Whole New Dimension
Cabinet Vision and Alphacam Contribute to Global Recognition

Cabinet Vision and Alphacam software plays a big part in helping woodwork graduates from a college in Ireland find jobs all over the world.

The Letterfrack campus of the Galway-Mayo Institute of Technology is a National Centre of Excellence providing honours degrees in furniture design, wood technology and teacher training. Known as The Furniture College, GMIT Letterfrack, in County Galway, celebrated its 25th anniversary at the end of 2012 with a major exhibition of students’ work at the prestigious Farmleigh Gallery, at Dublin’s Phoenix Park.

Head of Department Dermot O’Donovan says they have developed from a small campus of just 18, to the current 250 full-time students taking a range of degree courses, along with the additional Higher Diploma for those wanting to go into teaching. As well as their partnership with Cabinet Vision and Alphacam, the College have a close working relationship with machinery manufacturer, Homag, who update their complete Weeke cell every two years.

“Our strength is in showing students what’s possible within the industry, integrating the core values of craft and quality with technology. We show them that the manufacturing process has to be technologically driven for it to have a sustainable future.” He says the combination of their Homag and Rye machines with 36 Alphacam seats, and 33 seats of Cabinet Vision Ultimate including Screen to Machine, has aided the College in gaining global recognition.

Design and CAD/CAM lecturer Jeremy Madden says all second year students are introduced to Alphacam to drive the Homag cell comprising a beam saw, edge bander, two CNC routers and laser, to create a simple cabinet. The College began teaching Alphacam programming when they had their first CNC machine in 1996. Its use was developed by I.T. Technician Gary Graham, who says that whenever they bring a product into their syllabus it has to be mainstream and be the best that’s available, and Alphacam fitted that bill perfectly.

When Jeremy Madden joined the College four years later, he had extensive experience of working with Alphacam in industry, and says the demand was increasing to make technology a core element of the syllabus. As well as incorporating CAD/CAM into the Advanced Machine Technology module and Graphics Computer Applications for second year students, more advanced aspects are taught in later years, ensuring...
there’s a complete link with Alphacam right the way through a student’s time at Letterfrack.

When they begin using CAD/CAM in their second year, students are working on prototype and conceptual pieces constructed from simple formers, as well as developing ideas and complexity of shapes. Jeremy Madden says designs come from a batch project including items such as pen boxes and other stylised small items. The third year sees an introduction to 3D solid modelling as part of a compact one semester brief taking the development of complex shapes to a higher level. “Alphacam gives a whole new dimension as to what can be created, visualised, drawn up and machined.”

Those skills are combined in the fourth year, where they are also shown how Cabinet Vision does much more than cut, lip and bore panels, which they learned earlier...focusing on the ease with which it produces cabinets through advanced solid modelling technology, automatically generating shop drawings, 3D renderings, cut lists, material requirements and estimating.

The cabinets are designed in Cabinet Vision and the NC codes generated in Screen to Machine. Although cabinets can be designed at the touch of a button, Gary Graham says the fact that Cabinet Vision also allows students to create their own construction styles for one-offs and non-standard pieces is important. “We didn’t want them just to select stock from Cabinet Vision’s library, as we felt that was limiting to their education.”

Having created manual cutting lists, along with costing commercial projects and undertaking job analysis on spreadsheets, fourth year students are pleasantly surprised when they learn that Cabinet Vision can produce all that information just from the drawing. Jeremy Madden says it’s important that they learn those old ways, which is also the reason he teaches G-code in the fourth year. “Understanding G-code gives the ability to amend individual lines of code if necessary.”

Students also find Cabinet Vision’s Label-I.T. facility important for documentation and itemisation. “Knowing where every last piece is on the shop floor helps them see where cost savings could be made. It reinforces the fact that automation systems and control technology like this is the way forward for operations management.”

Working with Cabinet Vision and Alphacam at the beginning of their second year at Letterfrack has changed the career options of many students over the years. Dermot O’Donovan says: “It opens up a lot more possibilities. Some students initially want to pursue careers as designers or furniture makers, but then go on to jobs as production managers, CNC operators and technicians. They’re graduating today with a skillset that makes them readily employable anywhere. Alphacam
and Cabinet Vision give them the necessary skills to get work in the woodworking industry anywhere in the world.”

That point is echoed by Jeremy Madden: “Someone with this knowledge is much more productive in the working environment than someone without it. Because they’re adding productivity, it means they’re better value to their employer. And from a student’s perspective, finding employment is the key.”

Not only do graduates find jobs in all branches of the furniture industry around the globe, but students undertake work placements in the third year of their course. Programme co-ordinator Dr Patrick Tobin says in 2013, students will be at companies in the UK, America, Australia, New Zealand, Vietnam, Morocco, Germany, Czech Republic and many other countries. “The companies vary from one-person workshops right up to those with hundreds of employees, across the wood product industry – custom designed furniture, joineries, kitchen companies, store fixtures, architectural woodworking and high volume panel producers.” He says many placements are also with design companies, consultancies and technical support, along with training and teaching operations.

“The students’ knowledge of Cabinet Vision and Alphacam helps them solve any number of woodworking issues while they’re on placement, preparing them for the world of work.”