

## Sennheiser TCC 2 for Duke Kunshan University



Duke Kunshan University, a world-class university that brings together the best educational resources from around the world, has a team of faculty members located all over the world and has high quality requirements for blended smart education. Duke Kunshan University has installed 116 Sennheiser TCC 2 Ceiling Array Microphones in 50 classrooms and various other spaces across its campus, providing students and faculty with an immersive blended learning experience that is both superior in sound quality and easy to operate, helping to create a world-class educational environment at Duke Kunshan University.

Located in Kunshan, Jiangsu Province, Duke Kunshan University (DKU) is a 1,200-acre campus dedicated to creating a world-class educational and research university characterized by liberal arts education, offering a range of high-quality, innovative academic programs and a diverse, inclusive culture to students from around the globe in order to cultivate well-educated and enthusiastic future global leaders. This audio-video project is part of the university's second phase, covering 22 buildings on campus, including 29 classrooms, 20 conference rooms, and a visitor center, and is characterized by large scale, advanced technology, and high complexity. Duke Kunshan University set its sights on a number of top global brands. In the end, the Sennheiser TCC 2 ceiling array microphone stood out due to its superior audio technology, open technology path and rich success experience.

Duke Kunshan University chose to install a total of 116 TCC 2s so that every space can enjoy the trusted Sennheiser audio quality.

Duke Kunshan University offers courses taught by faculty from Duke University in the United States as well as other locations around the world. As a result, the university requires each classroom to provide an immersive online learning experience as if it were face-to-face. Audio equipment, in particular, not only needs to be clear in sound quality, stable in transmission, and easy to operate, but it also needs to fit seamlessly into different room types and teaching scenarios.

The TCC 2 utilizes patented Dynamic Beamforming technology, which automatically tracks the position of speakers and switches between speakers in real time, ensuring that their voices are clearly captured. Teachers are able to move around and communicate freely with students while teaching, and the layout of desks and chairs in the classroom can be flexibly adjusted to greatly enhance the classroom experience. The microphone's built-in 28 broadcast-quality microphone heads make the sound clear and natural, and remote teachers and students can also listen to the speakers clearly as if they were in the room.

In addition to classrooms, schools also place a high value on the design of audio systems in conference rooms. In teleconferencing, the seamless integration of audio and video is very important. In this project, TCC 2 integrates Biamp DSP and Sony PTZ camera tracking to synchronize the monitored speaker's position to the camera, thus realizing real-time switching of the speaker's footage, which makes the meeting more realistic, efficient and immersive.



The Visitor Center is another highlight of this project. In order to provide excellent conditions for teachers and students to communicate, display and hold activities and exhibitions, the Visitor Center built by the school has a flexible layout and a bright and spacious space, with an area of 400 square meters and a height of 4.8 meters, in addition to the need for high-quality sound pickup, the site of the local sound reinforcement is also a very high demand. Three TCC 2s were installed in the Visitor Center, whose TruVoicelift acoustic enhancement feature delivers everyone's speeches clearly to every corner, with natural, full sound quality and no distortion or delay, making for a truly immersive audio experience.



The Duke Kunshan University Phase II project, which took three years to design and deploy and complete, was not only large in scale but also in complexity. The project's audio/video system includes many types of products including Biamp DSP, Bose loudspeakers and Crestron control systems. Therefore, for the success of the whole project, easy operation process and seamless integration of products of each link are crucial, which is also the main challenge of the project manager.

Wan Li is the chief engineer at Duke Kunshan University and the university's technical lead for the audio system design. His team adopted an all-digital and fully distributed AV-over-IP architecture for Duke Kunshan University. The TCC 2 can be seamlessly integrated into the campus network with all brands of audio equipment via Dante, allowing IT managers to monitor and control the communication, interaction and control of various devices on campus in real time via cell phones, tablets or computers, greatly simplifying the workflow and providing excellent reliability. Excellent reliability.

Sennheiser's business communication solutions have an open audio/video ecosystem with strong compatibility and can be integrated with different brands of devices and platforms. TCC 2 has been certified by Microsoft Teams, Zoom, Tencent Conference and Nail Conference to meet the preferences and needs of all types of users. During the implementation of the project, Sennheiser's technical engineers went to Duke Kunshan University several times to carry out on-site investigation

and debugging work room by room to ensure that the installation position and angle of each TCC 2 could achieve the optimal effect and realize the best voice clarity. This was highly recognized by Wanli.

"The exceptional quality of the TCC 2 is unquestionable, and the Sennheiser team has been instrumental in the smooth implementation of the project. They provided full technical and training support and helped us make great progress in commissioning and optimizing the system." Miles praised, "In the school's future development plan, we look forward to continuing to work with Sennheiser to further optimize the performance of the audio/video facilities and continue to enhance the immersive learning and collaborative experience for teachers and students."

In the future, Sennheiser will continue to pay attention to the development trend and changing needs of the education industry and continue to innovate and shape the future of audio for intelligent education with more outstanding audio products and technologies.

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