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i-desk™ and Autodesk® Revit®: A revolution in IT desking design.



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Such a simple idea

It all started when Steve Brooks was making and installing computer desking in college classrooms in South London. The College wanted to bolt the PCs to the desks to prevent unauthorised removal. Unfortunately, this action would have invalidated the warranty of the desks. However, he did suggest a desk design that could incorporate the PC securely, without invalidating the warranty. It was from this simple idea that i-desk™ grew and the rest, as they say, is history. Now, just 24 months later, i-desk production is in full flow at **i-desk Solutions Ltd** and more and more organisations are installing these desks. i-desk is an innovative integrated workstation with built-in PC system unit, space saving flat panel screen, mouse and keyboard. Ten workstations can run from one 13amp double socket and the network cables run through ducting in the desk. The i-desk has an ingenious interlocking jigsaw end that allows i-desks to be joined and configured to fit virtually any room in virtually any configuration. It is a neat, tidy, safe and secure solution where space is at a premium. i-desk configurations are better than conventional desking solutions for schools and call centres for a number of reasons. The total cost, including security, cabling, hardware and installation is lower than that for a conventional solution. In addition, space utilisation is improved, so that more desks can be installed in a given space. To complete the picture, the company behind i-desk needed something that would help them create virtual desking solutions, so that their clients could see, understand and approve the configuration, confident that they would actually get what they saw. That something was Autodesk® Revit®.

Beyond the imagination

There is no doubt that i-desk is a tremendous innovation and a big improvement over conventional desking and PC provision. However, it is one thing having a good idea, but another thing entirely to build a successful business from that idea. The business processes have to be as innovative as the idea itself or all the advantages of the new idea may be swallowed up in getting the product into the clients' hands. Patrick Winterbotham, Managing Director of i-desk Solutions, says, "We had to find a way of working that would keep our selling costs down and make sure that we could deliver and install the agreed configuration, right, first time, with no rework, and with minimum installation time." The company, still in its infancy at that time, had limited resources. It needed a cost-effective solution that could be used in-house with the minimum of special expertise. Initially, the company used CorelDRAW® for proposals and room layouts. As Patrick Winterbotham points out, "Having PCs integrated within the desk in this way – it just goes beyond the imagination. But because the layouts were only in 2D, people couldn't visualise the end-result, especially as we were

selling a new concept. We had to find something that would allow customers to see before they bought."

Reduced potential for error

How did the company discover Revit? Patrick recalls, "It was word-of-mouth really. Someone knew someone who knew Revit, and who understood what we were trying to achieve. We'd looked at other options, sampled a lot of software and found that Revit was not only easy-to-use but offered by far the best results as well. It soon became very clear that we had made the right decision. Not only was it everything we expected, the organisation behind it offered great support." According to Patrick, "It was unlike anything else we tried. The benefits for our customers were clear. Revit enabled us quickly and easily to plan complete desking schemes in great detail, and instantly see the whole thing in 3D. We were able to deliver an i-desk virtual solution to the customer before they bought it, which was exactly what we needed." However, there were benefits to the company as well as to the customer. In addition to being able to quickly and easily produce and agree desking configurations, the furniture schedule

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generated by Revit could be exported into the quote system database. This process saved the time taken by manual data re-keying and drastically reduced the potential for error.

One of the most innovative Revit users

i-desk Solutions is not the largest Revit user but is certainly one of the most innovative, proving that 3D technology is not only for large companies. Revit is already being fully utilised and customer reaction to the output has been excellent. They are, according to Patrick, "... very pleased to be able to see how the finished solution will look. We have had a lot of very positive feedback." There were two parts to the Revit implementation: modelling the individual i-desk components, or objects, and then using the objects to configure actual installations. As well as interlocking worktops, there are straight and curved interlocking fill-in pieces, steel legs and chassis, computer cases, security plates, worktops and flat screen displays. Patrick says, "We were shown how to do this initially, then Steve Brooks, who invented the i-desk, took over the definition and modelling of the i-desk objects." The second part is the creation of the scheme itself using the object already entered. A site survey is carried out to determine room dimensions, door and window locations and to identify the preferred layout and number of people to accommodate. The results are sent to head office near Reading. The survey information is entered into Revit to create the room where the desks are to be fitted and the scheme is designed. The resultant drawings are exported in a suitable image format and sent to the client by e-mail. The hard copy quotation is posted off and includes the in-house printed A3 scheme drawings. For the larger, more complex installations, animated walk-throughs may be provided. Patrick says, "These are very easy to create. You just move the mouse through the model. You can change camera angles whenever you need to. We generally record these to CD for dispatch to the customer." Patrick praises Revit for its high productivity. He says, "We only need to create or enter an object such as a new desktop, once." He also records the ease with which changes can be made in Revit. Patrick notes, "You can make changes in any view. You can insert an object in one view and it is immediately there in all views. You save time because you don't have to update each individual view."

From 0 to 126 i-desks in three days

Patrick cites the example of the re-desking of a lecture theatre recently quoted for. He says, "This took quite a few hours because the theatre is on five different levels and there is quite a lot of feature detail. Once we had modelled the theatre from the survey measurements, all we had to do was drag and drop the objects such as i-desks and jigsaw infills into place. We moved them around until we got the right number of i-desks in place, making the best use of the available space. All this is done in plan view and then click...there it is in 3D." He adds, "All the planning was done, the schedule produced and all the drawings printed, within the day." Because the i-desk objects contain detailed specification information about computer cases, screens, keyboards, wiring, electrical connections, fixings and so on, Revit builds the schedule directly from the design. Patrick quotes another example, this time from the Channel Isles. He recalls, "The Head of IT at a well-known college found us on the Internet, sent us the drawings and we did the planning from here. The only site visit we made was to carry out the installation. The whole job took just six weeks from initial discussions to delivery." Yet another example comes from Canon Slade School, an award-winning co-educational comprehensive school in Bolton. There was a requirement for four classrooms to be equipped with 126 i-desks. Using Revit, the company helped the school decide exactly what they wanted and where they wanted it. According to Patrick Winterbotham, "The deadlines for installation were very tight. You can imagine the disruption to the pupils' education and damage to the school's reputation, if installation had intruded into term time. Without the 3D visualisation capability and accuracy of Revit, we could not have rolled out the i-desks in time for the start of the new term. As it was, not only did we finish within the allotted one week, we managed to have all four classrooms completed in just three days."

Revit makes it all possible

Currently, i-desk's clients are mainly schools, colleges and universities, where there has been a rapid expansion in the use of computers. However, the concept is just as valid for other applications. Once the architectural community is familiar with the concept, the company expects further business opportunities to emerge. For Patrick, "Our staff don't need to be office furniture experts to use Revit to create i-desk configurations, whether in schools, data centres, or call centres; in fact, in any office where space or security are issues. The customer does not see, and does not need to see, the technology that lies behind what we are doing. They don't realise how quick and easy Revit makes it. We are taking maybe only a few hours to do something in 3D that it takes other companies several days to do. Our staff can build the room how they feel the client has asked for it and Revit creates the schedule at the same time. From our customer viewpoint, the perceived value is a lot greater." Patrick concludes, "Our business depends on Revit being successful and we are all very passionate about what we are doing with it. In i-desk we have a unique product. There is nothing like it in the world. The exciting part for us is seeing the business grow. Revit is making it all possible."

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