



Working together for mutual benefit: Unisign and JW Kane Engineering

A sign of the times

Having relocated to a brand new facility, JW Kane Engineering is now looking to increase its production of complex aerostructure components for major aerospace OEM customers. Mike Richardson visited the Northern Ireland-based subcontractor to witness its recent Unipro and Unipent machine tool acquisitions supplied by vertical CNC machining centre specialist, Unisign.

Against the backdrop of the current global recession, many companies in the aerospace supply chain are looking to cut costs by slashing their spend on machinery and training. One company bucking the trend is JW Kane Engineering.

Managing director, James Kane began the business in 1984 by supplying the textile business at a time when the industry enjoyed a period of growth in the region. However, like many other industries, it gradually began to die away, so Kane decided to investigate other industries as a potential source of income.

"I was already familiar with the aerospace industry from a previous role, so I decided to promote our machining services and fortunately the work mushroomed from there," he begins. "Originally, the work comprised small components, but gradually the aerospace work demanded machining solutions for component sizes of up to 4.5m in some cases, so I decided it was time to find a machine tool supplier like Unisign to improve our capabilities for large and complex machining."

Unisign has delivered four machines to JW Kane, all fitted with the 100kW 25,000rpm spindle. The first, a Unipro 5P with two 5-axis workstations was delivered and installed in April 2006, whilst the second machine, a Unipro 5L, was delivered in

August 2008. The third and the fourth machines were Unipent 4000 5-axis machines: one installed in October 2008 while the other was delivered in January 2009. In February 2009, JW Kane ordered two more Unipro 5L machines for a brand new aerospace project that the company has just received. Set for delivery in July and October this year, they are direct copies of the first 5L.

Kane says the attraction of the Unisign machines lies in the pendulum principle of the Unipro 5P, combined with its 100kW spindle and high metal removal performances. He was particularly impressed with the high levels of technical support and maintenance services available from Unisign.

"We've always upheld the philosophy that if we buy two similar specification machines, then if one requires maintenance we always have a backup machine on standby to switch the work onto immediately," he states. "This is one of the reasons why we're able to maintain exceptional delivery times to our customers; they can use Kane's shopfloor capacity because they just haven't the resources available like we have."

"Whilst the machines are under warranty, Unisign sends its own engineers for all the service and repair work. If we need spare parts, they send them out immediately and our own Unisign trained employees install them. All our machines are

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connected via remote diagnostics, so that if anything does go wrong, Unisign's engineers can normally rectify the problem remotely."

Established 36 years ago, Unisign began by supplying fixtures for the metalcutting industry before moving into the supply of special purpose machines. At the start of the 1980s, Unisign designed and developed its first CNC drilling and tapping centre. It's a company virtue that still holds true today in that every Unisign CNC machine tool is designed, developed and manufactured in-house. Although the company offers a standard machine range, it can still provide machines to suit customer specific wishes as well.

"If customers want to use Unisign's maintenance engineers then they can, but we also offer the opportunity to train their own staff in both the machine programming and maintenance of the machines," confirms Unisign's sales manager, Joep Timmermans. "We teach customers everything they need to know; if they want to replace a spindle for example, they can learn how to do it from Unisign. We offer rapid and reliable customer support and backup services by shipping spare parts over quickly and efficiently."

Another reason for JW Kane's purchase was the machines' ability to efficiently handle large and awkward complex shapes, whilst satisfying the increasing demands for higher feed rates and speeds during heavy roughing cuts in aluminium.

"Under extremely heavy roughing cuts the Unisign machines hardly flicker, whereas other machines require the operator to manually reduce the feed rate, otherwise the spindle head will stall," Kane points out. "The speed, the rigidity of the machine construction and its ability to remove excess material during the roughing of larger cuts is one of the major advantages of the Unisign machines. In my opinion, Unisign's machines offer



Joep Timmermans: Unisign's sales manager



James Kane: JW Kane's managing director

the best value for money."

Timmermans adds: "If you look at the specification of the machines JW Kane use, they all have a 100kW spindle, because this is what's required by the majority of our aerospace customers in order to reduce their overall machined component cycle times when machining heavy cuts in aluminium. The rigidity and construction of our machines is a big advantage."

In terms of the business challenges lying ahead, Timmermans acknowledges that the market is facing the downturn with some trepidation when it comes to investing in new machine tools – even if they need them.

"Finding new project work in the economic downturn represents a big challenge for Unisign, although there are still ample opportunities in various markets such as in the aerospace industry," he confirms. "Longer term, we always strive to push the boundaries in developing new features on all our machine tools such as our new Unicom 8000 machine, and we also have a new 5-axis gantry style machine, which will be very interesting for the aerospace industry – not just for cutting aluminium but also for hard alloys too."

Meanwhile, Kane is confident that when customers visit his new facility they will be impressed with the shopfloor set-up.

"Obviously, these are difficult times to go looking for more business, but if we can persuade the large aerospace OEMs to visit our new facility – and if the economy improves – then we'll be in a good position, because we already know the type of work the OEMs require and we'll have the machine tool capacity and capabilities to support them."

It's a sign of the times when the supply of 'standard' machine tools is no longer enough to satisfy niche sectors like aerospace: they need to be extra 'special'. Unisign looks to position itself in these niche industries with products that help set it apart. JW Kane Engineering is an ideal example of where Unisign and the customer can work together for mutual benefit. |

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The Unipro 5P: With two 5-axis workstations