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### **600 Centre Provides Adaero Precision Engineering with a High Productivity Solution**

When in 2003, leading engineering firm Adaero Precision Components wanted to invest in a new machining centre, it was looking for a solution that could guarantee the production of the high quality precision components that its customers expected as standard – so it immediately turned to 600 Centre, the fastest growing machine tool distribution company in the UK.

Responding to a brief to provide a high productivity, high quality engineering solution, the Shepshed-based company recommended the Fanuc T21iD vertical machining centre (VMC).

Five years on and its easy to see that 600 Centre's advice was correct – Adaero has since purchased four of the next generation Fanuc T21iE machines and between them, the five VMCs have produced more than 1,500 completely different parts, without ever missing a beat. This has allowed Adaero to expand its customer base still further, which in turn, has contributed to the company's continued success. Turnover has increased to top the £2.4 million mark – with a corresponding increase in profits. And the company has just completed a new 900 m sq factory extension to allow it to meet increasing customer demand.

Managing Director Andy Dickinson, who founded the Devon-based company with his father Anthony in 1988, has a background in machine tools, so understood that purchasing the right machining centre for the job would be essential.

“Our customers are at the heart of our philosophy and we strive to keep them happy – as we mostly serve the medical, optical, aerospace, hydraulic, MOD and scientific communities, to do this, it is essential that we can offer the highest levels of precision and quality. And the machine tools that we invest in are second only to our 42 staff in ensuring that we achieve this.

“In 2003, we undertook a lot of research, looking both at the different machining centres available as well as at the companies that sold them.

“We were looking for a machine that would offer high levels of productivity, flexibility, accuracy, consistency of production and reliability. 600 Centre recommended the Fanuc T21iD VMC because it fulfils all these criteria and can be used for a wide variety of jobs, involving milling, drilling, tapping and fluteless tapping, boring and in-cycle deburring. They're also compact and don't take up to much space in our machining shop.

“What's more, 600 Centre is a large company with a good reputation, both for supplying quality products and for the after care service support they provide.”

However, whilst servicing may have been part of the original decision making process, for Adaero it has simply served to provide peace of mind; a recent quality audit has shown that not one of the machines has recorded a problem or breakdown since they were installed.

“Our machines are key to our success, so we naturally run a regular maintenance regime, but even so, for five machines to have never experienced any downtime is rare and extremely important to an organisation such as ours,” explained Andy.

Speaking about the Fanuc VMCs reliability David Wilkinson at 600 Centre, said:

“We are delighted to hear that Adaero has never experienced a single reliability issue with any of the five Fanuc machines that they bought from us. The T21/D and its replacement the T21/E are certainly some of the most reliable machines on the market, which together with their quality, accuracy and set-up speed have helped to make them one of our most popular products.

And it is the ease of the set-up process that has helped to make the Fanucs such a hit with Adaero - the company strives for efficiency throughout its whole operation; it was an early adopter of the Japanese Kanban system and has helped customers to set up the system to ensure the smooth running of their own production facilities.

So it's only natural that this desire for efficiency extends to its machines. The company records data by clocking jobs on and off. This is fed back to a scheduling system which is audited on a daily basis, showing that even a complex reset can be undertaken in just 90 minutes on the Fanuc VMCs.

Andy firmly believes that this efficiency, combined with the Fanuc's fast cycling, single operation style production solutions have allowed Adaero to reduce the labour intensity of each job, which in turn has allowed it to keep prices competitive.

Each of the VMCs has been fitted with a fourth-axis unit, which has allowed the company to undertake an array of complex projects in materials ranging from Delrin, GRP and aluminium, to stainless steel, brass and special alloys. They have produced more than 1,500 different parts in batches of between 20 and 1,800. 900 of these are still in production and more than 90 are repeat orders.

Most machining cycles involve programmed burr and sharp edge removal, which are supported by strict optical inspection regimes. And, says Andy, it is the Fanuc machines' precise positioning and delicate interpolation of axes at high speed that have been such a major advantage. This allows Adaero to maintain a consistency of edge on parts such as airway management and gas mixing devices that are used in anaesthetic equipment; beam delivery; mirror block and valve bodies used in laser marking; cutting; exciter and the beam focus system components.

Adaero has also used the T21iD and T21iEs to produce critical components using Super Duplex materials for the MOD, as well as components used in document analysis and high pressure hydraulic systems in flight simulators. But one of the most complex components that the Fanucs have been used for is the production of a blade grip for the central rotor for a larger than normal remote-controlled helicopter. This was milled from 60 mm bar, some 200 mm long, using the fourth-axis unit to position each of the four blade location slots, outside profiles and extensive interpolation of axes to create the various blend radii.

And of course, when working on such critical components accuracy matters, which is why Andy chose to purchase the Fanuc T21iD and the next generation T21iE VMCs from 600 Centre in the first place.

“Ultimately, the Fanuc VMCs have been a very good investment for Adaero; day-in, day-out they’ve allowed us to produce thousands of complex components to the highest levels of accuracy and quality. This in turn has helped us to keep our customers happy and grow our business and that’s all that matters really,” added Andy.

600 Centre is part of the world-renowned 600 Group, the UK’s largest machine tool company and the only company in the industry that is quoted on the London stock market.

600 Centre represents some of the highest quality machine tool manufacturers in the world, including global market leaders, such as Toyoda-Mitsui Seiki, Fuji, Fanuc, Joemars, Okamoto and Perfect. It also distributes Colchester-Harrison products which are manufactured by sister company, 600 Lathes and have a reputation for quality, accuracy, efficiency and durability – all at a competitive price.

For further information about the Fanuc T21iE Vertical Machining Centres or to request a product catalogue, call 01509 600600 or visit [www.600centre.co.uk](http://www.600centre.co.uk).

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