

Since it was created in 2005, the Engineering Technology Group has brought a new way of thinking to the UK manufacturing sector. And it is a way of thinking that has struck a chord with companies that want to gain a competitive edge in global markets

# The winning edge



The group starts from the position of offering highly productive technologies that allow components to be finished in the minimum number of setups and the fastest possible machining cycles. It combines this with a unique structure that offers the best aspects of a small specialised supplier – speed of reaction, in-depth knowledge, a comprehensive understanding of the machines' capabilities – with the strength in depth of a large company.

The Group has now grown to encompass four machine tool suppliers – Chiron UK, Turning Technologies, Handtmann CNC UK and Feeler, as well as Hyfore, a precision engineering company specialising in bespoke automation and workholding systems, and Engineering Solutions, the Group's after-care and preventative maintenance provider.

## Unique approach

The unique structure of the Engineering Technology Group means that each of these companies has its own dedicated specialists – experts in applications, technical engineering, service, training and project engineering. So they can work closely with the customer to identify its manufacturing requirements and develop a bespoke solution.

Traditionally, this type of specialist expertise was generally associated with small suppliers – as larger suppliers are generally more interested in selling larger volumes of standard machines. But the problem with these small specialists was that they didn't have the resources to provide a comprehensive service or deliver complex projects.

Without the economies of scale and infrastructure of a volume supplier, aspects such as project management, systems integration and process development often let them down – not to mention important aspects such as support, spares and finance.

The advantage of the Engineering Technology Group is that it has the scale to provide all these core services from a shared central facility. This includes applications and process engineering, CAD/CAM programming in Delcam and CATIA sys-

tems, project management and strategic management of manufacturing needs. And by drawing together expertise across the Group it can bring together complex turnkey solutions.

Also working across the Group is Engineering Solutions, its after-care division. This provides all the support activities required to keep high-productivity production systems operating at maximum efficiency, including 24-hour service support from factory-trained specialists, preventative maintenance and warranty engineering.

As Group Chairman Paul Rhodes explains: "The result of our unique structure is that the customer gets the same level of in-depth product knowledge and experience that they would expect from a small niche supplier. At the same time they can draw on the in-depth strengths of a large organization."

## Maximum productivity

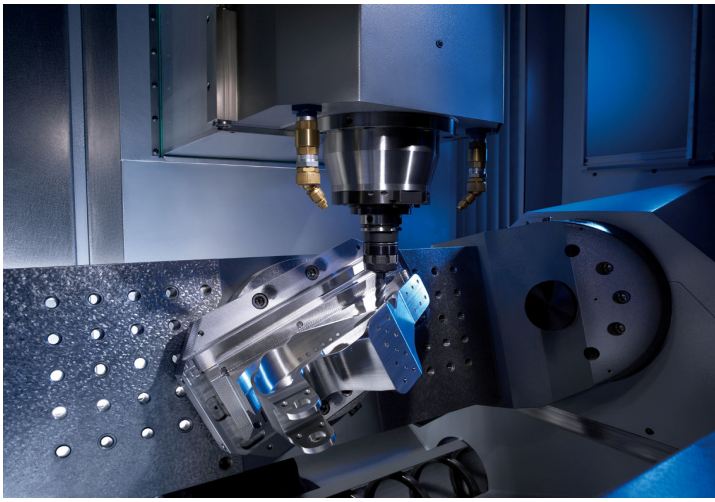
The emphasis across the Engineering Technology Group's machine tool range is on manufacturing concepts that allow even the most complex components to be finished in the minimum number of operations.

Chiron UK, one of the original Group members, offers a wide range of moving column vertical machining centres that offer exceptional productivity and a wide range of 5-axis options – including swivel head, two-axis table and even twin-spindle configurations. The emphasis is on high speed axis travels and fast chip-to-chip times, combined with accuracy, stability and reliability.

Turning Technologies UK, another of the original Group members, is the sole UK and Ireland representative for the highly respected Nakamura Tome range of multi-tasking machining centres. Nakamura's twin opposed spindle machines, with multiple tool turrets or tool changers and high power driven tooling, are recognised as leading the field in one-hit machining. The machines are also known for their stability and rigidity, which allows consistent repeatable accuracy in 24/7 production.

A specialist in high capacity machining for the aerospace market, Handtmann offers three-, four- and five-axis machining in a range of configurations including gantry machines, portal machines and the revolutionary AeroCell horizontal machining centre. With capacities up to 47m by 10m and metal removal rates of up to 12 litres per minute, Handtmann machines have delivered massive productivity gains in applications such as wing spar machining.

The latest addition to the group is the Feeler range, produced by Fair Friend, the largest machine tool manufacturer in Greater China (China and Taiwan). Built to a high specifica-



tion at a competitive price, the Feeler range encompasses a wide range of three-, four- and five-axis horizontal and vertical machining centres and turning machines that are at the high quality, high technology end of the volume machine tool market.

#### A powerful proposition

Combine the Group's portfolio of high capability machining technologies with its strategic strengths, core capabilities and ongoing support services and it adds up to a powerful proposition, says Paul Rhodes.

"To survive and grow in today's global markets, companies have to have a clear competitive edge. That means using the most productive machine tools and applying them intelligently; machining components complete in one setup, maximising spindle utilisation and eliminating unproductive time.

"To do this, we talk to our customers, get to grips with the manufacturing challenges they face and work out with them how they should meet them. It's not just about selling them a machine, it is about developing a solution that fits what they want and the way they work. Whether it is applications expertise, tooling and programming advice, specialised workholding or a full turnkey project – we will give them the production-ready solution they need to ensure maximum productivity."

#### Partnership approach

A good example of how the Engineering Technology Group works with its customers is its partnership with the Magellan Aerospace Corporation.

The driver for Magellan is to develop more productive manu-

facturing methods than its competitors. Working initially on a project for wing ribs, the two companies together developed a twin 5-axis spindle, twin-table Chiron Duo Mill, with two four-sided work-holding fixtures developed by Hyfore Engineering. This produced the parts faster than the best competitive technology at 58% of the cost.

They key was that as well as developing the machine to the required specification the Engineering Technology Group also committed to achieving the cycle times that were part of Magellan's bid to its customer. It provided engineering support through the start-up phase of the project as well as ongoing engineering support and 24/7 maintenance on a four-hour call-out.

Following on from that project, Magellan ordered a two-machine FMS for a new wing spar machining facility at its Wrexham site. The £5 million manufacturing cell is expected to cut machining times by around 30% compared to previous methods. At the heart of the cell are two Handtmann PBZ-HD high-speed, five-axis portal machining centres linked by a fully integrated overhead flexible manufacturing system (FMS). These can produce parts up to 10m long by 1.5m wide and are fitted with the latest 100kW Fischer spindles, which can achieve metal removal rates of up to 12 litres a minute.

The cell will be producing around 2,200 wing spars a year, up to 10m long and 1m wide, including inner and mid spars for the single-aisle Airbus A320 as well as inner rear spars for the A330 and A340 family of aircraft.

The wing spar production was secured as part of a multimillion dollar contract, agreed as part of the Airbus Power 8 initiative, that won increased volumes and new packets of work for Magellan in exchange for cost reductions. The solution supplied by the Engineering Technology Group represents a step change in the way this type of component is manufactured, allowing Magellan to manufacture wing components at unprecedented production rates. In fact, Magellan estimates that it has achieved a 30% reduction in cycle time compared to previous methods.

Summing up, Paul Rhodes commented: "It is very gratifying to be able to see the kind of successes we have had with customers such as Magellan. Five years on from the creation of the Group, it is clear that we have a philosophy that is in tune with the needs of the market. As we move out of recession and into what everyone hopes will be more positive times for manufacturing we look forward to helping more and more companies gain the winning edge."

