

# DIGITAL PROJECTION

A Delta Associate Company

## Visualization Case Study



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## Satellite MLS powers Curtin University HIVE

World-leading visualisation hub Curtin University HIVE, whose facilities have supported pioneering research in space exploration, health sciences, education and engineering, recently celebrated another milestone: the world's first installation of Digital Projection's cutting-edge new Satellite Modular Laser System (MLS) projectors.

The HIVE (Hub for Immersive Visualisation and eResearch) at Curtin University in Perth, Western Australia, is one of the most advanced visualisation facilities of its kind, and the only one in the world that contains five different large-scale visualisation displays. Its work with technologies such as virtual reality (VR), augmented reality, data and scientific visualisation, photogrammetric 3D reconstruction, and volumetric imaging has been used to, among other things, help patients with spinal cord injuries, investigate consumer behaviour and create virtual experiences of shipwreck sites.



The display facilities at the HIVE, located in a 15m x 15m former gallery space, comprise the Dome display, a 4m-diameter half-dome which fills a user's primary and peripheral field of view; the Cylinder display, a wrap-around 3D display providing a VR experience for up to 50 users; the Wedge display, a pair of 3.8m diagonal 3D displays used mainly for scientific visualisation; the Tiled display, which with 24MP resolution is used for super high-resolution visuals; and the Hologram Table, which provides two users with 3D visuals that project out of its tabletop display surface. The upgrade project focused on the Dome and the Cylinder displays.

"The HIVE Cylinder display is the flagship system in the facility," continues Woods. "The Cylinder display uses three projectors to light a 3m-high, 8m-diameter, 180° cylindrical projection screen. In upgrading the HIVE Cylinder display, in particular, we were keen to increase the display resolution to use native 4K projectors, which would provide a four-fold increase in displayed pixels, and to increase the brightness, all while maintaining the existing 120Hz stereoscopic 3D capability of the display."

"The Digital Projection Satellite Modular Laser System (MLS) was still in development as a technology when discussions commenced," recalls Tanya Hall, business development manager, integrated solutions, for Amber Technology, Digital Projection's distributor in Australia and New Zealand. Hall worked closely with Woods, InDesign, integrator Vizcom Technologies, and Emilijo Mihatov, regional sales manager for Digital Projection, to discuss and scope the technology requirements of the project, and VIOSO to develop a solution for the unique requirements of the HIVE Cylinder install.



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