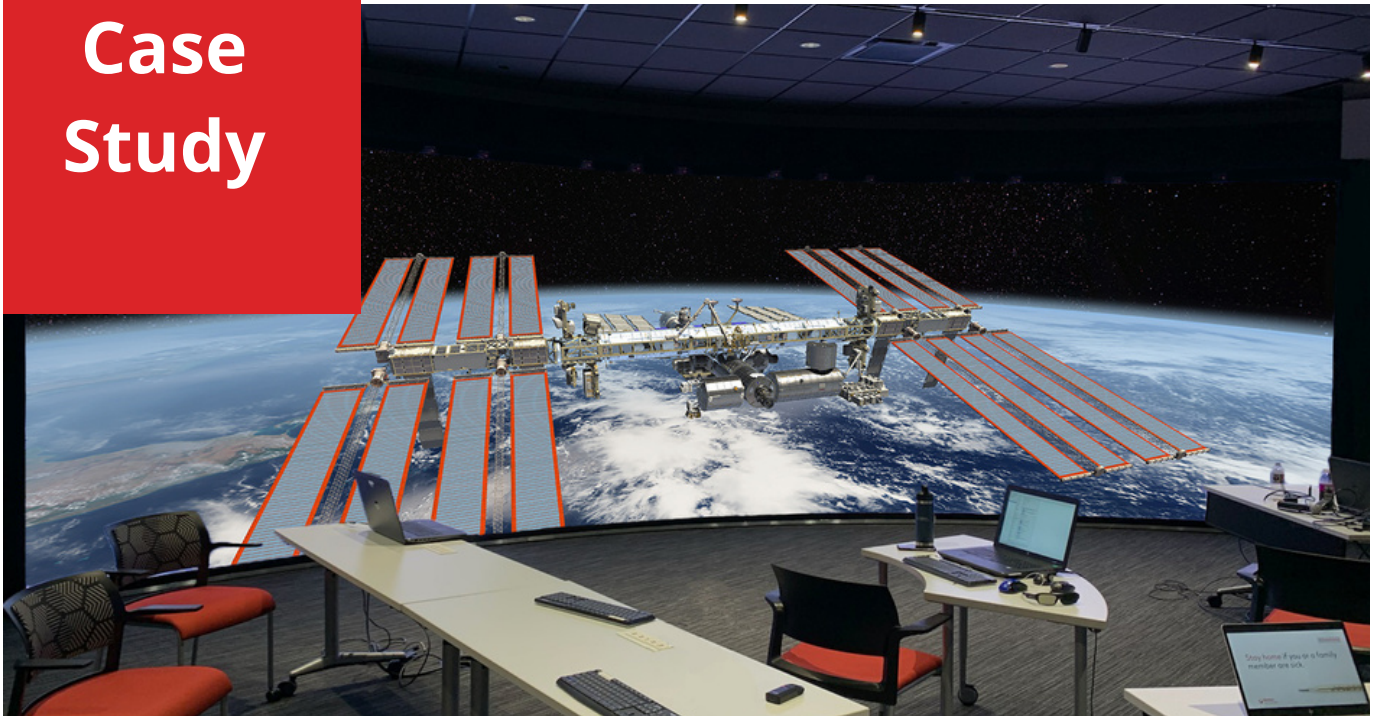


Case Study



Ingenuity on Display

A first-of-its-kind 3D visualization & simulation environment for the aerospace industry

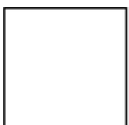
The client, a large government contractor in the aerospace sector, needed a visualization and simulation environment as advanced as the designs its engineers brought to life. The engineers needed detailed, immersive images for design reviews. The project team and stakeholders needed an impressive environment for internal and external design briefings. That required more than a mere video wall. It demanded cutting-edge 3D display technology from Sony, combined with unsurpassed design, integration, and virtual reality expertise – provided by Mechdyne – to enable all of the varied use cases and multiple image sources.

32' x 9' Amazing

The centerpiece of this project is a curved 32' x 9' 8K Sony Crystal LED direct-view display system; one of few curved Crystal LED walls in existence. The extra-wide aspect ratio required special programming to ensure the accurate display of complex CAD models in their native format.

Objectives

- Use an impressive environment for internal and external briefs
- Have a system capable of a variety of use cases

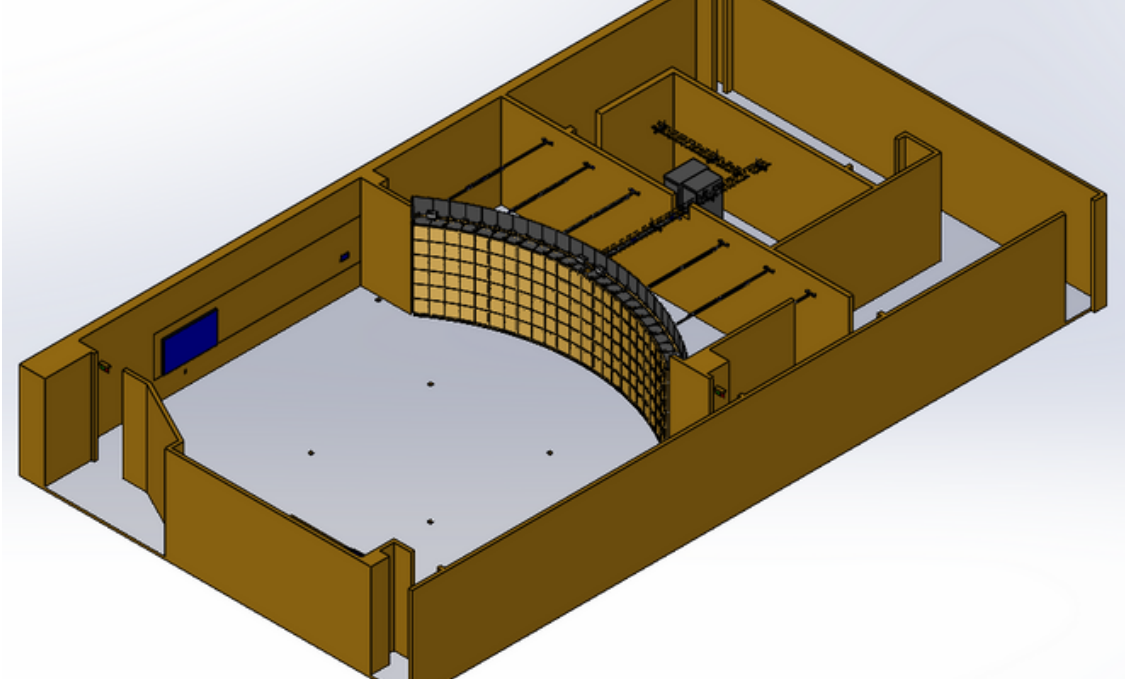


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Modular in nature, Crystal LED technology accommodates virtually any size or aspect ratio. The LED's 1,000,000:1 contrast ratio displays the beautiful depth of colors for extraordinary image quality. The nearly 180-degree viewing angle ensures all participants have an equally incredible experience.

Mechdyne integrated and programmed the installation to accommodate varied use cases. The included windowing system is capable of displaying 2D and stereoscopic 3D content from multiple sources anywhere on the screen. Programmed with Mechdyne's Meeting Canvas software, the video wall can display up to four HD inputs and four UHD 4K inputs simultaneously. In addition, the system is virtual reality enabled by 16 motion-tracking cameras. A user's position and orientation is monitored in real-time in order to change imagery to present the correct image perspective as the user moves.

Imagine being able to move your head to look around the corner of a virtual door. The design also includes support for finger tracking to monitor the position and orientation of a user's hand relative to the on-screen components.

Enhancing the impressive, immersive quality of the environment, Mechdyne engineers built the display into the main wall so that it appears as part of the structure. A custom frame and base bring the panels as close to the floor as possible, creating a portal-like effect. Ancillary flat panels are installed elsewhere in the space and at the entranceway, while 7.1 surround sound floods the room from unobtrusively positioned speakers. Completing the installation: a control station from which a meeting facilitator can create and manage dynamic working sessions and presentations.



No detail overlooked

At the outset of the project, Mechdyne's in-house team of control programmers reviewed use cases in depth to ensure that the windowing software and user interface met the client's unique needs. "Advance staging at Mechdyne's Technical Center verified the integrity and operation of the system before installation," said Chad Kickbush, General Manager for Mechdyne's Integrated Systems Business Unit. "The system was made fully functional, including integration of the display, windowing software, custom-user interface programming, and computer power to run it all." Multiple display/windowing presets were also prepared. The client performed a FAT, factory acceptance test, to approve the interface and functionality prior to shipping. Offsite staging also enabled Mechdyne to perform the onsite integration rapidly, accurately, and with minimal disruption to the client's day-to-day operations.

Boundary-pushing Sony technology, "mind-blowing" Mechdyne experience

Sony and Mechdyne collaborated closely with the client – and with each other – to create this first-of-its-kind Crystal LED installation for 3D simulation in the aerospace arena.

"The compelling visuals provided by Sony's detailed Crystal LED display were further enhanced through collaboration with Mechdyne, who implement cutting-edge technology in a way that amplifies its inherent power in supporting premier government clients and applications," said Sander Phipps, National Account Manager, Visualization and Simulation at Sony Electronics. "Our Crystal LED offers a breathtaking large-display experience, and when it's paired with Mechdyne's mind-blowing expertise in 3D, it makes the canvas truly come to life in ways that inspire and enable our users."

Given the confidentiality assigned to this system, no details have been provided about use case examples and results of initial and ongoing use.

About Mechdyne

Mechdyne is one of the world's leading providers of innovative visual information technologies. Mechdyne bends technology to our will in ways that transform complex data into insights and ideas. To ensure our customers succeed, Mechdyne provides comprehensive, customized solutions that include consulting, software, technical services, and hardware integration.

