

New Era For College

Adopting VISI & Edgecam is “Massive”

Kirklees College recently started its second term after installing 35 seats of VISI CAD/CAM software to ensure apprentices are fully trained on 5-axis machining – which lecturers say is absolutely vital to the future of manufacturing in the area.

Based in the heart of Yorkshire, the College is one of the largest in the country. Its School of Engineering moved into new purpose-built £7.5m premises in the Summer of 2012 and also invested in more CNC machinery. They now have a total of 13 machines from a variety of manufacturers including Johnford, Haas and Hurco, with pride-of-place being a new Hurco 5-axis mill.

Realising they needed the very latest technology to get the best from those machines they upgraded from just using PEPS-Mill and Wire, and added VISI Machining 5-Axis, VISI Modelling, VISI Machining 2D and 3D, and VISI’s sister software, Edgecam, all from the Vero stable.

CNC lecturer Paul Lindley says VISI’s advanced 5-axis milling solutions are essential for the next phase of the College’s technical development. “We’ve had 4-axis machining for a few years, and an adaptor for one machine, but this is the next step in keeping up with the technology that’s becoming increasingly popular amongst local companies to take their businesses to the next level and stay competitive.”

How would he describe the College’s move to take on a complete new software suite? “It’s massive. Because we used PEPS-Mill and Wire on every course, we’ve had to rewrite everything we do on the syllabus. It’s a massive operation when a college takes on new software on this scale, but it’s absolutely the right decision. We really are moving into a new era. I anticipate the relationship between the College and Vero lasting for at least 30 years – I have every confidence it’ll see my career out.”

Design and Manufacture Curriculum Team Leader Dave Nichols agrees: “We’re regarded as one of the region’s best colleges for engineering, so we needed software which would keep us at the forefront. Our experience in the world of CAD/CAM and CNC manufacturing tells us the system we’ve now got is the best there is. The students will gain tremendous benefit from it.”

Kirklees works with apprentices from companies of all sizes. These include Cummings, who make turbo chargers for Volvo Scania; David Brown, who manufacture gearing systems for the military, railways and mining, along with energy applications including wind turbines; Reliance Precision, a manufacturer of high precision medical and surgical equipment; oil and gas



About The Company :

Name : Kirklees College
School of Engineering

Business : Engineering
education provider

Website :
www.kirkleescollege.ac.uk

Benefits Achieved :

- Helps students to understand machining processes
- Demonstrates College is at the cutting edge of technology
- Moves seamlessly from CAD to CAM in one package

Comments :

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Dave Nichols
Design and Manufacture
Curriculum Team Leader

Vero Software Limited

Hadley House, Bayshill Road, Cheltenham, Gloucestershire, GL50 3AW, UK

Tel : +44 (0) 1189 226699 Web : www.visicadcam.com



industry valve maker Severn Unival; and Thomas Broadbent, whose centrifuges for industrial processes are exported world-wide.

At any one time the College has around 400 students undertaking a variety of courses such as an advanced Level 3 apprenticeship and B-TECH, which leads on to HNC and a degree. Currently there are 110 degree students from the University of Huddersfield on the College's Engineering Appreciation course. All students will be trained on VISI and Edgcam starting in their second year – having first learned about manual machining. Apprentices have one year full-time at the College, with day release for two years. VISI and Edgcam also feature on CNC evening classes, City and Guilds courses, and bespoke courses for companies who want to upskill their workforce.

Dave Nichols (pictured right) says the students' assignments with VISI and Edgcam are geared towards helping them understand machining processes and improve their programming abilities. Starting with an Autocad drawing, they produce the solid model, manufacture it on screen, then download the program to the CNC machine via a DNC link before setting up the machine and producing the component. Amongst the items they make: an air pump, a model lathe, and a gear knob. They start by working with foam, before progressing to aluminium, brass and steel.

The ultimate aim is to fully incorporate VISI's modelling capabilities, giving a single solution for all aspects of design and manufacture, moving seamlessly from modelling and drawing to machining using just one software package.

- VISI Modelling provides students with a robust and powerful solid modelling system with the flexibility to construct, edit and repair the most complex 3D data.
- VISI Machining is a practical, intuitive and simple solution for CNC programming, including 4 and 5 axis indexing. Knowledge-based feature recognition automatically selects features directly on the solid geometry and creates reliable milling and drill cycle toolpaths. With 5-axis machining generally regarded as the best technology for the high precision requirements of the aerospace and automotive industries, VISI Machining creates highly efficient toolpaths with advanced collision control.
- VISI PEPS-Wire provides automatic feature recognition of wire features, including tapered, variable taper and 4-axis, directly from solid geometry. Features are easily machined creating reliable wire EDM toolpaths and proven NC code for all wire EDM machine tools.
- The College's Edgcam for Education package incorporates a wide variety of milling, turning and mill-turn operations for production machining. Edgcam is a market leading CAM solution for solids based manufacture with an emphasis on ease-of-use and process automation.

"Using our suite of VISI and Edgcam software means that when students go back to their companies they'll be able to write CNC programs and get the very best out of their CAD/CAM software," says Dave Nichols. "They'll also be able to demonstrate the benefits of using top quality software to their managers. It shows the College is at the cutting edge of technology in



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the important task of educating young engineers of the future, which is helping local industry by making businesses more competitive.”

And he says having VISI and Edgecam has another advantage: Hurco are now intending to use the College as a training centre for their own customers.

