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Image courtesy of AWE

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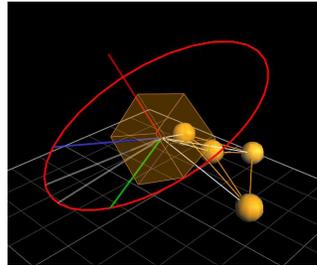
VR Team Leader, AWE.

Pioneering motion capture since 1984.

AWE + Design Visualization



Vicon MX3+



Vicon Tracker



Virtual Reality Lab at AWE

AWE's virtual reality (VR) lab is a new facility where users can experience design proposals before they become reality. It allows engineers to see for themselves if things are right and therefore avoid costly mistakes.

There are six people in the engineering VR team at the Aldermaston AWE facility. The engineering VR team leader spoke to Vicon about the benefits of VR and described how the Vicon motion capture (mocap) system is vital in creating their virtual world.

A plan on a piece of paper can't convey the same understanding a VR environment can. The VR team leader said, "Being able to see things in-front of you and move about the space, gives you a real sense of what it would be like once the design is put into production. We use CAD (computer aided design) models as a basis and design

lifelike images which can be scrutinised in great detail. The Vicon system is then used to fully immerse the engineer in that VR world."

The VR lab houses a 21 camera Vicon MX3+ system running Tracker software. The team leader explains, "We want our VR engineers to use the best tools available, which is why we're working with Vicon.

"Our virtual prototypes are demonstrated to an audience wearing stereo-glasses in the purpose built theatre, or experienced individually in the VR headset where someone can personally explore the virtual space.

"Using VR to visualize designs before they are built, provides the opportunity for mistakes to be identified early in the design process, promoting a right first time approach," the team leader said. "Often something very simple that you can catch early on can save many thousands of pounds."

"We're involved in all the main programmes at AWE – everything from assembly and disassembly, through to facilities and emergency response training."

When planning a new facility, workers are often asked to 'try it out' first in the VR lab. Once they're marked up, the Vicon system transports them into the VR environment.

"Can they reach things, are they comfortable, can they see everything? We also use real physical constraints, such as arm-holes for glove boxes, to make it as realistic as possible, which is where the accuracy of the Vicon system comes in.

"If we're trying to gage the distance a worker can reach or control a component, the system needs to be giving us the correct data.

"It's not a question of whether to use VR, but how much it could cost not to use it," concluded the VR team leader.

"We want our VR engineers to use the best tools available, which is why we're working with Vicon."

VR Team Leader, AWE.

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