

**Product**

Leyard LED Sphere
Leyard TWA Series
Leyard LED MultiTouch

Location

Brisbane, Australia

Industry

Education

Application

Presentation System,
Research Tool, Video Display,
Interactive Touchscreen

Partner

Midwich
Pro AV Solutions

LED Sphere Offers Ultimate Wow Factor and Research Tool for Educational Training

The Sphere at Queensland University of Technology

In Brisbane, Australia, the Queensland University of Technology (QUT) recently opened its new \$94.4 million Education Precinct building on the Kelvin Grove campus. Housing the Faculty of Education and QUT's Aboriginal and Torres Strait Islander Oodgeroo Unit, the six-level, state-of-the-art facility is designed with flexible, technology-equipped teaching spaces that reflect the university's commitment to applying technology and immersive digital environments in teaching, research and engagement.



Suspended over two floors in a large, open atrium is the center attraction of the new precinct building—a massive five-meter diameter LED globe weighing 3.5 tons and composed of 1,040 individual panels and 12.7 million individual LED lights (12.7 million 3mm pixels). Built by Linso, a Leyard company, the Sphere is a first-of-its-kind digital marvel and cutting-edge research tool for the Faculty of Education to advance teacher training.

The intent of the Sphere is to support the heritage of the Kelvin Grove campus as a place of learning and embrace the vision of the Education Precinct to provide the best experiences for students and faculty, according to QUT Visualisation and eResearch Manager Gavin Winter.

“Initially, the Sphere was a difficult object for QUT’s content developers to get their head around,” Winter said. “Our developer team created simulations in content engines to test how standard content mapped to the equirectangular geometry, and when used in virtual reality, both developers and stakeholders gained confidence in the solution and became very inspired. The technology is robust, and we’re impressed by the scale and level of engineering of the system. We are also greatly impressed with how the Leyard team worked with local crews to assemble, install and commission the project in such a short time.”

The Sphere is complemented by a 15.7-foot-wide, 4.4-foot-high Leyard® LED MultiTouch video wall with a 1.2mm pixel pitch (TWA1.2) in a 4x2 configuration. Using Leyard® PLTS™ (Pliable LED Touch Surface) technology, Leyard LED MultiTouch provides a protective, durable surface and 32 simultaneous touch points for creating a seamless and dynamic multi-user experience.

In addition to offering interactive content, the Leyard LED MultiTouch allows users to interact with certain applications displayed on the Sphere. In one example, the planets of our solar system are displayed on the video wall. When one of the planets is touched, the entire Sphere transforms into a reflected image of that planet.

To bring the Sphere installation to QUT, the university partnered and worked closely with global AV technology distributor Midwich as well as systems integrator Pro AV Solutions, which assembled, installed and tested the technology.



“The Sphere and digital video wall touch screen are learning and teaching tools, offering QUT a changing menu of innovative and interactive content,” said David McIntyre, video business manager, with Midwich Australasia. “Given our long-standing partnership with Leyard, we had full confidence they would deliver a solution exceeding QUT’s expectations.”

Shannan Brooksby, Pro AV Solutions senior account manager for the education sector, said the LED Sphere and Leyard LED MultiTouch video wall are an extraordinary example of enhancing the student learning experience and continuing to provide quality teaching and education. “Future programs with the Sphere may include augmented reality to enhance 3D learning,” Brooksby said. “A climate change simulator is also under development.”

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— David McIntyre,
Video Business Manager,
Midwich Australasia

Inspire and engage

The Sphere—as a component of the new Education Precinct building—allows the Faculty of Education to infuse technology and innovation into their teaching to better prepare graduates who will be teaching in the classrooms of tomorrow.

“The reason for the Sphere is that we need to inspire and engage our emerging teachers, including researchers and others who are helping realize new digital work,” Winter said.

One of the Education Faculty’s first projects with the Sphere focused on early childhood brain and neurological development, and demonstrated the importance of everyday activities—such as play, games and reading—in stimulating activity in a child’s brain.

“The design and technical configuration of the Sphere provides a high-impact resource for teaching, engagement and showcasing QUT’s research,” Winter said. “From school children up to businesses and government, we want to offer opportunities to collaborate and develop content applications of all kinds in a loosely curated setting.”

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Queensland University of Technology*





Customized and unique

Unique digital projects like the Sphere—which merge design, technology and creativity—reflect a rising trend of customization in the LED space, driven by significant advancements in the adaptability of display technologies. “The design flexibility with LED has progressed to the point where almost anything is possible,” said Leyard and Planar Custom Design Team Manager Peter Lawrence.

Lawrence leads the Leyard and Planar Custom Design Team, which is helping open a new world of digital possibilities in LED technology by creating unique, one-of-a-kind LED designs.

“When clients come to us, we work with them to understand their concept and what they are trying to achieve. Then we go and seek a way to do it,” Lawrence said. “Often, they want something memorable, something completely unique that’s never been done before. If clients have the imagination, we have the expertise, technology and resources to turn their ideas into bespoke LED solutions.”

Custom LED solutions are more likely to get photographed and posted on social media, creating a buzz around the organization, the school, the team, or the company, according to Lawrence. “It’s all about doing something amazing that the client can highlight. It is brand-building and it leaves a lasting impression,” he said.

“And, just because it’s a custom design doesn’t mean it can’t be affordable—our goal is to make these projects attainable,” Lawrence added.

That includes more sphere-like installations, which Lawrence and his team are now bringing to the U.S. market. Leyard can build LED spheres in multiple sizes, ranging from one to five meters in diameter, as well as in hanging or floor-standing applications. “There are many considerations to a project of that caliber, such as structural support and how to build it into a space,” he said. “But before a sphere installation can be realized in the U.S., the design needs to first clear several U.S. certification standards.

Photo Credit: Alex Weate from QUT

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