



## Microlights Limited drives down turn-round times with Autodesk Inventor®



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*Daniel King  
Engineering Manager  
Microlights Limited*

Autodesk®

### **The brightest days are ahead**

Remember the dark days of retailing? Time was when unimaginative and unsuitable lighting drove customers to take items outside the shop so that they could be sure of the colour before purchase. Those days are long behind us, thanks to Microlights Limited, the British designer and manufacturer of lighting solutions for the international retail and leisure markets. In business since 1984, the 60-strong Marlborough-based company has built an impressive reputation for technical and performance leadership. Not only does Microlights Ltd. design and manufacture excellent lighting products, it works in partnership with its customers to design complete lighting schemes that use fewer luminaires than its competitors' schemes, with a consequent reduction in acquisition, installation and running costs. The company is using Autodesk Inventor Series to drive down turn-round time on both standard and specially designed lighting solutions.

### **The right time to move to 3D**

The lighting market is highly competitive and companies will only succeed with the right balance of creativity, engineering and value. In responding to competition and customer need, Microlights has adopted a strategy of continuous improvement of lighting products and services to provide the best combination of aesthetics, light output and footprint, energy consumption, heat output, cost and ease of installation and maintenance.

In support of this strategy, the company has been a long-term user of computer-aided design and as more and better 3D design products came on the market, the company decided the time was right to move fully to 3D.

### **Inventor wins the day**

Following a detailed evaluation process, Microlights selected Autodesk Inventor as its design solution. Why Inventor? The team found it, "Just so intuitive. Its like designing on a canvas and it works in the same way that designers think." That was four years ago and during that time Inventor has become integral to Microlights business strategy.

### **Laying the right foundation**

Daniel King is Engineering Manager at Microlights. He is an industrial product designer by profession, with significant experience across a range of engineering disciplines. According to Daniel, "The big challenge is to keep up with the short lead times demanded by customers. Inventor is certainly helping us to do that." He points out, "I hadn't used Inventor before I joined Microlights some two years ago, although I had used 3D CAD before. After two days initial training on Inventor, I've used it more or less every day since and I'm very happy with it." Microlights now has five seats of Inventor Series and is fully committed to Autodesk Subscription. As Daniel points out, "Working as a team, we need everyone to be on the same version of Inventor, and for best productivity we need everyone to be using the most up-to-date version. We can do this with Subscription and we get access to a range of support options, too."

# Saving 150 days of design



## Designing a new product in just one day

Daniel says, "Inventor helps us to realise and modify designs very quickly. We are currently using Inventor to produce around five new designs a month for our clients. In under a day I can create a product concept engineered well enough to produce drawings for initial cost estimates. Within two days I can produce a more-or-less fully engineered design." He continues, "Inventor's 2D drawing capability is a great time saver. We can produce drawings to send to our suppliers, complete with any number of views and sections, directly from Inventor in a matter of minutes." Daniel estimates, "Before we had Inventor that would have taken at least a week."

## Complete product ranges in a very short time

Daniel goes further, "I've used similar packages in the past. However, I do believe Inventor has its own unique features that make it so good." For example, using Inventor, the designers at Microlights have been able to take a standard product design and create a number of variations merely by modifying the initial design, adding, deleting and modifying components and assemblies as required. As Daniel says, "This makes Inventor very powerful. We are able to design complete product ranges within a very short time period. From previous experience, that can be quite a long process with other CAD packages."

## Legacy products brought back to life

Inventor is making the design process more productive in a number of ways. For example, Microlights designers now import suppliers' component designs in IGES format to add to the very extensive library of Microlights own parts created over the years. As Daniel points out, "This makes life easier for us because we don't have to redraw every bought-in component." Continuing the theme, Daniel adds, "If we get a substantial new order from a client for a legacy product that was designed in our previous FastCAD and AutoCAD systems, we now remodel the product in Inventor and re-engineer it to achieve the required price, performance and margin: in effect, the product is brought back to life."

## Saving 150 days of design time

As part of its strategy for success, Microlights specialises in meeting the specific requirements of its customers, quickly and effectively. Daniel quotes a special design just completed. He says, "In essence, the unit comprises 12 T8 fluorescent tubes in a very large rectangular box suspended from the ceiling. In just two days, I've been able to take the customer's 2D sketch into a 3D Inventor model and provide the 3D visuals to the customer." He adds, "By using Inventor, we've been able to save around two days of time on each special that we design. Given that 50% of our 150 designs a year are specials, that adds up to 150 days a year of design time and effort saved."



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## One image is better than a thousand words

Many lighting companies limit themselves to buying-in standard reflectors, Microlights are renowned for designing their own reflectors, so that given lighting designs can be achieved with fewer lighting units. Daniel says, "We can take models from Inventor and import them straight into our Photopia lighting software, simulate the lighting footprint, modify the shape of the reflector and the position of the lamp to optimise lighting pattern for a specific application or a specific lamp." Inventor renders the resultant 3D model of the faceted and usually parabolic reflector with sparkling clarity. In this way, customers can better relate to the designs the company produces and are able to grant design approval without the need to produce physical prototypes.

## Communication for competitive advantage

The value of Inventor extends beyond Microlights design department. Communication with other parts of the organisation has been improved significantly. Other departments can now access virtual prototypes in Inventor before committing to material purchase, production set-up and packaging. New designs are brought to market faster than ever before, at lower cost and with higher quality, further strengthening Microlights' competitive position. Daniel notes, "We are also using Autodesk® DWF™ Viewer on our sales teams' laptops so that they can view, dynamically manipulate and annotate Inventor designs with their customers without actually needing Inventor."

## The best software deserves the best hardware

Microlights recognise the importance of Inventor to their business, which is why they support it with the best hardware. According to Daniel, "We budget for new or upgraded hardware with each new version of software and I would advise others to follow our lead" He adds, "We are also providing new hardware for a number of users who use Inventor from time-to-time to access information the design engineers have created, such as assembly information."

## Proactive and efficient

Microlights' investment in Inventor is considerable but has it been worth it? Daniel thinks so. He says, "I can produce a finished design that our salespeople can show their customers within two days of asking. We can ship an order for perhaps 50 or 100 units on the Friday, having only received it on the Monday. That definitely gives us an edge against other suppliers that may take longer." Daniel concludes, "Because of Inventor, we have made significant savings and can provide a fast turn-round to our customers. It shows we are pro-active and efficient in what we do. Yes, it has been well worth it."

To find out more,  
visit [www.autodesk.co.uk/inventor](http://www.autodesk.co.uk/inventor)  
or alternatively [www.microlightsgroup.com](http://www.microlightsgroup.com)



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