

Executive Summary

Named by Time magazine as one of the “Best Inventions of 2023,” Sphere is a groundbreaking 875,000 square foot, 9-level, fully immersive entertainment venue in Las Vegas that has revolutionized the live event experience.

At 366 feet tall and 516 feet wide at its base, it is the largest spherical structure in the world. Sphere's exterior is wrapped in approximately 580,000 square feet of programmable LED lighting, using 1.2 million hockey puck-sized LED panels spaced 8 inches apart. Powered by advanced media processing units, the exterior display produces the dynamic visuals that have become iconic on the Las Vegas skyline.

Inside the 17,600-seat bowl is the world's highest-resolution LED screen—spanning over 160,000 square feet and displaying more than 256 million pixels. The screen fully envelops the audience, creating an immersive environment unmatched by any other venue in the world.

Sphere is a one-of-a-kind venue without precedent. ME Engineers was tasked to design the mechanical, electrical, and plumbing systems to support Sphere's scale, ground-breaking technology and multi-sensory live experiences. The venue is filled with futuristic technology such as beamforming speakers to deliver crystal-clear audio to each seat, haptic seating vibrations, and a 4D sensory system to deliver scent and wind effects.

The exterior and interior LED screens required a massive electrical load—twice that of a typical sports stadium of similar size—necessitating innovative power and infrastructure solutions.

ME Engineers also served as the owner's technology representative, and ensured that the high-tech components providing low voltage, audio-visual, high-speed data, and internet access were all fully coordinated.

Sphere required an extraordinary level of collaboration among the project's worldwide team members to ensure that the owner's vision became what it is today: the most awe-inspiring venue on Earth.