracy maximum permissible error of $1,7+0,3L/100 \mu\text{m}$ with a 3D acceleration rate of 2,309 mm/s^2 .

Discussing how the Crysta-Apex V 7106 will streamline throughput at Cwm Engineering, Andrew Ritchie, the systems and operations manager at the JOSCAR registered company adds: "When we receive drawings from customers, whether it is an STL, IGES, STEP file

or any other format, we can either programme parts at the machine or in our SolidCAM CAM system. When we are programming parts offline with our CAM system, we can simultaneously send the files to our CMM for programme creation. This ensures that the CMM programme is prepared and ready to inspect the parts whilst they are in production.”

Commenting further on the synergy between the shopfloor and the new CMM, Andrew Ritchie continues: “We have only just installed the CMM, but our immediate plan is to create multiple zero-point fixturing systems for the CMM. We use Lang zero-point clamping throughout the workshop and by having fixtures on the Mitutoyo, we’ll be able to easily move parts straight from the machine bed to the CMM for rapid checking without excessive set-up times. By creating a multi-point fixturing system on the CMM, we’ll be able to set up single or multiple parts for inspection. This will streamline our throughput and enable us to provide anything from first-off to 100 percent inspection.”

As well as investing in the Crysta-Apex V 7106, Cwm Engineering also purchased a Mitutoyo surface roughness measuring



The portable surface measuring machine at Cwm Engineering.

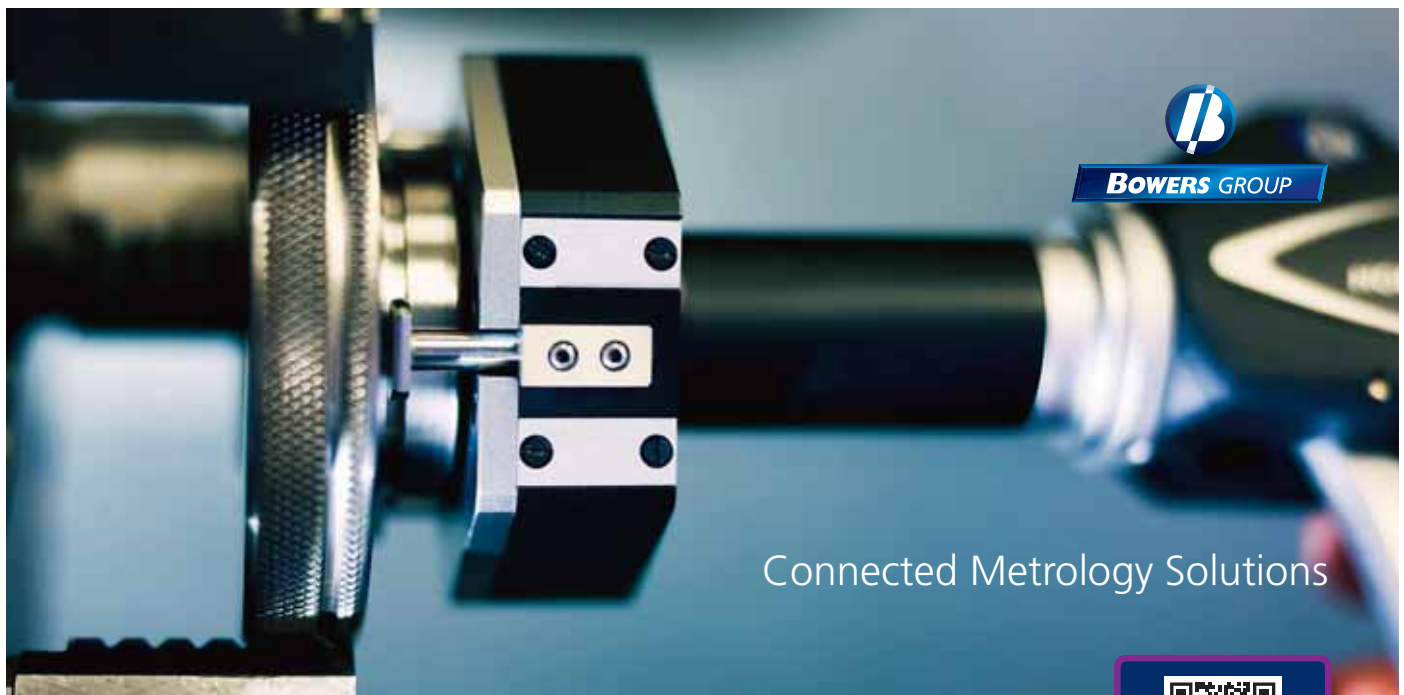
machine. While surface roughness can be integrated into other machines in the Mitutoyo armoury, Cwm Engineering opted for the handheld solution for its ability to be used around the machine shop if necessary.

Andrew Ritchie adds: “Historically, we have used a sample gauge and this has proven

reasonably accurate. However, our variation of work can require surface finishes from as high as Ra3.2 in general subcontract work to as low as Ra0.4 for parts in the electronics, communications and ultrasonic industries. To exceed the requirements of our target audience, the surface roughness machine is a perfect complement to our new CMM and laser etching machines.”

Looking to the future, company owner and managing director Malcolm Walters concludes: “The investment in new Mitutoyo technology will put us in a strong position for the future. Furthermore, the Mitutoyo MCOSMOS software enables us to fully network our quality activities and reporting. It also allows us to customise reports, organise and archive our programmes and results and it offers tools like SPC with full Industry 4.0 capability. This is an investment in the future of our business and we are delighted with the support we have received from Mitutoyo on this journey.”

Mitutoyo UK Ltd
Tel: 01264 353123
Email: sales@mitutoyo.co.uk
www.mitutoyo.co.uk



The Bowers range of Bluetooth enabled hand tools and metrology equipment work seamlessly with Sylvac’s Sylcom software to improve efficiencies and reduce errors in your manufacturing process.

Tel: 08780 50 90 50
 sales@bowersgroup.co.uk
 www.bowersgroup.co.uk



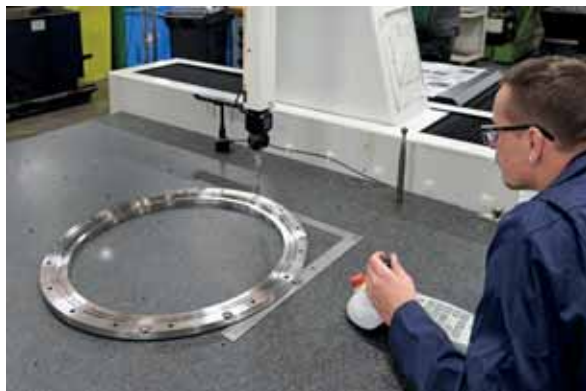
Have you seen our video
Who Are We?

CMM controller retrofits enable multi-sensor inspection

Coordinate Measuring Machines (CMMs) still capable of aerospace-standard quality control after 26 years

At one of two factory units in Devizes operated by sealing specialists Cross Manufacturing two Coordinate Measuring Machines (CMMs) built by LK Metrology in 1997 and 2007 have been given a new lease of life following an upgrade. It involved the OEM future-proofing operation of both machines by retrofitting multi-wired NMC300 controllers with updated firmware and software. Among the many advantages is the ability to deploy different types of sensor in addition to touch-trigger probes. Within the scope of the project, two new Renishaw PH10MQ motorised probe heads were also fitted.

As a result of the improvements, the sealing design and manufacturing specialist has immediately gained the ability to use the Renishaw SP25M tactile scanning probe it has purchased, which it is hoped will cut metrology cycle times by at least one-third when implemented in early 2024. Additional types of contact and non-contact sensor may be integrated in the future should Cross Manufacturing choose to extend the CMMs' capability and consolidate other automatic measuring functions into a single metrology routine.



Located on the shop floor in one of two adjacent sites in Devizes, the CMMs are an LK G90C 10.10.8 and an LK Evo 15.15.10 having nominal inspection volumes of 1,000 x 1,000 x 800 mm and 1,500 x 1,500 x 1,000 mm respectively. They fulfil a critical role serving the turning section, where brush seals ranging in size from 6 feet, 1.83 metres, down to 4 inches, 102 mm, in diameter are produced in small batches for high-temperature gas turbine applications in aerospace and power generation. The former sector accounts for the vast majority of throughput, particularly for the US market, more than 80 percent of the manufacturer's output being exported. It is the British company's undisputed world leadership in the technology that motivates aerospace OEMs overseas as well as in Britain to source brush seals and allied equipment from Cross Manufacturing.

The company's senior project manager Mark Bolwell explains: "The vast majority of our parts are 100 percent inspected. Upgrading our CMMs means that we will be able to increase throughput by introducing tactile scanning, allowing us to support ever increasing demand without having to invest

in another CMM at this time. We are supported admirably by LK's applications engineers, all of whom are knowledgeable and never cease to be helpful.

"It is testament to the build quality of the LK machines that, so many years after they were built, they are still able to underpin our metrology and traceability requirements. The manufacturer's UKAS-certified engineers calibrate them



annually and every morning we cross-reference the accuracy of the two machines using a calibration ring to ensure the measurements are verified."

Dave Eldridge, lead inspector for the aerospace and the powergen products adds: "Despite their age, the CMMs measure tolerances from ± 0.002 , ± 51 microns, down to ± 0.0002 , ± 5.1 microns, a level of process capability that requires a measurement uncertainty of better than ± 0.00002 , half a micron. Almost every part we inspect is symmetrical and relatively flat, whether it is a finish-machined product, a segment of a large ring, or a fixture for securing components during batch production.

"Now that we have multi-sensor capability as a result of the retrofits, we may decide to carry out that function in-cycle on the CMMs using an LK surface roughness probe, saving a second inspection operation."

Repeated transfer of parts between the lathes and the CMMs on the shop floor is frequently needed for everything from pre-manufacturing checks through to final part inspection and sign-off. In the case of aerospace brush seals, certification is nearly always performed by trained Cross Manufacturing personnel on behalf of the customer under source released parts agreements. Similar is performed on a large proportion of the products destined for the powergen sector.

LK Metrology Ltd
Tel: 01332 811138
Email: marketing@LKmetrology.com
www.LKmetrology.com

Manchester Metrology announces new acquisition

Manchester Metrology Ltd is a pioneer and innovator of metrology, offering specialist contract measurement services using the latest metrology technology and equipment.

It has recently announced the acquisition of Apex Metrology. Paul Bulman, managing director of Manchester Metrology, explains: "Over the last 18 years, I have built an amazing relationship with Apex Metrology in Loanhead, Scotland, in particular Brian and Alison Young. Apex Metrology were set up as my only reseller in the UK when I worked at Faro Technologies back in 2005. We built a strong working relationship that turned into an amazing friendship. After leaving Faro in 2008, I worked closely with Brian Young and continued to support Apex with its inspection services and demonstrations in the UK while developing Manchester Metrology.

"Brian Young and the Apex team has run a very successful business over the last 20 years supporting CMM calibration, training and retrofits, supporting many blue-chip companies along-side a core, repeat customer base. It offers calibration and measurement services on CMM and

portable metrology equipment to ISO10360 standards, accredited by UKAS to ISO17025. Employing OEM Metrology sector-trained engineers and building strong OEM Supplier relationships has strengthened its position further."

Paul Bulman continues: "After many discussions, Brian Young has decided to hang up his metrology boots and work towards a well-deserved retirement. It seemed an obvious choice for me to make an offer on Apex to grow our portable metrology business in Scotland and expand on the amazing work Apex has done and offer the services North and South. After several meetings with Apex and Manchester Metrology staff, our offer was accepted and we are all over the moon. Brian Young will continue with us, assisting employees and customers with the transition. Apex Metrology will remain as its own brand with the support of Manchester Metrology and Manchester Metrology will remain as its own brand with the support of Apex Metrology.

"All customers, suppliers and associates will see minimal changes other than bank



details. The long-term impact of this amazing opportunity will be an expanded product & services portfolio across both companies being made available to both groups of customers in a bigger footprint. Further expansion is in the planning so watch this space."

Brian Young adds: "Knowing Paul and the team at Manchester Metrology for many years provided me with confidence that they have the drive to expand and develop both businesses."

Manchester Metrology Ltd

Tel: 0161 6378744

Email: info@manchester-metrology.co.uk

www.manchester-metrology.co.uk

Aberlink's Fulcrum CMM goes full 3D

The Aberlink Fulcrum CMM was launched last year at Control 2023. Originally available with a vertical stylus, it has proved very successful in being the next logical step-up in metrology capability to a 2D height gauge. Early customers of the Fulcrum CMM have confirmed just how easy it is to use as a shop floor manual CMM, checking parts off machine tools after each machining operation. They have reported a significant reduction in queuing time for CMM inspection and tremendous financial savings due to reduced scrap and rework.

Following the Fulcrum launch in May, Aberlink has been developing its 3D capability. This wasn't a straightforward task because metrology performance had to be maintained as well as ease of use. To overcome both these issues, Aberlink has made its own bespoke star styli, star stylus calibration procedure and 3D software user interface. Star styli available from other leading manufacturers were not stiff enough and affected the CMMs accuracy. The bespoke styli made by Aberlink ensures excellent metrology performance and



accessibility to side-face features measured in the X-Z or Y-Z projection planes.

Aberlink has now launched a full 3D upgrade package for the Fulcrum CMM. Existing customers can purchase this upgrade package and new customers can order the 2.5D, vertical stylus, or 3D, star stylus, Fulcrum machine. This 3D capability will significantly increase the versatility and appeal of the Fulcrum CMM for shop floor measurement. Aberlink has also enhanced the 3D scanning capability of the Fulcrum CMM, for reverse engineering and CAD Comparison applications.

The Fulcrum warranty period has been extended to three years, giving customers an additional two years of protection. This



extension gives customers peace of mind and demonstrates Aberlink's confidence in the quality of its product.

The Fulcrum CMM is a disruptive technology, sold at a disruptive price. Demonstration systems have been delivered to Aberlink resellers and potential customers can request an onsite demonstration of the Fulcrum measuring their parts.

Based in Eastcombe, Gloucestershire, Aberlink has established a global reputation for its metrology products which are innovative, easy-to-use and competitively priced.

Aberlink Ltd

Tel: 01453 884461

Email: sales@aberlink.com

www.aberlink.com

GibbsCAM 2024

Powerfully simple, simply powerful

GibbsCAM, a leading CAD/CAM innovator in the production machining industry, has announced the new software release. GibbsCAM 2024 continues to boost end-user productivity for programming advanced machining centres, underpinning the GibbsCAM promise of: **Powerfully Simple, Simply Powerful.**

GibbsCAM 2024

GibbsCAM 2024 features a number of significant enhancements to core strengths while bringing a stronger emphasis on digital connectivity. Version 2024 unlocks the power of Sandvik Coromant through a direct integration with the CoroPlus® Tool Library, providing access to the right cutting tool for your specific operation and offering instant cutting data recommendations. It provides up-to-date cutting tool data, 3D models of cutting tools and holders and essential information to make informed decisions for optimised manufacturing processes. All data is verified and adheres to the ISO 13399 international standard for cutting tool data representation and exchange. The Cloud-based nature of the tool library means that users of GibbsCAM 2024 can access data from anywhere with an internet connection, making it invaluable for organisations implementing company standards, or users who work remotely or across multiple locations.

Tobias Unosson, product manager at Sandvik Coromant, says the manufacturing sector is undergoing a transformation brought on by the marriage of digital and physical: "Sandvik has been in business for more than 160 years and in the tooling business for over 80 years. Selecting tools and methods with the help of proven data deliver higher quality parts and reduce costs, waste and energy use, all for the benefit of the end user."

Benefits for all users

Efficiency remains a primary focus, with the introduction of new post-processor configuration options for setting standard and custom post defaults, including support for TCP or Rotary clamps.

Furthermore, a new tool to streamline the setup of the CAM environment now enables editing and restriction of work fixture offsets. GibbsCAM 2024 supports multiple fixture stacking and now unused fixtures can be retained on the machine for simulation and collision checking purposes.

The licensing for version 2024 now replaces the historic CLM technology. This will simplify software deployment and provide more user flexibility for moving licenses as well as enable cloud capabilities in future versions.

Working with CAD data is easier. Users can interrogate virtual points for dimensioning part geometry such as edge mid points, end points, intersection, circle centre and circle quadrants directly from the 3D model. A newly introduced visualisation tool can map the curvature and the relevant taper/draft angle directly onto the 3D model. This is particularly useful tool for analysing the minimum tooling diameter required to cut a part since it negates the need to pull extra reference geometry.

Alongside many other enhancements, generic probing now supports rotary part alignment and positioning. Selecting only the rotary axis, clearance and shifting parameters will drive the system to probe the surface and calculate the part rotation alignment.

More tooling flexibility

GibbsCAM 2024 improves the flexibility of form tools in milling processes. Users can choose how to drive the tool: Using the Real profile option which uses the exact cutting tool profile, or the Monotonic profile which will disable any toolpath that uses the tool undercut form. For 3D solid form tools, another option for nominal parameters will only use the major diameter and tip radius for toolpath calculation according to tool manufacturer recommendations, while using the 3D form tool for simulation.

In addition, second generation B-type inserts are now supported for Sandvik Coromant's PrimeTurning™. This tool has a larger tip radius that can cut deeper and remove material faster.



Fig1: The integration of the CoroPlus® Tool Library allows users to define tool assemblies and relevant cutting conditions and import the data directly into GibbsCAM.

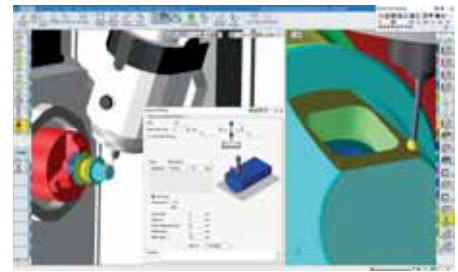


Fig2: Generic probing now supports rotary part alignment and positioning.

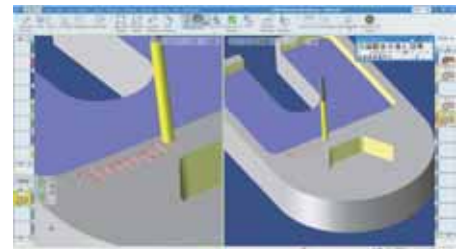


Fig3: Variable-depth engraving is greatly improved when using complex fonts with tapered tooling and corner ramping.

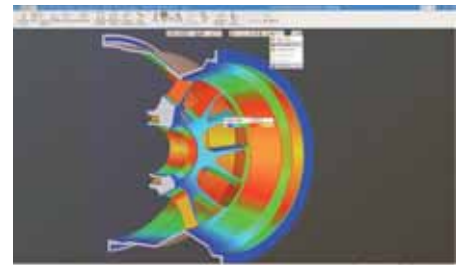


Fig4: A new visualisation tool now maps the curvature and the relevant taper/draft angle directly onto the 3D model.

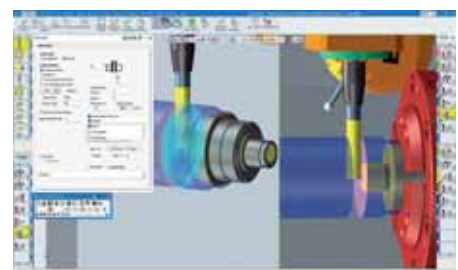


Fig5: A new mill cutoff process for mill-turn machines and bar-fed mills now supports perpendicular cutting with an end mill, or parallel cutting with a side mill or slitting saw.

More powerful milling

A new mill cutoff process for mill-turn machines and bar-fed mills now supports perpendicular cutting with an end mill, or parallel cutting with a side mill or slitting saw.

Rest machining has been improved when contouring and pocketing strategies are used together with 'material only' active now creates a more efficient toolpath with reduced air cuts. Other contour improvements include smoother ramping that generates a continuous contour wherever possible instead of multiple ramping lead in and lead out movements.

Also new to GibbsCAM 2024, variable-depth engraving greatly improves the use of complex fonts with tapered tooling and corner ramping. In addition, selectable alignment options are added to control the starting position of operations using a rotary axis. Users can override the default singularity rules, which is useful for keeping the toolpath within machine limits, frequently Y-axis, or machining on the opposite side of a mill/turn part.

New 5-axis features include an optimised stepover feature for finishing walls and cylindrical or conical floors that creates a better, more consistent surface finish. New geodesic operations perform straight cuts on end boundaries and improve hole filling to prevent the tool dropping down into open cavities. Other improvements include user-defined tool orientation on lead in and lead out movements, and linked entry feed distance.

Multi-axis machining enhancements include better management of 3D

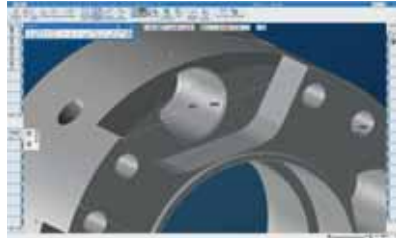


Fig6: Users can interrogate virtual points for dimensioning part geometry.



Fig7: Optimised 5-axis stepover for finishing walls and cylindrical or conical floors that creates a better, more consistent surface finish.

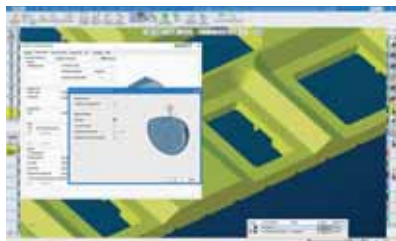


Fig8: Improved hole filling for geodesic operations to prevent the tool dropping down into open cavities.

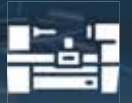
containments, improved point distribution, ramp offset for the first pass on roughing cycles, user defined start points for finishing, and tool tilting during helix entries.

GibbsCAM president Thorsten Strauß says: "The launch of GibbsCAM 2024 is an exciting moment for us, our partners and our customers. It represents a full-year development cycle that includes a data-driven mix of product innovation and customer-driven enhancements. We know that continuing to leverage Sandvik's cutting knowledge and expertise will benefit our customers and enable them to produce products more efficiently than ever before."

GibbsCAM / Tech CAD/CAM Ltd
Tel: 01284 754781
www.gibbscam.com



PRODUCTION
MILLING



PRODUCTION
TURNING



MULTI-TASK
MACHINING

Production CAM

Powerfully Simple, Simply Powerful

Single-interface CAM software for all your CNC programming needs - from simple 2-axis milling and turning to complex multi-task machining.

We help our customers expand their potential by providing software solutions that drive the future of manufacturing.

www.gibbscam.com

Another successful ERP implementation for MIETrak Pro with Bacon Engineering

There are very few engineering companies today that can boast a heritage as rich as Bacon Engineering. This year it celebrates 125 years in business with a 5th-generation Bacon family member at the helm along with operations director Darren Glew.

Its story is one of twists and turns, evolving from a trawler operator in the heyday of the Grimsby fishing industry into the modern and progressive engineering company that today has established itself as a trusted partner across an array of sectors, including chemical, construction, food, marine and energy/renewables to name just a few.

In the past 7-8 years, the business has been through a significant period of modernisation, moving to a new larger premises on the Humberside Industrial Estate and replacing most of its old machinery with state-of-the-art CNC equipment, growing a highly capable fabrication team with a range of codings, while diversifying into Drone and laser scanning technology. In June of this year, Bacon Engineering implemented MIETrak Pro ERP software believing this would take the company to the 'next levels and beyond', leaving behind the final administrative remnants of its 'old-fashioned family-run business' structure.

After identifying the need for ERP software in today's competitive manufacturing industry, Bacon Engineering began a period of market research, searching both online and speaking with industry peers to produce a shortlist of 4 ERP providers. All were then demoed and tested against their specific requirements and MIETrak Pro was selected as being the most comprehensive.

David Bacon, managing director of Bacon

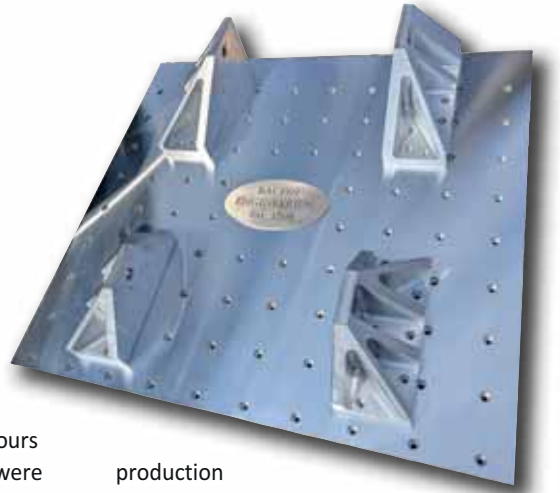


Engineering says: "The deciding factor for us was a trusted partner of ours are already MIETrak users and so we were able to really pick their brains on the system and their experiences, giving us confidence that MIETrak Pro claims met its abilities."

After selecting MIETrak Pro as its ERP provider, Bacon Engineering next looked to the implementation process. David Bacon explains how they approached this next stage: "The biggest challenge we faced was to create the headspace within the business to learn and understand the system. This is difficult within a small business when resources are lean but ultimately we had to remember that MIETrak was acquired to improve our efficiencies and processes, so we began appointing super users and focused on rolling the system out 1 team at a time. The expertise of the MIE Solutions team has played a crucial role in our success, we have felt supported every step of the way and I commend the team for their responsiveness to our needs."

MIETrak Pro is a complete modular software package designed specifically for the sheet metal industry, managing everything from initial customer inquiry through to invoice and shipping and everything in between. The biggest advantage for Bacon Engineering since installation is the software's advanced analytics and data collection abilities. David Bacon explains: "This is a massive step forward for us, as it now allows us to make evidence-based decisions across a far broader range of business functions that we couldn't have done previously. We now have a single system across the entire business containing our quoting and performance data which is proving a game changer."

The next big step for the company is to fully utilise the 'scheduling module' of MIETrak Pro. David Bacon says: "We cannot wait, embedding this module into our daily operations will surely only elevate the exceptional service we already offer our customers, by allowing us to meticulously plan work orders and create 'work to lists' for the shopfloor whilst providing all the



production analysis we need to remain proactive in delivering all project on time."

Bacon Engineering's period of modernisation is realised with the incorporation of MIETrak Pro into daily operations. With a whole host of modules for the company to grow into and with the continued support from the MIE team, the sky is the limit for this dynamic and adaptable engineering business.



MIE Solutions
Tel: 01527 576444
Email: sales@mie-solutions.co.uk
www.mie-solutions.co.uk

Lantek helps to deliver substantial productivity improvements for Australian sheet metal manufacturer

Australian laser subcontractor Online Laser Pty can manufacture twice as much as before with the help of Lantek's sheet metal CAD/CAM and ERP software.

Based in Bendigo, Victoria, the company has two Bystronic Bystar fibre lasers and previously used a proprietary system, which is now no longer supported, to manage the machines and the workflow through its factory. Ben Harris, programming and production manager says: "We were looking for an end-to-end system to manage our quotations, programming and production. With our old system there was no integration and we had to repeatedly enter the same information which was both time consuming and error prone."

Online Laser installed the Lantek system in July 2019 comprising Lantek Expert CAD/CAM, MES, Integra and WOS. This year it added the Lantek Opentalk connection directly to the laser machines so that validation of the status of the machines and the parts being manufactured is automatic. Ben Harris adds: "The vast majority of parts come as CAD models in several different formats and we can import them directly into the Lantek software. The integrated Lantek Expert can quickly analyse the laser cutting times and within the Integra software combine them with subcontract costs such as folding, powder coating or machining to produce an accurate price for the whole job. Previously this could have taken a few days, now it can

be done in one to two hours and sometimes in minutes."

Where the material type and thickness are the same, the company nests parts from different customers in the same sheet. Ben Harris explains: "The inventory system is worth the investment on its own. We can manage remnants of material to use them up and keep track of stocks so that we don't suddenly run out of material. Now we only need to do a physical stock check every few months."

Once the job is complete, the Lantek software creates the invoice, delivery note and pallet label. It also knows when a customer has an account so that parts can be shipped immediately or, if it is a new customer, what the payment terms are before shipping. The interface to Online Laser's Xero accounting software automatically keeps this up to date with shipped and invoiced goods.

Ben Harris continues: "The MES system and the real-time reporting from the machines gives us an accurate picture of delivery times. Everyone has visibility of the information, so we always give the customer consistent and accurate information on the status of their job. We have the ability to quote at 8.30 in the morning and have the parts cut by 11.00 am, in situations where urgency is required.



We are definitely more competitive on price and we can see the profit margin. We just installed V42 of the software and we can now do layouts at the quote stage, so prices are now even more accurate."

With the old system, Online Laser had difficulty managing 100 live orders. Now with over 200, it can operate quite easily. Ben Harris says: "During the Covid crisis, we continued to work, providing an essential service and had around 450 hours of cutting hours ahead of us, a substantial increase from before the pandemic. We could not have managed without the Lantek software."

The Lantek Expert CAD/CAM software has been tailored to suit the company's machines with a very customisable postprocessor. For thicker materials it has been tweaked to allow pre-piercing before cutting, spreading the heat across the part to avoid problems from a heat affected zone. Ben Harris adds: "The Post works well and is very customisable and we have the flexibility of running any make and model of laser machine with the software."

Support and training is supplied by Lantek from its head office in Spain and from Klugo, which supports the software in Australia and New Zealand. Ben Harris concludes: "The software has made the workplace a lot more efficient. We are a lot more transparent on cost and we can see where the profit is, which was almost impossible before. It is a vital part of our operation making us much more competitive, faster and efficient."

Lantek Systems Ltd
Tel: 01684 342345
Email: sales.uk@lanteksms.com
www.lantek.com



Leading waterjet technology

Flow Waterjet Europe is a wholly owned subsidiary of the US group Flow International Corporation, which specialises in the manufacture of waterjet cutting machinery. Bernhard Solleder, managing director of Flow Europe GmbH and EMEA, Europe, Middle East and Africa, says: "Flow is experiencing positive and solid growth in revenue and profitability in all countries. Compared to 2022, revenues have shown a double-digit percentage increase. With the third quarter being the most active quarter, the company has exceeded expectations thanks to an outstanding sales performance.

"As of July 2023, I am proud to join as CEO for the EMEA region. Despite being a world leader in the waterjet industry with more than 15,000 installed systems, we have launched several digitalisation and growth projects to position Flow as our customers' partner of choice for the future. Among the notable achievements, the focus on digitalisation and growth projects to maintain excellence in the industry stands out."

In 2024, Flow EMEA will expand its product portfolio with the introduction of new waterjet machines and strengthen its presence in Eastern Europe. Bernhard Solleder adds: "In addition, the Middle East market, where Flow has had a long-standing presence, is seen as another growth area. With significant investments, the company aims to continue to lead innovation and meet the growing demands of the market."

Flow International Corporation, a Shape Technologies Group company, is a leader in the development and manufacture of advanced waterjet cutting solutions backed by best in class support.

With the largest market share, Flow is a leader in the development and manufacture of Ultra High-Pressure (UHP) waterjet technology. The company's global position can be attributed to its focus on technology leadership, a full continuum of products that provide complete solutions, application expertise and a commitment to customer success across the world.

Shape Technologies Group, Inc. (SHAPE) delivers innovative manufacturing process solutions to customers spanning 100 countries and a broad array of industries. As a leading provider and inventor of waterjet, SHAPE has become a strategic ecosystem of companies providing material processing and surface preparation, automated assembly,



Bernhard Solleder, managing director of Flow Europe GmbH and EMEA, Europe, Middle East and Africa.

robotic motion systems, material handling, software, process control, aftermarket parts and comprehensive support to its customers.

Waterjet is a highly adopted cutting solution due to the flexibility of the process. There are virtually no limits to what waterjets can cut, which is why companies of all kinds and sizes are realising growth, greater efficiency and improved productivity by adopting UHP waterjets.

Key features of Flow waterjets

- Cuts virtually any material, from thin shim stock to over 12 inches.
- Can cut more materials and eliminate grinding off hardened material and slag, because there is no Heat Affected Zone (HAZ) created.
- Allows tight nesting and accurate cutting, improving material utilisation.
- Can both replace and complement other machine tool processes such as laser, plasma, EDM, milling and routers.

When water is continuously pressurised by Flow pumps rated to 94,000 pounds per square inch (psi) and forced through a tiny

opening to become a jet the diameter of a human hair, cutting soft materials such as food, paper and baby diapers, rubber and foam is easy. Add abrasive particles to the jet stream and it becomes a supersonic precision erosion process capable of cutting virtually any hard material including metals, composites, stone, hardened ceramics and glass.

Flow participates in a wide variety of industries including energy, oil & gas, automotive, technology, aerospace, architecture, transportation, medical, electronics and agriculture.

Flow offers a full continuum of products

Flow offers advanced technology and leading service and support to back it up.

Whether its customers are developing the next cutting-edge material for use in space exploration, innovative automotive lightweighting design, or contract cutting for a wide range of diverse applications, Flow has the right system to meet their needs.

Flow UK

Tel: 01455 895300

Email: info-uk@flowcorp.com

www.flowwaterjet.com

Flow Mach Series

Customer driven design featuring Flow technology at every price point.

As a complete system manufacturer, every part of your Flow waterjet is designed to work together to make your cutting operations better. Your needs drive our future-proof system design.

Flow waterjets come with various options, accessories, and technologies.



Shape the global industries of today and tomorrow

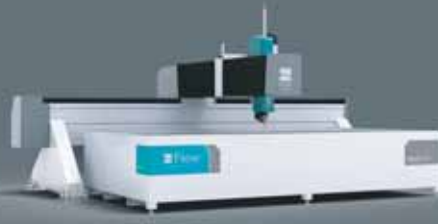


Mach 100

performance made affordable.

The **Mach 100** not only outperforms the standard waterjet offerings in the industry, but wins in value as well.

Sizes from: 1.3 m x 1.3 m to 4 m x 2 m



Mach 200

elevate expectations.

The **Mach 200** is a practical and flexible waterjet solution, offering bevel cutting capabilities and immense value.

Sizes from: 1.3 m x 1.3 m to 7.3 m x 2 m



Mach 500

make more.

The **Mach 500** is the workhorse of waterjet, elevating your performance and production levels.

Sizes from: 2 m x 2 m to 4 m x 8 m

Industry leading pump technology

Flow provides state of the art Ultra-high pressure waterjet pumps:

• Direct Drive pumps



HyPlex Prime®

DIRECT DRIVE

3.800 bar [55.000 PSI]



• Intensifier pumps

MotoJet® INTENSIFIER PUMP

4.150 bar [60.000 PSI]



HyperJet® INTENSIFIER PUMP

6.500 bar [94.000 PSI]



Both intensifier and direct drive pumps are capable of reliably delivering ultrahigh-pressure water, and both are successfully used in industry.

Contact : **FLOW UK**
Unit 3 Canton House
Wheatfield Way, Hinckley, LE10 1YG UK
Office: +44 1455 895 300
info-uk@flowwaterjet.com
www.flowwaterjet.com

State-of-the-art Water Jet Sweden BevelJet 60 Machine

Established over four decades ago in the heart of Sheffield, the city of steel, Charles Day Steels has recently invested in a new BevelJet 60 waterjet cutting machine from Water Jet Sweden.

Now equipped with some of the most profound machinery available in both the laser cutting and metal profiling industries, the Water Jet Sweden BevelJet 60 complete with a full 5-axis provides extremely versatile capability for both bevel and free form cutting. Combined with a 125hp pump, the BevelJet 60 cutting head provides Charles Day with unrivalled capabilities and record lead times for an exceptional service every time. With typical waterjet pumps on average only producing 3,000-4,000 bar of cutting pressure from 50-60hp, this new pump can produce 6,200 bar of cutting pressure through two heads simultaneously using the massive 125hp, providing customers with an incredibly time and cost-efficient waterjet cutting process.

Regarded as one of the most advanced pieces of machinery available in the metal profiling industry, this innovative piece of technology is the newest addition to Charles Day's suite of state-of-the-art profiling machines.

Charlie Day, grandson of the founder and sales and business development director at Charles Day, says: "We are already experts in waterjet cutting and have been offering the service for over 20 years now, but the addition of the Water Jet Sweden BevelJet 60



cutting head opens a whole new market for us. Not only can we provide large 2D parts on a quick turnaround, but now we can offer large 3D parts, again at a dramatically increased cut speed, at a competitive price."

The increase in efficiency and capability, coupled with its BSEN 1090 EXC4 accreditation, allows Charles Day to comfortably service both the nuclear industry and the aerospace industry in accordance with ISO9100.

The Water Jet Sweden BevelJet 60 stands as a testament to cutting-edge engineering and precision and is a viable alternative to traditional metal profiling methods for cutting harder materials and machined parts.

One of the standout features of the Bevel

Waterjet is its remarkable cutting head, which can process parts at angles of up to 60 degrees. This extraordinary capability allows for the creation of intricate 3D shapes with unparalleled precision.

Equipped with a 125hp pump operating at 6200 bar, the Waterjet Sweden BevelJet 60 is a true powerhouse in the world of cutting technology. Its engineering prowess enables it to seamlessly slice through materials known for their formidable hardness, including the likes of Wear Plate and Hardox.

What sets this machine apart is its dual-head configuration, one 3D and one 2D, that facilitates simultaneous cutting at high pressure through each head. This innovative approach dramatically reduces production times, offering expedited results without compromising the quality of the final product.

The Bevel Waterjet's ability to adjust pressure offers a unique advantage. It ensures rapid cutting while maintaining the utmost accuracy and consistency in every cut, regardless of the complexity of the design.

To accommodate a wide variety of projects, the machine boasts a generously sized cutting bed measuring an impressive 4 m x 8.5 m. This expansive workspace is particularly valuable for industries that require ample room for intricate work.

WJS UK Ltd
Tel: 01937 845499
Email: info@wjsuk.com
www.waterjetsweden.co.uk



A plus in precision and efficiency

The STM bevel cut compensation cutting head "STM TAC/12" ensures more precision, speed and efficient use of resources in waterjet cutting.

In principle, waterjet cutting has always provided a nice, fine and clean cut. If there wasn't one important point that sometimes clouds the good and strong result a little, the so-called angle error.

Good to know: Angular error

An angular error occurs when the waterjet loses power during cutting, resulting in more material being removed from the top than the bottom. This creates a conical cutting gap.

The STM cutting head with integrated Taper Angle Control (TAC) and a swivel range of up to 12° compensates for the angular error. This allows precise production even with high-feed rates.



The solution from STM automatically puts an end to angular error

The STM "STM TAC/12" cutting head represents a significant competitive advantage in waterjet cutting today. This is because it prevents the usual deviation between the upper and lower edges of the cutting material, the angular error mentioned at the beginning of this article. The result is a V-shaped taper at the cut edge. Especially with thin material, such as 2 mm stainless steel, the angular error used to have an even greater effect.

To prevent this, the cutting speed was previously reduced, but this resulted in longer production times and thus higher costs. The solution is the STM cutting head with integrated "Taper Angle Control". De facto, the "STM TAC/12" automatically compensates the angular error to less than +/- 0.01 mm. It does so even at up to 4 times the cutting speed. Cutting with up to 12° bevel is also very important in practical use beyond that. Keyword bevel cutting, for example for plastic parts in case construction.

Automatic skew compensation now also retrofittable for STM MasterCut

The compact cutting head can be easily retrofitted to existing STM waterjet cutting systems. Previously for the PremiumCut series and now also for the STM MasterCut V2 system. To guarantee reliable operation, the cutting head has integrated height sensing and collision protection. The encapsulated mechanics, which do not require sealing air and the motors ensure wear resistance and easy maintenance. STM thus once again fulfils its mission of providing solutions for high-quality, economical and convenient cutting of all types of materials.

Today, suppliers who can produce smaller and lighter component series in first-class quality quickly and economically without thermally deforming the surface have an advantage. This applies to the processing of ceramics, glass, plastics through to steel and composite

materials, which are required en masse in the smallest parts for electrical, automotive, aerospace and medical technology.

The best example of this growth market is the MicroCut system from STM. In combination with the STM TAC/12 cutting head, tiny workpieces with up to 10 µm rectangular and with inner radii down to 0.1 mm can be produced quietly, cleanly and at top speed. Even holes or nested parts can be cut without any problems, because the classic angle error is now automatically compensated.

A control panel with integrated control via intelligent SmartCut CAD/CAM software and protective devices for dirt and noise ensure optimum user-friendliness as well as unlimited scope for production strategy.

In addition to the thermally and physically separated stainless steel water basin, the exclusive use of brand-name components also ensures reliable cutting and wear resistance. The MicroCut, for example, enables fully automatic production with the highest possible degree of precision. What's more, thanks to the modular STM system, the system can be adapted to highly specialised cutting tasks and retooled at any time.

STM Waterjet GmbH

Tel: 0043 6458 200140

Email: info@stm-waterjet.com

www.stm-waterjet.com

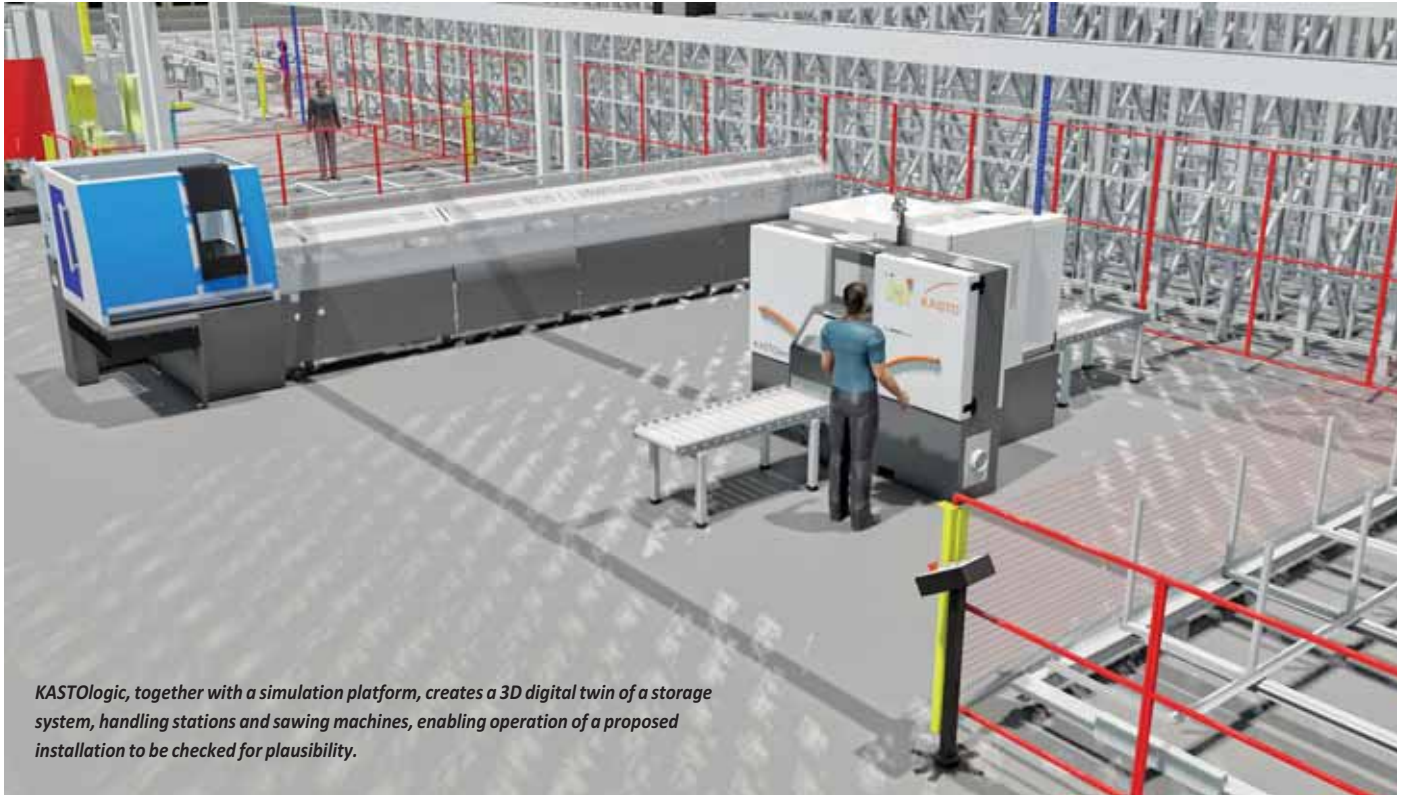
Passion for precision

With over 30 years experience in waterjet cutting our passion for precision, development & quality is unparalleled.

We offer bespoke machine designs & with our market leading service & support are with you every step of the way. Let us help find the right solution for you. Call us on 01937 845 499.

Devoted to performance **WJS**
WATER JET SWEDEN

WJS UK Ltd, Moat House Square, Thorp Arch, Wetherby. waterjetsweden.co.uk



KASTOlogic, together with a simulation platform, creates a 3D digital twin of a storage system, handling stations and sawing machines, enabling operation of a proposed installation to be checked for plausibility.

The holistic solution for storage and sawing

KASTO describes its digital and ecological credentials

KASTO, the German manufacturer of automated warehouses for storing and retrieving raw material, both long stock and sheet and which also produces sawing machines for cutting it to size, has been enhancing the connectivity and operational efficiency of its equipment. Whether it is a stockholder or a manufacturing facility using the storage systems and/or sawing machines, they benefit not only from higher productivity but also lower running costs through more economical use of electrical power. As an added bonus, more data is available to drive end-to-end decision-making, from order to delivery.

Manually executed processes no longer meet today's standards in the metal processing industry. Customers are offered sustainable concepts for automating and interconnecting operating sequences, from the raw material to picking the cut pieces. Processes include storage and retrieval, in-plant material handling, sawing, parts removal, marking, palletising and bundling.

Solutions from KASTO ensure continuously controlled, intelligent material flow. Machines, systems, goods and load carriers communicate autonomously, enabling flexible, resource efficient, economical storage and fabrication. In this way, users remain competitive despite the rising costs of energy and materials, while at the same time improving their ecological performance. Digitisation and resource conservation are key components in the portfolio of the Achern-based company, which has a subsidiary in Milton Keynes serving Britain and Ireland.

KASTOlogic is a modular Warehouse Management System (WMS) designed for bar and sheet metal storage requirements. The software enables users to manage and monitor not only the processes in the warehouse itself, but also upstream and downstream processes. Even manually operated storage areas can be integrated into the system using the mobile app.

All procedures such as storage and stock

transfers, order picking, shipping and inventory data can be transferred to the WMS via a smartphone or tablet. The app can also be used to implement pick-by-crane systems, whereby the user commissions an integrated overhead crane that moves automatically to the storage location to source the required material.

KASTO can plan, simulate and commission storage systems by combining KASTOlogic with a 3D software platform. For instance, it enables the utilisation of a configurator to create live presentations and system simulations for customers. Furthermore, project planning is faster, more accurate and leads to lower costs and higher performance, especially with virtual commissioning of fully automated storage and sawing systems.

KASTOenergysave is an energy recovery concept developed for automated storage systems. It enables excess potential or kinetic energy to be converted into electrical power, which is stored in double-layer capacitors for later use. An intelligent control automatically

saves and discharges the energy depending on the process that is running. In this way, users can reduce the power consumption of a gantry crane by more than 50 percent. Energy storage can also reduce peak load, saving further costs.

During sawing operations, users face the challenge of making best use of stock and avoiding waste to lower material



A mobile app allows a user to send process instructions such as material storage or transfer, commissioning and shipping information to the WMS via a smartphone or tablet.

consumption and costs. The KASTOoptimisaw software module optimises the assignment of long stock to every cutting order, taking into account the parameters of the various sawing machines. Bar, tube and profile of various lengths and with different mitre angles can be cut with minimum waste, reducing costs and saving space in the store, as remnants often no longer need to be returned to storage.

The KASTOapp provides a status overview of all sawing machines in the system. If a saw is operating in automatic mode, the software can extract information from the respective machine control. The user has access to precise data on parameters such as article description, cut piece length, target and actual quantity, as well as blade cutting speed and downfeed rate. If an error occurs, a message is transmitted to allow the user to react quickly and avoid downtime.

KASTO's RemoteAssistance service delivers a high degree of availability. A direct connection enables fast, detailed, remote fault diagnosis by a KASTO engineer, even in the case of complex situations. Technicians



The WMS software maximises energy efficiency due to intelligent material flow algorithms and offers interfaces to all common ERP systems.

quickly respond to questions about the operation of a piece of equipment or network, then check and change parameters, and implement software updates and upgrades. With its VisualAssistance system, KASTO takes it a step further by harnessing augmented reality to simplify the remote maintenance of machines and systems by customer personnel.

KASTO Ltd
Tel: 01908 571590
Email: sales@uk.kasto.com
www.kasto.com

Cutting Blades Saws

From the smallest to the largest, Accurate can cut it. With our 25 tonne lifting capacity, 2000mm diameter or 6000mm x 1000mm in a single pass cutting capacity we have the largest subcontract cutting capability in the UK.

Plate and block cutting, tube and solid bar, structurals, castings and forgings all sawn to size on heavy duty bandsaw machines. Any alloy or condition, shape or size. **If you would like to know more, give us a call.**



Amada bimetal, carbide and powdered tip bandsaw blades made to size for delivery anywhere in the UK.

Precision ground blade tips using latest tip materials give a lasting blade life and good finish.

We also supply Julia circular saw blades in HSS, coated or tipped form ground to your requirements.

Call to discuss your requirements.



Quality saws from Amada and Soitaab band and circular saws.

Manual, mitre, plate and gantry saws and fully automatic sawing systems capable of cutting up to 3000mm diameter, Accurate can supply a saw to suit your requirement.

Call our sales team to discuss



44-45 Crossgate Road
 Park Farm Industrial Estate
 Redditch
 Worcestershire
 B98 7SN

T: 01527 527058
E: sales@accurate-cutting.co.uk
W: www.accurate-cutting.co.uk

Steeldays provides impetus for innovative production processes

After the ninth edition of the Behringer in-house exhibition, managing director Christian Behringer drew an extremely positive conclusion: "Our visitors were enthusiastic and actively exchanged ideas with the experts on site," reflects Christian Behringer, recalling numerous conversations. The in-house exhibition was an impressive experience for everyone involved. In 2003, Behringer laid the foundation for the event and invited visitors to the "World of Sawing Experience". Since then, the Behringer Group has developed further and expanded its portfolio to include sheet metal and profile machining centres. Under a new name, "Steeldays" it now presents the wide range of innovative machines and solutions for efficient manufacturing.

For more than 700 guests from 25 nations, the three-day event offered a platform for discussion, knowledge and experience exchange. The participants took the



opportunity to learn about current industry trends, new machine and plant systems as well as interface and software solutions. Exciting guest contributions and keynote speeches as well as the presentation of the new control interface complemented the offer.

The presentation of the new BehrCtrl10 machine control system was a strong visitor magnet. In cooperation with the control manufacturer Siemens, a uniform control concept for band and circular sawing machines was created. "During development, we clearly focused on ease of operation. Thanks to our new auto-feed control with extensive material and tool database, the sawing machine independently sets the appropriate technology parameters," says Christian Behringer.

In the aluminium theme area, a fully automated sawing and processing solution for handling continuous aluminium castings with an initial length of seven metres was presented. Here, the ingots are sawn to section lengths of one metre, the first cuts are disposed of and transported via a transfer line to an automatic lathe. A gripper then

transports the peeled ingots into an ultrasonic basin and places them on pallets. Depending on the material diameter, the cut-offs weigh around one tonne. The roller conveyors, cross conveyors and gripper systems are designed to be correspondingly massive and robust.

The automatic aluminium circular saws from Behringer Eisele enable cuts every second. The VA-L 560 NC3 XL can cut diameters of up to 240 mms at high speed and still conserve resources. This is because the residual piece length is just 50 mms. Coupled to the automatic aluminium circular saw, exhibitor JTA Connection from Finland demonstrated a driverless transport system with a robot cell. The AGV picked up the box with the sawn aluminium pieces at the automatic circular saw and transported them to the cell, where the robot removed the sections individually from the AGV.

Automated processing plays a major role in the steel trade and steel construction. Steel beams, profiles and angles are prepared for further processing steps, such as drilling holes and threads, milling slotted holes or marking the material. These operations are predestined for the HDS and HDX machining centres from Vernet Behringer. The workpieces are machined simultaneously by up to four axes that can move independently of each other. In combination with a band saw from Behringer, the profiles are sawn to final size after machining.

Since its market launch, the HDX profile machining centre from Vernet Behringer has focused on speed and energy efficiency. Compared to comparable machines, the HDX offers the same or better machining performance with significantly lower power consumption. The 6-pole spindle motors used in combination with a 1:2 transmission ratio between motor and drilling axes enable high spindle torque at lower power.

The visitors were impressed by the exhibited large band saw in GANTRY design



with two saw heads. The enormous dimensions of 4.40 m height, a width of 8 m and the 24 m long material table indicated that the saw is designed for large and heavy workpieces. Thanks to its two sawing units, the long material table can be flexibly loaded and the saws can work unattended for a long time. The centrally positioned material support table is recessed in the foundation and can therefore support even the heaviest loads. The GANTRY saw is often used in forging plants, foundries and steel processing.

Smaller saws for single cuts and rooms with limited space were also exhibited. The circular saws of the VMS and PSU series from Behringer Eisele are suitable for smaller diameters as well as trial and single cuts with materials that are difficult to machine. The HBE320-523G mitre band saw also impressed as an all-rounder. Supplemented with handy transport and measuring systems, the saw is suitable for mitre cuts of beams and solid materials.

The tour of the in-house and modern iron foundry was also highly frequented. In the block moulding plant, production is semi-automated with unit weights of up to 200 kilos. Large castings weighing up to two

tonnes on average are produced in the hand moulding shop. 40 percent of the parts produced are used in the company's own sawing machines. Orders from regional customers account for about 60 percent of the capacity utilisation.

With the two automatic plate saws LPS25-200-6A and LPS40-160-4A, Behringer presented the ideal solution for the fully automatic cutting of plates into parts. The 90° rotatable band guide enables the sawing of finished parts in one clamping. The panel editor visualises the sawing tasks very clearly. This avoids errors in advance and reduces waste. The nesting functionality of the vertical bandsaw reduces processing time and waste.

In addition to the Behringer Group as the main exhibitor, other companies participated in the Steeldays with machines, systems and information stands. RÖSLER GmbH from Untermerzbach provided information on its innovative solutions for surface processing. Together with Behringer and Vernet Behringer, the companies form the alliance "PARTNERS 4 STEEL" (P4S) with integrated process solutions for digitalised steel construction and steel trading.

Another highlight of the exhibition was the



used machine MAG EVO from Vernet Behringer, presented by the company NENOK from Cologne. The panel processing centre is one of the most modern on the market. Equipped with the latest drilling and milling tools as well as a plasma cutting system, visitors were able to see for themselves the performance, precision and speed of the system for processing sheet metal.

To remove the burrs from the workpieces in the downstream step, SPALECK Industries demonstrated the use of a drum deburring machine. The cut-out parts are placed in the drum together with an abrasive granulate. The rotating movement removes the burrs and improves the surface quality.

Behringer Ltd
Tel: 01296 668259
Email: info@uk.behringer.net
www.behringerltd.co.uk

FIT FOR FUTURE WITH BEHRINGER

Complete supplier for sawing systems, steel plate and profile machining centres and automation-solutions.



BEHRINGER Ltd, part of the Behringer Group of companies, offer a broad range of machines from straight cutting, mitre cutting to circular **sawing machines** and a comprehensive range of **structural steel processing machines**.

BEHRINGER Ltd

+44 1296 668 259

info@uk.behringer.net

www.behringerltd.co.uk

Open House success for Prosaw

On October 17th-19th, Prosaw opened its doors for a special Anniversary Event to mark 60 years of business.

Over the three days, more than 50 different companies attended to discover more about the company's history and view the large range of machines which were on display in its showroom.

Among the more than 30 models on display were five new additions to the range, all having their UK debut. These included the high production GT-HS615C bandsaw, which drew a lot of attention.



The machine comes from one of the world's largest machine tool manufacturing countries, Taiwan and has been designed by the award-winning company Genger. Customers were amazed, not just at the production rates but the smoothness and rigidity whilst cutting. This removal of vibration will greatly increase the blade life when compared with other machines in the market.

Also on display were two new machines from the Turkish manufacturer Karmetal. Firstly, its Vortex 150 Carbide Circular Saw, designed for high production cutting of carbon steel bars up to 150 mm diameter. While the technology has been around for some years now, the Karmetal approach was not to simply follow the crowd and copy existing machines in the market, but to develop and improve the rigidity of the machine and the blade. Visitors observed first hand some of the advantages the Vortex offers which are designed to greatly improve blade life and lower running costs.

When processing above 150 mm diameter carbon steel, the cost of high production cutting with circular saws comes at a greater price both for the machine but also the tooling. With this in mind, the second machine that Karmetal has brought to the UK market is its High Performance Ultra 300 x 300, a uniquely designed machine for fast cutting of steels using a band speed of up to 400m/min. Using carbide



blades, the machine is capable of cutting in multiple modes from Normal through to Ultra. When in its highest performance setting, the machine is able to cut at comparable rates to circular saws and still achieve excellent surface finish and accuracy on cut length.

GEKA was represented by sales director Javier Gomez, who was pleased to introduce visitors to the new GCS-P3015 Flatbed Plasma machine. Known for manufacturing the world's number one hydraulic steelworker, GEKA began developing its plasma machine around 3 years ago with the intention of adding this to its growing range of CNC equipment. Although regarded as an entry-level machine, it has been designed using the very latest know-how and world-leading components.

For those who visited on the Wednesday afternoon, they were given the opportunity of meeting all of the Prosaw family. Also invited to enjoy the celebrations were a large number of past employees as far back as one of the companies' original engineers. In total, the evening event saw more than 120 customers, employees and suppliers gather together.

Prosaw Ltd
Tel: 01536 410999
Email: sales@prosaw.co.uk
www.prosaw.co.uk

PROSAW



The People to see for Saws

COMING IN 2024

MACH
 15-19 April 2024
 NEC Birmingham UK
machexhibition.com

A selection of machines from our range will be on display at **MACH 2024 Stand 6-110**

Bandsaws

Ironworkers

Circular Saws

Material Handling

Metal Forming

Machining Centres

Scan below to register for MACH 2024 and visit us to discuss your next metal cutting / forming machine requirements



www.prosaw.co.uk
 01536 410999
 sales@prosaw.co.uk



SOUTHERN 24 Manufacturing & Electronics

FARNBOROUGH | Hants | GU14 6TQ

6th - 8th February 9.30am - 4.30pm (3.30pm close Thurs)

Where Industry and Innovation converge

Over 600 national and international suppliers come together to exhibit at Farnborough International Exhibition and Conference Centre this February for Southern Manufacturing and Electronics (inc AutoAero) 2024. Meet the power behind UK manufacturing industry and see live demonstrations and new product launches of machine tools & tooling, electronics, factory & process automation, packaging & handling, labelling & marking, 3D print technology, test & measurement, materials, composites & adhesives, rapid prototyping, ICT, drives & controls, plastics & polymers and laboratory equipment.

Free industry seminar programme online @

www.industrysouth.co.uk

The exhibition is **free** to attend, **free** to park and easy to get to. Doors open at 9.30am on Tuesday 6th February.



**FREE
SEMINARS
FREE
PARKING**

Incorporating The Subcontract
Engineering Exhibition

AUTOAERO
FARNBOROUGH • 6-8 FEBRUARY 2024



AUTOMATION
DEFENCE
FOOD & DRINK
AUTOMOTIVE / AUTOSPORT
ELECTRONICS
AEROSPACE
TRANSPORTATION
PACKAGING
ELECTRICAL & MECHANICAL
ENGINEERING
ADDITIVE MANUFACTURING
LOGISTICS
MARINE
ENERGY
SPACE ENGINEERING
R&D
MEDICAL
MATERIALS / COMPOSITES
CONSTRUCTION
PLASTICS & POLYMERS

PRE-REGISTER TODAY

for your Fast Track Entry Badge, Preview Magazine
and Event Catalogue at:

www.industrysouth.co.uk



**SOUTHERN MANUFACTURING
& ELECTRONICS**

is an ETES event organised by
European Trade & Exhibition Services Ltd

01784 880890 | philv@etes.co.uk

12



With CERATIZIT you could deliver the job before other suppliers have delivered the tool!

With CERATIZIT, delivery from our UK stock is **free** and **guaranteed before 12 noon next day***. In fact we're so confident, that if we don't deliver by 12 noon next day, we'll give you a £10 credit on your account.

We carry over 8,500 metal cutting tools ex-stock in our UK logistic centre all for same day dispatch, whenever you see the **UKS** Logo you can rely on next day before 12 noon delivery.

At CERATIZIT we deliver the tools fast so you can deliver the job first!



SCAN HERE

to download our special selection and see our UK stock



CERATIZIT is a high-technology engineering group specialised in cutting tools and hard material solutions.

Tooling a Sustainable Future

ceratizit.com



*Free delivery over £50 order value, a small number of postcode areas are excluded