



PURDUE USES CLEARONE TO OVERCOME AUDIO CHALLENGES

CHALLENGES

Distance students join lectures simply by logging in with their Purdue accounts on the Engineering Professional Education (EPE) website. They can then see and hear the lecturer and any content that needs to be shared. Crucially, distance students must be able to hear questions asked by on-campus students.

"We saw the move into the new facility as the perfect opportunity to upgrade our existing audio technology to deliver the highest possible level of audio quality to our distance students," said Joshua Brown, Multimedia Production Engineer at EPE.

With the previous audio solution, EPE had received negative comments from distance students concerning the audio quality during lectures. In particular, the difficulty they had in hearing and therefore understanding the questions asked by students in the classroom.

"We worked with our existing systems integrator to make adjustments to the original microphone array we had installed in the new facility; but due to its limited configuration capability we became increasingly disappointed with the audio quality we could achieve from its omni-directional microphones," added Brown.

BACKGROUND

Engineering Professional Education (EPE), part of Purdue University, West Lafayette, Indiana, has been providing Engineering Masters degrees, via distance, to engineering professionals for 60+ years.

Before the advanced communications solutions we take for granted today, degree course material was recorded on VHS tapes and shipped to students. Alternatively, students accessed the Indiana Higher Education Telecommunication System (IHETS) which delivered one-way video via Hughes satellite to 325 receive sites. Students at these remote sites interacted with the EPE via a dedicated telephone system.

In the early 2000s, EPE began providing online lectures for its distance students and in 2014 moved into a new facility in Seng-Liang Wang Hall. The new facility has three multi-function classrooms that enable the content of on-campus engineering course lectures to be recorded so that distance students not able to attend live lectures, can download or stream the video file enabling them to 'attend' lectures on their schedule.

The ethos behind the multi-function class rooms is control. Each has a control booth from which an operator can adjust audio settings and carry out the necessary switching between the lecturer's laptop on the podium, or from a smart tablet to the camera, etc. Alternatively, when not recording, the room can be set so the lecturer is able to control all the different input sources without the need for an operator.

ABOUT CLEARONE

ClearOne is a global company that designs, develops and sells conferencing, collaboration, and network streaming & signage solutions for voice and visual communications.

The performance and simplicity of its advanced, comprehensive solutions offer unprecedented levels of functionality, reliability, and scalability. More information about the company can be found at www.clearone.com

CLEARONE SOLUTION

As a result of extensive desktop research, Brown wanted more information about ClearOne's Beamforming Microphone Array and ClearOne's CONVERGE® Pro, the most advanced professional audio DSP platform for conferencing and sound reinforcement applications.

"I contacted our local ClearOne sales representative and was quickly sent Beamforming Microphone Array and CONVERGE Pro units to test," said Brown.

Following successful testing, which demonstrated to EPE the improvements in audio quality which could be achieved, Brown made the decision to work with a new systems integrator, CCS Indiana because of its vast experience with installing ClearOne solutions.

"We had a very short time window, over the 2016 holiday break, to install the Beamforming Microphone Array and the CONVERGE Pro and ensure that everything was up and running in time for the students returning in January 2017," said Josh Whitis, Account Executive, CCS Indiana. "Our expertise gained from deploying ClearOne solutions enabled us to successfully meet EPE's tight deadline."

Each multi-function classroom is equipped with a CONVERGE Pro and the largest room, which seats 75 students, has three ceiling-mounted Beamforming Microphone Arrays, while the two smaller classrooms, each have two Arrays.


CHOOSING CLEARONE OVER OTHER VENDORS

"The ClearOne technical support team has been great to work with and has quickly and efficiently helped both us and EPE to overcome the few issues we have encountered," said Whitis(CCS) "As the ClearOne solution requires much less equipment than that which EPE had previously deployed, it has proved to be much simpler and easier for them to use."

ABOUT THE INTEGRATOR

CCS Indiana can design a custom AV solution to meet the needs of your company, district, or school. We specialize in interactive technology, cloud-based conferencing, and high-quality audio-visual products to improve efficiency, increase collaboration, and enhance presentations in your organization.

For further info visit: www.ccsavpro.com



"High -quality audio is key to distance students obtaining the best possible learning experience during lectures and ClearOne's solution has helped us to deliver exactly that for Purdue University's Engineering Professional Education"

Josh Whitis, Account Exec. | CCS Indiana

"The sound has significantly improved when compared to previous semesters, thank you!"

Distance student



RESULTS AND BENEFITS

The Beamforming Microphone Array now delivers much-improved audio reach via its patented beamforming and adaptive acoustic steering technology (think of it as smart beam selection), 24 microphone elements and next-generation Acoustic Echo Cancellation.

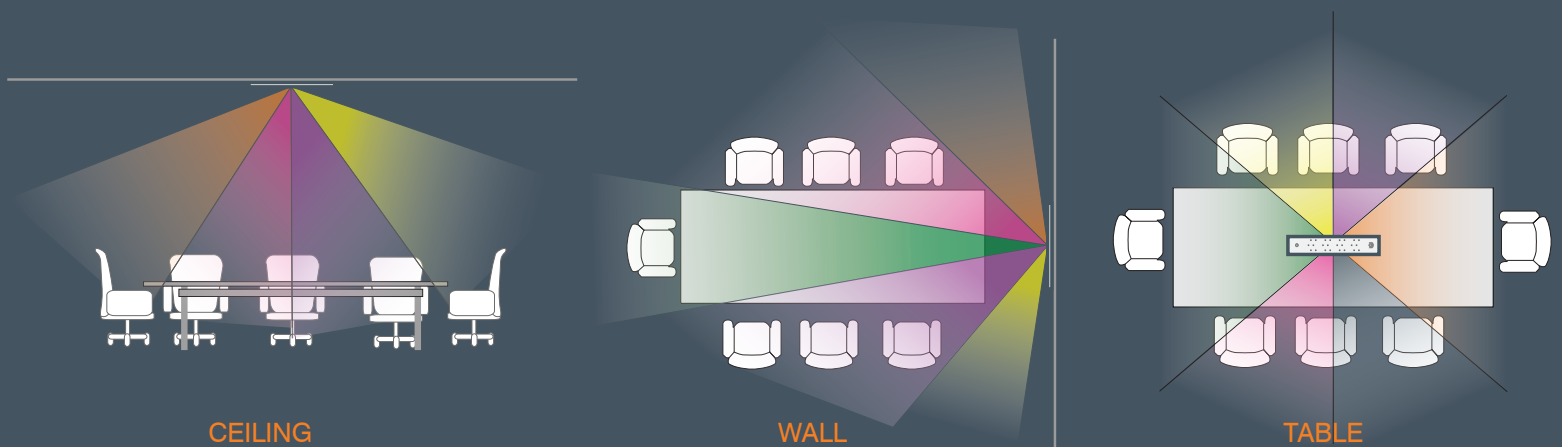
The CONVERGE Pro's additional functionality has greatly increased control over the audio dynamics particularly with regard to gating options which had previously been restricted.

In addition, by eliminating feedback loop and echo from the lecturer's audio (from a lavalier microphone) the ClearOne solution has vastly improved the audio quality for distance students who can now easily hear questions asked by on-campus students.

EQUIPMENT LIST

- » 1 x Beamforming Microphone Array
- » 1 x CONVERGE® Pro DSP Mixer

BEAMFORMING MIC ARRAY MOUNTING OPTIONS AND COVERAGE



SALES AND INQUIRIES

Headquarters

5225 Wiley Post Way,
Suite 500
Salt Lake City, UT 84116

US & Canada

Tel: 801.975.7200
Toll Free: 800.945.7730
Fax: 801.303.5711

International

Tel: 801.975.7200
global@clearone.com

Sales

Tel: 801.975.7200
sales@clearone.com

Tech Support

Tel: 801.974.3760
tech.support@clearone.com

Tech Sales

Tel: 801.974.3760
techsales@clearone.com

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