

WetLab Limited, Kenilworth, England

www.wetlab.co.uk

Training heart surgeons is costly and time-consuming; perhaps this is not surprising given the critical and complex nature of the operations they perform. There is, however, a technique available that can speed up this process. Called a wetlab it simulates heart operations of virtually all types by using pigs' hearts, the most comparable to the human organ, on which trainee surgeons can practice. According to Kevin Austin, Director of Kenilworth-based, WetLab Limited, one of Europe's leading wetlab specialists: *"This technique can save the UK's National Health Service a great deal of the time and money involved in cardiac surgery without in any way lowering teaching standards."* Indeed, he argues, *"it is likely that the quality of surgeons and the techniques they use are improved."*

On behalf of medical supplier, St Jude's Medical, WetLab provide a complete classroom package for up to 20 people including all the equipment, the operating tables, and the ethically-sourced animal organs. Each session consists of a consultant performing the training demonstration watched by students who then repeat it themselves. A vital part of the equipment is a **Professional Series WolfVision Visualizer** which enables the consultant doing the training to demonstrate, describe and discuss surgical procedures such as fitting a heart valve while **his actions are simultaneously shown on a screen** to the audience.

"For this, it is crucial that every crevice of the heart and every detail of the procedure is clearly illuminated", Kevin explains. "The initial visualizer



The high frame rate of the Visualizer allows them to demonstrate surgical procedures in live motion.



All actions can easily be followed from all seats on the plasma. Details are shown in real colours and high resolution.

we used was the weakest part of our package as it created areas of darkness and, although we increased the lighting, this only produced more shadowing. But once I saw a demonstration of the WolfVision unit of their Professional range, I realised our problems were solved."

WolfVisions reflection-free light system ensures that all of the heart is **perfectly illuminated even deep inside it**; no detail is, therefore, concealed from the audience. In addition the consultant does not have to worry about adjusting the light or the focus, and is able to concentrate on the operation and his explanation. With a **high frame rate**, WolfVision Visualizer **clearly shows the movement** involved in the surgical procedures while



*All details of the heart are perfectly illuminated,
even deep inside it*

its **high colour resolution** ensures the images reveal each and every detail in realistic colours. "By allowing all participants to have a clear, consistent view of the demonstration, the WolfVision Visualizer has greatly improved the success of our wetlabs", says Kevin Austin.

The **Patented Synchronised Lightfield**, through the light projector inside the unit projecting a **lightfield** the same size as the pick-up area of the integral camera, ensures that whatever the consultant sees on the work surface is exactly the same as that seen by the audience. Even when zooming in and out the lightfield and the displayed image change accordingly.

Another feature that has proved useful is the **Picture Memory** that allows **snapshots** of particularly difficult parts of the procedure to be **captured for display and discussion later**.

Kevin Austin concludes, "The quality of the images is always impressive and immediately recognised by hospitals' teaching staff as superior to any alternative. There is no doubt that the WolfVision Visualizer is by far the best for our demanding application."