

Application Story

HUST – Huazhong University of Science and Technology



The Visdec Electronic Decision Theater is a digital “think tank”, as well as the largest advanced visualization display in China.

HUST installation helps government and administrators with research and collaboration

Huazhong University of Science and Technology is one of the top universities in China, ranked in the top ten. Founded in 2000 by four post-secondary institutes: Huazhong Technical University, Tongji Medical University, Wuhan Urban Construction College and Wuhan Technological Leadership College – the facility strives to build its world-renowned fame, to strengthen the capacity of scientific and technological innovation, to construct a first-rate platform for scientific and technological innovation, and to enhance the competitiveness of scientific research.

Based in Wuhan, China, it now houses the technologically advanced Visdec Electronic Decision Theater, a 240-degree floor to ceiling curved advanced visualization display – the largest of its kind in China. The initial concept was based on the Decision Theater at the Arizona State University but the China initiative improved on technology, products used and overall size.

“The system is sponsored by HUST, Public Management College of HUST, Federal Ministry of Education, and HUST alumnus,” explains Madam Wang, the Chief Project Architect and Manager of the Decision Theater. “The purpose of the system is to be used on assisting Public Management decision-making. The 3D capability of the system is to be used on urban planning and urban development. For a fast developing country like China, it is critical to solve urban development and planning issues with advanced technology. Our theater will help the decision makers to analyze, modify and improve on their strategies, designs, plans and decisions.”

Customer:

HUST – Huazhong University of Science and Technology

Location:

Wuhan, China

Industry/Market:

Education

Requirements:

To replicate the concept based on the Decision Theater at Arizona State University, but to improve on size, technology and performance.

Summary:

Modeling their requirements after Arizona State University’s Decision Theater, Huazhong University of Science and Technology (HUST) created the Visdec Electronic Decision Theater - a seamless, high resolution display that functions as a digital “think tank” with advanced visualization capabilities.

Products:

- Eight warped and blended Christie Mirage HD6 projectors
- Christie Spyder X20 video processor

Results:

The 240-degree, floor-to-ceiling curved advanced visualization display helps university, government and business representatives who use the facility make better decisions for a range of programs. The 3D capability of the system will be used on urban planning and urban development to assist public management decision-making.

The system boasts a conference theater design with a seamless, rear-projected image that can operate in stereo or non-stereo mode. The theater is spacious and offers a vast display area for singular applications, or the option to run multiple applications in collaboration on separate areas of the display canvas.

The display is brought to life by vast computational power and a sophisticated rear projection display with eight warped and blended Christie Mirage HD6 projectors and Christie Spyder X20 video processing. A technically challenging project, the Visdec Electronic Decision Theater utilizes Christie's integration expertise to create a seamless high resolution display — a digital "think tank" display — with advanced visualization capabilities for enhanced decision-making, process analysis and team collaboration.

The eight projectors are mirror-bounced and rear-projected to create one of the largest curved screen displays of this magnitude in China — and the world — the screen semi-rigid material is close to 60ft wide and the material is over 8ft high and all one piece.

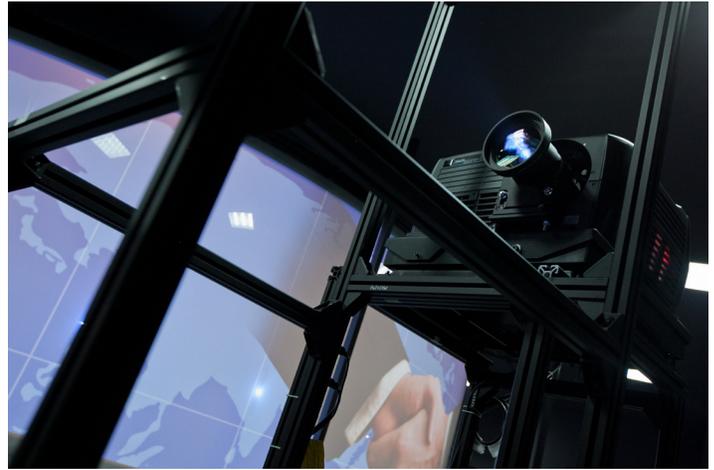
From the beginning HUST made it clear that they saw enormous value in building the Decision Theater and in collaborating with ASU and other international institutions on joint projects related to everything from energy and the environment to urban planning and public health. The system offers a conference theater design with a seamless, rear-projected image that can operate in stereo or non-stereo mode. The theater is spacious and offers a vast display area for singular applications, or the option to run multiple applications on separate areas of the display canvas to operate in collaboration on the screen.

The design offers rear-projection, so the projectors are installed behind the screen, eliminating shadow effects and decreasing operational noise so users can concentrate on the display content. Capable of both 2D and 3D viewing, the display provides excellent image quality and impressive off-axis viewing. A successful partnership with Chess Computers, the project collaborated North American design with integration and installation supported through Christie's local China office. The project offered a break-through opportunity in China for both Christie and Chess Computers.

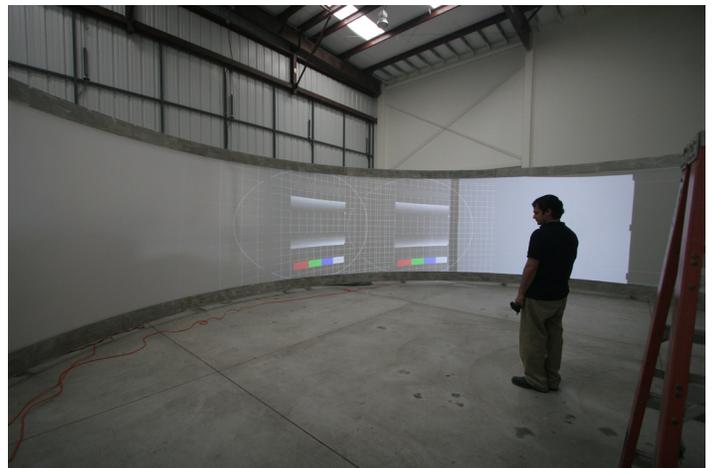
"Christie's solution was well-prepared. The attitude and effort that Christie showed, in addition to the product and solution quality really impressed both us and the customer. The decision to go with Christie was easy," states Joe Zhang, Chess Computers. "The use of the Christie Spyder X20 in the HUST system is very critical. It enabled the capability that the customer had required for the 8-channel stereo sync."

While there are many integration firms doing advanced visualization out there, most of them are small. HUST wanted to go big because they wanted to have the capacity to handle big jobs from the government level. At the same time, they wanted to have the best technology.

"The advantages of the Christie design are the size, the curvature, the height, the radius. Viewers can sit in and get the best viewing experience. Once again, we want to have what others don't have and have better than what others have. That is what this system is all about," Wang states.



The seamless, curved display is mirror-bounced and rear-projected, which creates no shadowing effects and keeps noise to a minimum.



The structure was pre-staged in an airplane hanger with four of the eight projectors. The single piece, semi-rigid screen is over 60ft wide and 8ft high, making it the largest in China.



Advantages of the Christie design are the size, the curvature, the height and radius. Offering excellent viewing angles and no seams, the display is a "digital think tank" for decision-making.

"Once again, we want to have what others don't have and to have better than what others have. That is what this system is all about."

Madam Wang, Chief Project Architect & Manager, Decision Theater

The design and installation process was a huge undertaking. The building where the HUST Theater is currently located hadn't been completely constructed and modifications were ongoing at the time of installation. One particular issue was the installation of the screen. At 60' wide and 8' high, everything to do with the screen's shipping, delivery, installation and handling was an issue of consideration. The screen's installation took an entire week on its own. Another consideration to overcome was the ongoing construction and design changes to the building itself – the concept design for the projector locations and mounting had to be revised as the room was built.

"Both the North American and Chinese operations offered tremendous support. Without Christie, we would not have been at where we are now, in such a great position. Christie was quick to come up with solutions that accurately and successfully resolved each matter. I really felt that I could be worry-free working with Christie. Christie has done well on HUST. The display quality is superb on this system," Zhang said.

For now, the focus will be in using the Decision Theater to help government on making scientific and analytical decisions. Areas of water management, pollution control, disaster management and public safety are all in the list of potential applications that could benefit from the visualization enhancement of the Decision Theater.

"There is a regional development project in Two-Finger Lake region of our province," explains Wang. "The Two Finger Lake project is a joint venture between the government of France and our provincial government. We want to be involved by helping them to visualize the plan, the design and the strategy using our theater. It is in discussion at the moment. We hope to get the job."

Contact Christie

Contact us today to find out how you can benefit from Christie's expertise in integrated simulation solutions.



The Christie Spyder X20 was instrumental in the HUST system installation - meeting the requirement for 8-channel stereo sync, defined by the customer.



Huazhong University of Science and Technology (HUST) is one of the premiere universities in China, ranked in the country's top ten.

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