

# INTELLIGENT ENERGY LIMITED

CASE STUDY . OCTOBER 2008

## London Taxis may be hydrogen powered for the 2012 Olympics – Now, that's Intelligent!

Intelligent Energy Ltd develops clean fuel and clean power technologies. Their achievements include the world's first manned fuel cell aircraft, in collaboration with Boeing; the Crosscage motorcycle, with Suzuki; a demonstration fuel cell hybrid delivery vehicle, with PSA Peugeot Citroën; and they have also formed a joint-venture to develop combined heat and power systems, with Scottish & Southern Energy.

It is not surprising, therefore, that Intelligent Energy Ltd has been judged, by The Guardian / Library House "CleanTech 100", to be one of Europe's leading private companies which are actually making a beneficial environmental impact. This made them the natural choice when the Technology Strategy Board was considering converting London Taxis to hydrogen power for the 2012 Olympics.

The design work for these projects has been carried out using SolidWorks software. Jon Cole, Design Manager for Intelligent Energy, says, "The business originated with 2D AutoCAD and Mechanical Desktop. However, we knew 3D would enhance our work through better visualisation for designer and customer."

At the time, Intelligent Energy Ltd reviewed all the big 3D computer-aided design brands. Jon adds, "What won it for us was the demonstrated flexibility of SolidWorks."

Intelligent Energy Ltd now operates 10 SolidWorks Office Professional seats, with maintenance for these coming from NT CAD/CAM Ltd, due to their competitive and proven support package.

Jon comments, "We are most likely to require assistance when installing new programmes, or a revision update... So, we simply log a call, and within 30 minutes - at the outside - we have a member of NT CAD/CAM's support team competently guiding us through the solution we require. The service is excellent!"

SolidWorks add-ins are utilised by Intelligent Energy's engineers, such as COSMOS for structural design of the fuel cells and PhotoWorks for illustration of the fuel cell system with the drive mechanism of the vehicle or plane to be powered, for example.

Jon says, "Originally with 2D CAD we had to physically lay out the adopted drive mechanism on a bench. Now we can check interfaces for fit and clash on the computer screen. 3D technology makes so many tasks simpler, faster and more precise."

Another example of improved working methods can be found in the ease and speed of communication with contracted machine shops. Extensive drafting of manufacturing drawings has become almost obsolete, now that eDrawings Professional and 3D models can be adopted straight into the machine shop CAM systems.

As the demand for Intelligent Energy expertise continues to grow rapidly, Jon says, "We are looking at enrolling new staff on NT CAD/CAM'S training courses and utilising more of the SolidWorks capabilities for cable and wire routing and PDM for greater design revision and documentation control."

Jon Cole, Design Manager, Intelligent Energy Ltd  
clean fuel and power

