MACH 2008
21–25 April · NEC · Birmingham UK

The countdown begins

The biennial MACH show countdown has started. *Machinery* begins its previews this month and the signs are all pointing in the right direction for a successful event

To be held at the NEC, Birmingham, from Monday 21 to Friday 25 April and opened by Minister of State for Trade and Investment, Lord Digby Jones, MACH 2008 currently boasts some 430 exhibitors taking a total of 26,500 m^2. In fact, as of late January, the show had just 600 m^2 to go before it was sold out – although even at the January figure it was "107 per cent sold", meaning that organisers MTA were looking for creative solutions to satisfy those still eager to be at the UK's largest manufacturing technology event.

MACH 2008, encompassing metalcutting and metalforming machine tools along with all ancillary and related products and services, will incorporate MACHplus (taking in exhibitors from related industries) and MACHconsult (industry advice from experts). The show attracts in excess of 22,000 visitors and is the only place to see, en masse, new technology. Indeed, confirmation that this is indeed the major draw comes from a visitor exit survey from MACH 2006 which gave a "clear indication that the majority of those attending the show do so for the purpose of discovering the latest, most innovative technology on offer", says show organiser, The Manufacturing Technologies Association (MTA).

In 2006, over 168 of the 490 exhibitors present were displaying products and services which were new to MACH – that's almost 40 per cent of exhibitors. All exhibitors showing new products or services at MACH 2008 will be identified in the free-of-charge Exhibition Catalogue available at the show, but will also be listed in *Machinery*'s Show Issue published in April, before the event, so helping you to plan your visit. At the exhibition, those showing new products will display the 'New at MACH' logo on their stands.

TECHNOLOGY FOCUS ZONES

The full list of manufacturing technologies to be seen at MACH 2008 is listed in the accompanying box item, and there will also be a number of focus zones where specific technology is grouped. These include: metalforming; welding and metal fabrication; automation and robotics; engineering lasers; tooling; CADCAM; and measurement and inspection.

Co-located with MACH 2008 at the NEC are other exhibitions, namely: Subcon, Airtech, Drives and Control, Electrex and IFPEX.

Now while MACH 2008 is primarily a domestic show, this year will see a large delegation of foreign buyers attending. Two hundred and fifty specially invited international delegates will be visiting MACH 2008 and the MTA is predicting a spend of in excess of £100 million.

Delegates invited to the show by the MTA have been selected with help from the UKTI Advanced Engineering, Automotive and Aerospace Sector Teams. The delegates consist of commercial buyers and senior engineers from Brazil, Russia, India, China and SE Asia.

Pre-registration for the show is being encouraged. This guarantees fast-track entry to the show and will also see the Show Catalogue mailed to pre-registered visitors ahead of the exhibition. Along with a show pass, pre-registered visitors will also be sent a floorplan of both halls, while new for this year is access to the MACH interactive floorplan – an online tool to help visitors plan time at MACH by identifying companies of interest and marking them on maps of the halls.

Visit *www.mach2008.com/register* to kick-off your MACH 2008 planning now. A taste of what will be on offer at MACH 2008 starts on page 20.□

Technologies on show

- ❒ Metalcutting machine tools
- ❒ Metalforming machine tools
- ❒ Accessories and equipment
- ❒ Flexible manufacturing systems
- ❒ Industrial lasers
- ❒ Automation
- ❒ Robotics
- ❒ Handling and storage
- ❒ Measuring equipment and systems
- ❒ Tooling
- ❒ Workholding
- ❒ Toolmaking
- ❒ Testing and diagnostics
- ❒ Welding equipment and accessories
- ❒ Consumables
- ❒ CADCAM software and hardware

BRIEFS

Thermacut turns up heat

Plasma welding and cutting consumables specialist, Thermacut (Stand 4550), will be introducing its Silver-EX electrodes (from the EX-Trafire brand of plasma cutting consumables).

Silver conducts electricity better than copper, so Thermacut has engineered an electrode that is solid silver combined with special alloys to increase durability. Cutting results are enhanced because more power is delivered directly to the desired area, increasing cut speed by up to 40 per cent. Silver also transfers heat better than copper, which means the welding torch will run cooler and consumables will last longer. Kerf widths are tighter, angles are improved and there is less slag to clean up.

Sights for saw eyes

On stand 5574, Elumatec, a first time exhibitor, will showcase its range of profile cutting machines, saws and copy routers. "Companies that cut and rout aluminium and steel have to be assured that their machinery is reliable, efficient and cost effective," says Phil Heavey, managing director of Elumatec.

Demonstrating Elumatec's technology will be a host of products, including the advanced SBZ151 5-axis profile machining centre capable of drilling, routing, tapping, cutting and notching, while the SAS142 represents its wide automatic saw range for cutting high volumes of aluminium profiles for window manufacturing and industrial applications.

XYZ set to present the 'big picture'

The 17 machine tools displayed by XYZ Machine Tools (Stand 5358) will present an up-to-the-minute picture of one of the UK's leading suppliers by volume of CNC machine tools, while at the same time introducing two UK debutant models.

The most recent addition to the company's portfolio, the XYZ Compact Turn 52 turning centre, is equipped with the Siemens 810D ShopTurn control and designed to occupy the minimum of floorspace (1,700 by 1,300 mm). This new turning centre lives up to its name by combining a 15 kW/5,000 rpm spindle with a 155 mm chuck/52 mm bar capacity spindle and 325 mm distance between centres, as well as a 12-station VDI tool turret.

XYZ will also be displaying a new, cost-effective first step into CNC prismatic machining. Prices begin at £10,000 for the XYZ ProtoTRAK EMX eMill, a flexible and easy-to-use turret mill that can be operated in either manual/DRO or CNC mode.

The 3 hp/4,200 rpm EMX eMill has X and Y-axis travels of 750 and 380 mm respectively, and a 1,270 by 254 mm table.

The smallest of three new ProtoTRAK turret mills, it is equipped as standard with the new EMX control. All three models feature a variable speed head, Meehanite cast iron ribbed construction and are built and guarded to comply fully with all CE regulations.

Heller's new horizontals

Heller Machine Tools is introducing a new range of horizontal machining centres on Stand 5430 but, according to managing director Geoff Lloyd, that is not the only reason the company is expecting a successful show. "We hope to capitalise on our strong position in the market at MACH 2008, as we did at the last event in 2006, which was an outstanding success for us.

"What sets Heller apart is the Heller Package. This gives our customers an advantage in that we ensure they have the most appropriate and productive machining process, whether they require multiple machine cells or just a stand-alone machine."

CGTech spotlights Vericut 6.2 enhancements

CGTech will exhibit the latest version of Vericut CNC machine simulation and optimisation software on Stand 5644. It features several enhancements that increase the ability of production engineers to develop, analyse, inspect and document the CNC programming and machining process.

For instance, a new 'NC Program Preview' offers an option to process an NC program in Vericut without actually simulating material being removed. This 'quick check' is very fast and uses much less memory.

Several new utilities have also been added to the 'NC Program Review' window. These include: a calculator, user-configurable text colouring, syntax checking and block renumbering options.

Other functionality improvements include: a turret set-up wizard that enables users to easily load, change tools, or change tool positions in a turret; simulation and analysis of tapping operations; a more powerful X-Caliper function so users can measure the depth of blind holes, the top and bottom radius of a countersink, and the distance between the tool and the stock; a new 'Set-up Plan' window enabling users to add dimensions or notes to create a drawing of a set-up layout or plan; and CAM interface updates relating to CATIA V5, so users can select CATIA sub-programs, retrieve cutting tool descriptions from CATIA and set the Vericut working directory to the location specified in CATIA V5.

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Laser firm's first MACH

SSC Laser Cutting on Stand 4936 will be exhibiting at MACH for the first time. SSC specialises in laser cutting mild and stainless steel, brass and aluminium sheet, tube and box section, and also provides a CADCAM service, press braking and 2D laser scanning facilities.

The company produces components for a wide range of industries including yellow goods, automotive and construction, and has recently installed a second Bystronic Byspeed 3015 machine, taking SSC's investment in new technology from Bystronic to well over £2 million.

Gewefa goes OTT

In addition to displaying the very latest toolholding products from Gewefa, there will be prominent displays from EWS, Pibomulti, Nann and Parlec on Stand 5586, as well as products manufactured by the latest addition to its portfolio, OTT-Jakob, a long established supplier of equipment such as power drawbars for steep taper tools, HSK clamping units, unclamping units, rotary unions and pull force gauges for power spindles.

Gewefa's technical sales team has recently attended an intensive three-day briefing on the OTT-Jakob range.

"To build on OTT's strong reputation it was vital that the sales team had the opportunity to discuss the intricacies and applications of the OTT-Jakob range at first hand with the experts," explains Graham Horwood, Gewefa UK's managing director.

WNT showcases innovation across the range

Having booked the largest stand in the company's MACH history (Stand 5460), WNT will display numerous new cutting tools, including the WTX Change drill head series which blends the performance advantages of solid carbide drilling with the versatility of a replaceable head system. Also on the stand, the WTX solid carbide drill Type AL can achieve cutting speeds up to 400 m/min and feedrates of 0.7 mm/rev when machining aluminium, copper or brass.

The solid carbide endmills Type ACR for machining aluminium are of particular interest to aerospace applications where a high percentage of the parent material is removed, while the solid carbide endmills Type W-HPC (right) deliver high performance with a soft cut when aluminium contains up to 12 per cent silicon.

Conventional, ramping, and plunge milling at feedrates up to 3 mm/rev are all possible with the new indexable milling insert Type HFC.

WNT is also introducing a new parting and grooving system for turning operations called SXhighlight, which is the next generation of the established FX parting system.

Also on show will be new workholding innovations such as the ZSK 100 vice for use where rotary indexers are deployed, and the ZSG Mini vice.

Nice touch from Blum

On Stand 5150 Blum NovoTest will give the new TC76-N touch probe its UK exhibition debut.

Designed for both tool and workpiece measurement on turning machines, the TC76-N introduces Blum's new Shark 360 multi-direction measurement technology. The patented design sees the TC76-N probe house a measuring mechanism with face gear that increases measurement accuracy when performing off-centre probing by using cranked styli.

The Shark 360 system ensures that the self-centering stylus will only deflect in the opposite direction to the workpiece or tool upon contact for better accuracy.

CMS unveils 5-axis high speed machining centre

A new 5-axis CNC machining centre called Antares, intended for machining non-ferrous materials within a 2,600 by 1,500 by 1,200 mm working envelope, will be presented by CMS Group (UK) on Stand 5588.

Materials machined by Antares can include wood, aluminium, epoxy paste and polyurethane, commonly found in the mould, model and patternmaking sectors, through to light alloys and carbon fibre, as used for the production of structural components in aircraft, for example.

One result of the Antares design philosophy is to afford a far higher degree of stiffness to the 5-axis cutting head than is normally associated with machines of this type. The usefulness of this attribute is enhanced by the inclusion of a pneumatic brake that can be programmed to clamp the B and C axes during operations that do not require fully active 5-axis interpolation.

The PX5 universal head, with all five axes acting under simultaneous control from a GE-Fanuc 18i MB5 CNC system, has a fourth, horizontally rotating axis and a fifth that inclines the spindle in the vertical plane, in addition to the three orthogonal linear axes.

The high speed spindle (24,000 rpm/12 kW or 27,000 rpm/ 6 kW) is liquid cooled, while fast positioning speeds of 70-80 m/min are achieved along with acceleration of up to 3.0 m/sec^2.

BRIEFS

Turning on the style

Floyd Automatic Tooling will give UK launches to a range of cutting tools for users of turning machines and sliding-head lathes on Stand 5259.

For users of sliding-head turning centres, the new Cut-Line range of parting off tools has been developed to enhance tool life, rigidity and surface finish, while the improved Modu-Line system based on a groove concept delivers a reduction in machine downtime and optimises the capabilities of the machine tool.

For the internal turning of small bores, Floyd Automatic will present the new MicroTurn system from Ifanger, which will sit alongside a new Hommel & Keller tooling system for knurling straight cut profiles on small automatic screw machines and sliding head turning centres.

Optimise QA productivity

Vision Engineering's range of stereo inspection and measurement systems will be demonstrated on Stand 5632. The company developed the new range of stereo viewers to provide operators with optimum ergonomics, minimising the effect of eye strain and fatigue, to assist productivity.

The new Mantis 'eyepieceless' stereo viewers provide operators with a long working distance and a large depth of field for simple tasks like the inspection of machined components. Now available with an episcopic illuminator, the Mantis can be used for inspection of bore and blind holes.

MAG gets ready to show united front

On Stand 5336 MAG Cincinnati will be exhibiting its machines alongside products from MAG Industrial Automation Systems sister companies MAG Fadal, MAG Huller Hille and MAG Boehringer.

From the MAG Cincinnati stable will be the CFV 5Si 5-axis vertical machining centre and the FTV 840-2500 fixed-table, travelling-column vertical machining centre.

Incorporating 5-axis integrated rotary table technology and spindle speeds up to 20,000 rpm, the CFV 5Si is capable of producing components up to 400 mm diameter and 300 mm high with a tilt capability up to 150°.

Based on the FTV (fixed table) machining centre concept with a travelling column, the 3-axis FTV 840-2500 incorporates a 3,140 by 815 mm bed and X, Y and Z axes travel of 1,830, 815 and 800 mm, respectively.

Additional vertical machining centres on the stand will include the MAG Fadal VMC 2216FX and VMC 4020FX. Both machines are equipped with an automatic tool change capacity of 21 tools, spindle speed of 8,000 rpm and a 40 spindle taper as standard with a choice of Fanuc 0i or Fanuc 18i control system.

To meet the needs of manufacturers looking for horizontal machining centres, the MAG stand will also demonstrate the new MAG Huller Hille nbh 5+ machining centre. Meanwhile MAG Boehringer will be showcasing its automotive expertise by manufacturing crankshafts on its NG 200 machining centre.

PCD tooling suits exotics

Receiving their UK debut on Stand 4118 will be a new range of PCD cutting tools from ITC. Driven by demand from the motorsport and aerospace sectors, the new Cyber Series 2111 and 2102 endmills are specified for machining graphite, metal matrix composites, Kevlar and carbon fibre.

The two-flute 2111 Series is a high performance PCD endmill with a solid carbide shank and necking for extra reach, while the 2102 Series ballnosed endmill with solid carbide shank and PCD brazed tips offers enhanced tool life and productivity when machining abrasive materials.

First UK view of Dalian range from 600 Group

MACH will mark the official launch in Britain of the new Dalian range of conventional and CNC lathes, vertical machining centres, horizontal machining centres and turret milling machines. The low-cost Dalian brand is the outcome of a seven-year commercial project between British machine tool specialist 600 Group and China's largest machine tools manufacturer DMTG.

A comprehensive display of Dalian machines will be on view on Stands 5128, 5130 and 5136. The full Dalian range includes conventional lathes (CDS and CW models), flat-bed CNC lathes (CKE models), slant bed CNC lathes (CL and DL models), VMCs (VDF and VDL models), and HMCs (HDR and MDH models).

600 Group engineers have ensured that the machines will be able to carry the Dalian badge worldwide. This has included improvements in machine quality, CE standard electronics and machine build, ergonomics, aesthetics, and the capabilities for automation demanded by Western markets. All CNC models have Fanuc controls.

Jon Mannion, Dalian's product manager, says: "The Dalian machines are an opportunity for many UK customers to own a brand new machine. Prices for the Dalian CDS-CW standard centre lathes start from £5,490.

BRIEFS

SurTech cleans up

On Stand 4808, abrasive and polishing solution provider SurTech will be exhibiting its PBZ 100 planetary finishing machine. The finishing machine allows the customer to polish bent tubes and hollow sections that are difficult to finish using conventional methods.

SurTech will also display its Multihead abrasive belt finisher, which is available with two to six heads. While a machine with between two and four heads will suit the vast majority finishing processes, finishers with up to six heads are available.

Miyano turning centres

Macro CNC (Miyano UK) will be giving three turning centres their first UK exhibition appearance on Stand 5251.

The new BNJ-51SY2 turning centre is a development of the well established BNJ-42SY turning centre. It is a 7-axis turning centre with a 51 mm diameter capacity for companies looking to machine complex parts in one set-up in a size range outside that of sliding-head lathes.

The second launch is the BNE-51SY5, an 8-axis turning centre that has been improved to deliver ease-of-use, flexibility and unmanned running beyond the scope of competitor machines.

For components up to 64 mm diameter, Macro CNC is offering the new ABX-64TH3 10-axis, three-turret machine, which has been equipped to drive down set-up times, increase unmanned running and improve ease of use.

Mazak combines artificial intelligence with real benefits

Mazak will introduce several new products on Stand 5360, all equipped with 'intelligent functions' for smarter operation.

With a lower turret equipped with a 60 mm Y-axis, the versatility of the Integrex e-420H-ST II is considerably expanded and delivers increased capability for new processing applications and cutting tools. The ability to mount turning tools, tailstock, steady rest attachment or special fixtures on the lower turret opens up numerous machining possibilities for delivering maximum productivity from a single machine tool.

With upper turret axis travels of 845 and 420 mm (X and Y) complemented by a lower turret with axis travels of 232 and 60 mm (X and Y) and upper and lower Z-axis movements of 2,088 and 1,893 mm, respectively, the Integrex e-420H-ST II can meet almost any kind of production requirements. This combination of machining capacity and power makes the Integrex e-420H-ST II a complete fusion of machining centre and turning centre to provide a platform capable of reducing manufacturing costs through improved productivity.

Also on the Mazak stand will be the Vertical Centre Nexus 700D-II, the development of which is a direct response to market demand for a larger Nexus vertical machining centre incorporating a 50 taper spindle. With an 8,000 rpm, 30 kW integral spindle/motor, which has a torque of 302 Nm, the machine is capable of both heavy metal removal and fine finishing operations.

Live CAM demonstrations

On Stand 5556, Open Mind Technologies will present its latest innovations for efficient CAM programming. Highlights will include the new mill-turn hyperMILL millTURN module for complete machining on milling and turning machines, the new CAD integration of hyperMILL in SolidWorks and hyperMill V10.

Visitors will be able to view a series of live demonstrations of workpieces programmed using hyperMILL. These will be on Open Mind's stand and on the stands of machine tool partners, such as Agie Charmilles, CGTech, CMS Group, DMG, Hurco Europe,s Mori Seiki, Seco Tools and YMT.

Hydrafeed developments raise the bar

Hydrafeed products shown for the first time on Stand 5482 will include the new Rota-Rack rotary part accumulator, the Hydrafeed V65 short bar feeder and the new Autofeed full length barfeed system.

Rota-Rack is a part accumulator for collecting components from CNC lathes. The patented system gathers parts automatically allowing the turning centre to run unmanned for extended periods while eliminating part damage. Suitable for limited space environments, the accumulator accommodates parts up to 254 mm long with diameters up to 76 mm.

Also unveiled will be the new Hydrafeed V65 short barfeeder. Capable of holding round, hexagonal or shaped bars from 5 to 65 mm diameter with a maximum capacity of 10, 65 mm diameter bars up to a stroke length of 1.2 or 1.5 m, the V65 is suitable for unmanned production.

Alongside the V65 will be the new full length barfeed. The Autofeed has a single guide channel set to deliver a wider range of bar diameters with models holding a 3 to 32 mm or 5 to 51 mm bar diameter capacity. With a standard length capacity of 3.2 m (3.7 m option), the dimension range of the new Autofeed makes it suited to fixed-head lathes or sliding-head turning centres. The new barfeed can feed from both the left- and right-hand side of the lathe to give the end-user greater flexibility.