CASE STUDY - EDUCATION
UNIVERSITY OF BOLTON

UNIVERSAL AV WORK WITH THE UNIVERSITY OF BOLTON ON SIMBULATION SUITE.

THE CLIENT

Centre for Clinical and Biomedical Sciences – University of Bolton

The University of Bolton has a clear strategy and vision - their mission is to be a distinctive teaching intensive and research informed university known for the quality of staff, facilities and links to employment sectors.

The University of Bolton's Centre for Clinical and Biomedical Sciences courses are based in a £31 million state-of-the-art Bolton One facility. Key facilities in Bolton One are Clinical Simulation Suites, where you will learn to apply your knowledge to real-life situations using simulated environments and patients.

THE BRIEF

As part of the new Bolton One facility, the University wanted to offer clinicians and practitioners a real hands on experience to their learning. The idea of a simbulation suite was born, a suite where students could practice in real world conditions, in a replica Ambulance on simulated patients, whilst the rest of the class viewed on a screen.

The use of audio visual technology in this suite would be essential to create a true picture of the simbulation ambulance's surroundings, as well as provide live footage to the rest of the class to observe. Universal AV attended meetings to discuss the scope for the project, and underwent a vigorous tendering process to install all audio visual solutions in the Bolton One facility.

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SERVICES PROVIDED

- CONSULTANCY
- PROJECT MANAGEMENT
- INSTALLATION
- TRAINING

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WORKING IN PARTNERSHIP

Ian Moth University IT/AV Support Team Leader, University of Bolton commented;

"When we decided to implement paramedics training we wanted something different, a new way for paramedics to gain a practical knowledge of the job whilst in the classroom. Working in partnership with the North West Ambulance Service (NWAS) NHS Trust, the Simbulation idea was born... This would provide students with a degree, knowledge and practical skills needed to work within the sector.

Heading up the audio visual department for the University I came on board to look at how we could integrate the simbulation suite into the classroom environment and to be able to live stream elsewhere.

We worked with Universal AV to discuss possible solutions, and how we could take it from a standalone simbulation room to a teaching platform, where classroom debriefings could take place and live streaming of simulations to remote sites, such as the North West Ambulance Service (NWAS) who the University partners with, as well as medical training across the country."

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SERVICES PROVIDED

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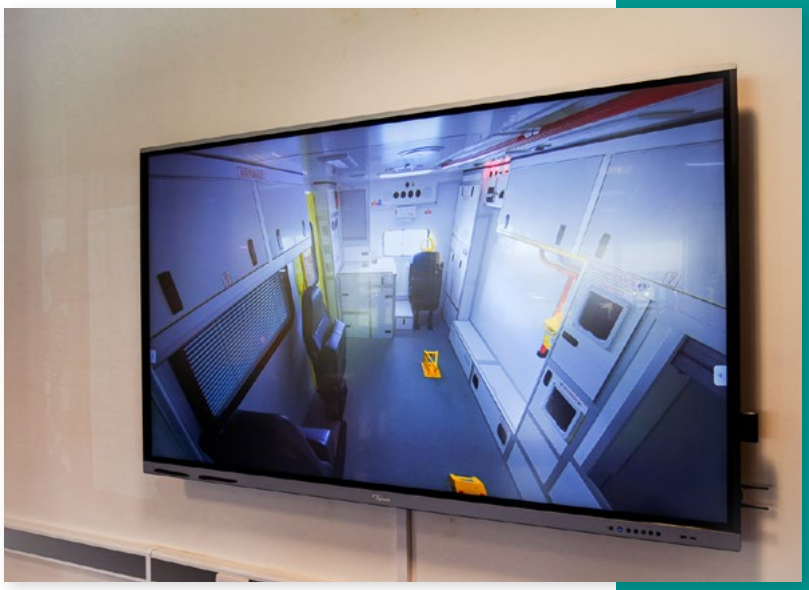
THE SOLUTION

Universal worked with Bolton to discuss the types of solutions that could facilitate the needs of the room. When we first started brainstorming the simbulation suite was just a true to size wooden box. The Sony camera/projection Solutions were specified after Sony provided demonstrations of the solution. The solution was a proven solution in this scenario and had already been installed for the BBC for a NWAS documentary and fit with the existing investment the University had already made in Sony throughout the University campus estate.



A Sony SRG 300 HW PTZ camera was mounted centrally in the ceiling of the Ambulance simbulation suite. Another SRG 300 HW camera was located just inside the Ambulance rear doors. These record all movements of the trainees (working in pairs) and real world simulations. This is then streamed to the rest of the class and viewed on an 86”Optoma Interactive touch screen.

Carrying out practical simulations in this manner ensures that those taking part in the simulation can move feely without all students crowding round to see, their movements and actions are recorded. Students not taking part in the Ambulance can learn from what is happening, in

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THE SOLUTION (Cont.)

instances where alternative courses of action could be taken they are invited to comment in the debrief to the simulation. Captured content is used for assessment purposes, reviewing; what they did, what went wrong, what could be done better, what went well, best practice etc.

Audio from the simulation is captured using Sennheiser Boundary & Lavelier Microphones.

An Optoma 86” Interactive Touch screen was situated in the classroom, where live footage is streamed to the class and where teaching takes place from in a traditional classroom style. The classroom style has been replicated across Bolton One for familiarity.

To provide the solution with an added layer of authenticity we worked with Lancashire Teaching Hospitals NHS Foundation Trust, who provided camera footage of the route between Preston & Bolton Hospitals. The result was that we were able to project to walls on the side and rear of the Ambulance using Sony VPL-FHZ85 laser Projectors. This allowed students on the inside of the ambulance to see simulations of real traffic routes and scenarios through the side and back windows, thus making the experience as realistic as possible.

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INSTALLATION

This was a unique project for Universal AV. We have never before worked on a simulation suite like this, nor had the University. There were no drawings or practical experience to call upon, we were all on a steep learning curve.

Challenges to the installation came in the form of teaching schedules and delays to kit. The project manager from Universal worked around the University's busy summer teaching programs to ensure the smooth delivery of the room. Delays to equipment such as racks meant that the project plan included return visits to site to complete the installation with newer racks, replacing the old. Communication of this at the beginning and foresight of delays ensured repeat visits could be scheduled and accounted for on both sides.

Ian comments; ***"We have a good working relationship with Universal and the installation went well. They were flexible and amended cameras when it became apparent the original cameras specified could be improved on by using the Sony SRG 300 HW PTZ cameras. Universal worked with us closely in order to look at cost benefits, issues, pros and cons of changing specification. We were delighted with the end result and the professional, can do approach from Universal AV"***

Rory McKelvin, Emergency Care Practitioner, Programme Leader Paramedic Science, & Senior Lecturer, commented, *"To train in a simulation room is not uncommon, however, traditionally they were made from wood, not a replication of an actual ambulance. My background has been majoring in simulation and clinical fidelity – how to make events more realistic so that people feel like they are in there and their brain starts to believe it. It is important they believe they are in the ambulance that they are travelling. It is important to get it to the highest fidelity, it is an inch for inch replica of the new specified NWAS vehicles, the same panels are in the same place, same buttons, which is important for training and familiarisation. Training in this manner allows us to escalate the simulation and add additional stresses and help trainees develop resilience for the real world.*

Group debrief is possible with the cameras recorded what happens in the simulation. You are able to learn from watching, we can highlight good practices and the whole class can take place in this. The class environment is becomes very much an inclusive learning environment with little downtime for those not in the simulation as they are able to monitor the whole time."

THANK YOU FOR READING