WIMPOLE LECTURE THEATRE

Case Study

Lightware Visual Engineering

Market	Country
Medical, Training and Education	UK

Lightware Equipment Used in Project

MX-FR33R modular matrix

1 WIMPOLE STREET is a prestigious central London address - so much so that it is used as the name of the events business of the building's owner and occupier, the Royal Society of Medicine (RSM).

The building holds 400 academic meetings per year in its two large lecture theatres, but there remains enough spare capacity for these rooms, along with other meeting spaces, to be hired out to external clients. However, the two theatres were not always being used to their full potential. "We were finding that, in some academic meetings, as few as 30 or 40 attendees might be occupying a 300-seat lecture theatre that could be hired out to earn revenue," explains the RSM's AV manager, Kevin Mcloughlin.

It was therefore decided to convert a banqueting room into a small lecture theatre, named the Wimpole Lecture Theatre, to free up the larger spaces. Lead integrator on the project was Paul Marshall of Impact - which merged with AVM to become AVM Impact during the course of the project, in December 2012.

'Academic meetings' may conjure up an image of dry talking-shops, but in fact these events have numerous AV requirements. Multiple PowerPoint presentations are of course a regular fixture, either emailed in advance or run directly from visiting speaker's laptops. Other types of event include panel sessions, live demonstrations and even live surgery via videoconference. In addition, being in competition with other prestigious central London venues meant that creating a well-equipped venue with a wow factor was essential.

For the live demonstrations - which need to accommodate a patient on a couch - the main presentation desk can be taken apart and removed. To provide flexibility in the location of furniture and the provision of equipment on stage, an AV 'trench' has been installed across the width of the stage, running cabling back to the adjacent AV control room.

Room control in the Wimpole is via an AMX system, based around a Netlinx NI-4000 master controller. A single Christie HD10K-M3 HD OLP projector handles visual display duties, although wiring is in place should a second projector be added later. An Analog Way DiVentiX II, currently used to display different sources within the 1080p window, could then also be used for edge blending. The projection screen has been sized to accommodate two projectors, and the large white screen and surround met with the architect's approval.

VIDEO FEED

Video - sources of which include the room cameras, a Blu-ray player, Exterity IPTV and videoconferencing signals - is fed into a Lightware 33 x 33 matrix. This feeds video anywhere it is required - to the projector, to confidence monitors visible from the desk and the lectern, or elsewhere in the building. At the time the matrix was specified - late 2011 - Lightware was the only company that AVM Impact had worked with that had a 32 x 32 or larger digital matrix available. "We didn't want to double-stack matrices as you lose flexibility by doing that," says Marshall. Being able to carry multiple formats over Cats is another advantage of the Lightware matrix, he adds.
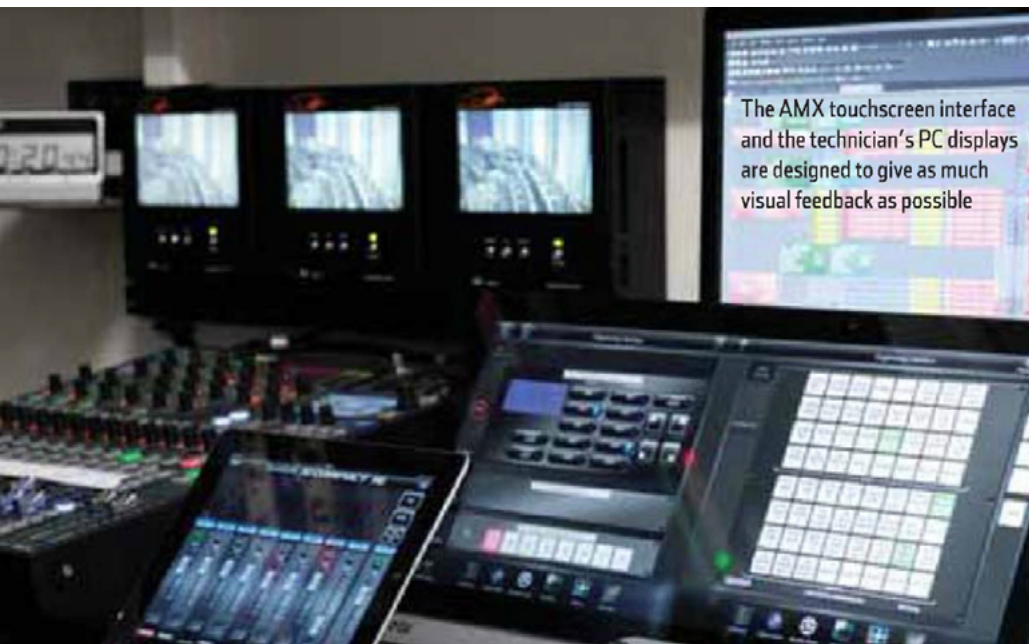
Another useful part of the video set-up is an Apple TV receiver. This is used to display content from an iPad, but also enables the iPad camera to work as a visualizer, displaying on the main screen.

Audio in the auditorium is delivered via Community Veris 26 speakers, driven by an Australian Monitor AMD4100P amplifier. Audio mixing is courtesy of a Soundcraft Si Compact 16-channel mixer, which can also be controlled via an iPad app. Desk mikes are from Audio-Technica, while a Sennheiser radio mic system is available to presenters who want to move around. Additionally, the room is fitted with an Ampetronic induction loop system.

The AMX touchscreen interface and the technician's PC displays are designed to give as much visual feedback as possible

Many of the meetings in the theatre are highly participative, so there is also the need to capture contributions from the audience. However, the long seating rows in the theatre make the use of roving microphones difficult and introduce delays. After visiting numerous venues with the integrator - including the House of Lords - to find the solution to handling audience questions, Mcloughlin settled on the IML Connector. This is a small hand held device, resembling a BlackBerry in size and shape, which is given to each delegate and fulfils multiple functions: delegate microphone, texting questions to the chair, displaying documents and push messages on its screen, interactive voting, and an audio channel back to the handset.

To increase flexibility in their use, the RSM wanted to be able to link its lecture theatres together. Feeds from the four Datavideo PTC 100 cameras in the Wimpole are fed into a Datavideo production switcher and into the Lightware matrix - "so we can feed those cameras to anywhere including the other control room and the GuyWhittle lecture theatre," explains Mcloughlin. This is a two-way interaction, so either theatre can act as an overflow for the other.

Audio routing and DSP is via a Biamp Tesira system running over AVB - one of the first to be ordered in the UK. The Wimpole has SO analogue channels in and 54 out, along with 11 CobraNet channels in and 14 out. The system is linked to another Tesira system recently put into the Guy-Whittle, with 74/78

(in/out) analogue and 13/16 CobraNet channels. Together, these form one of the biggest Tesira systems in Europe.

Marshall points out that, for larger systems, Tesira is more affordable than Biamp's Audiaflex system because each Tesira card has four inputs and outputs rather than Audiaflex's two.

VIDEO PRODUCTION

The RSM, explains Mcloughlin, is one of the largest producers of CPD points via meetings in the UK, and has a five-year plan to make 80% of its meetings available online. "So one of driving forces behind the AV installation was video production," he says. The HD capability in the Wimpole Theatre is a step up from the building's other spaces, which are SD. Ten Blackmagic Hyperdeck SSD recorders are connected to the Datavideo switcher to capture the content of events. The Lightware matrix also feeds a computer workstation dedicated to live streaming, using Adobe Flash Media Live Encoder software and the Qbrick video streaming platform.

A lot of the equipment in the Wimpole is controlled via the dual displays on the technician's PC in the control room - including the DiVentix, the Lightware matrix, the Tesira system, the IML voting system, and even the Eaton IP mains distribution units that are used to power down rack equipment.

One of the key areas of co-operation between AVM Impact and the RSM was the programming of the AMX system, including a 20in panoramic Modero touchscreen.

"One of our specific aims was about the way we work. Ideally I like everything to have visual feedback so that it's easy for the two technicians - especially with video production going on," says Mcloughlin. "Every recording device has its own monitor, for video and audio, in front of the technician, and every audio channel they can select and listen to. We've got as much visual feedback as we can on the touchpanel as well - whatever was available, we asked AVM Impact to program in. The fact that it's multi-touch falls in line with the fact that we have two technicians sitting side by side here." The panoramic touchscreen wasn't actually available when the system was designed. "We knew what the technology was going to be, but there's nothing like getting your hands on it and learning how to program it; · says Marshall.

PARTNERSHIPS

L-R: Perry D'hooghe, Lightware; Kevin McLoughlin, RSM; Paul Marshall, AVM Impact

Mcloughlin is full of praise for his project partners. With AVM Impact, he says: "It was never just 'Here's a spec' which AVM Impact then delivered -we worked together from the very beginning."

Marshall adds: "We'd do a drawing of the control room and send it to Kevin and his team, and they would look at it and say, 'Actually, can you move that box to there and that one to there - because we will be using this box more than the other one.'"

Mcloughlin also cites AVM Impact's flexibility in accommodating delays in the construction - such as when the control-room layout design had to work around a soil pipe whose existence only came to light during work on the project. (This also involved re-routing a fire exit through the control room, reducing the working area in there.)

Similarly, a key factor in the choice of Lightware for the project because of the customer service element, says Mcloughlin - with frequent conversations about the finer points of video signal processing, as well as staff coming down to the venue to ensure the matrix was working as it should, and providing a day's training.

When it came to the AV furniture, experience had told Mcloughlin that it would be extremely helpful if this could be designed in a modular fashion so that it could be broken down and carried out by just two people. Supplier Gresham Wood was chosen because it was one of the few to respond with a design that followed this brief, rather than a more or less standard option. In addition to the presentation desk, there is also a lectern with a height-adjustable notes platform, plus additional shelving for equipment such as laptops and visualizers.

The end result is a working space whose functionality bears testament to the careful work and deep levels of involvement of all the project partners. "We've had fantastic feedback for the lecture theatre from the external clients, and from our own academic meetings as well," says Mcloughlin.

There were many conversations throughout the project that were geared to finding the best solution rather than just selling products. For instance both Mcloughlin and Marshall point out how Lightware didn't use the product training session as a sales pitch.

"We avoid that intentionally," says Lightware's Perry D'hooghe. "I think 5% of the slides mention our own gear, but the rest is product-agnostic, technical information. I think that's why this partnership grew, because everyone has this technical interest - and everyone has their own input."

Marshall concurs. "I wish we had many more clients like Kevin who took an interest and actually understood what we are doing," he says.

This approach pays off for everyone, says Mcloughlin, because it builds strong relationships that will lead to future work in many cases. For instance, as part of the ongoing programme to upgrade and connect the AV in the RSM's meeting spaces, the Guy-Whittle theatre will get its own Lightware matrix in August.