Creating human connections with shared reality

Cosm delivers shared reality at any scale, transcending boundaries through innovation and creating the future of immersive experience powered by Dell Technologies.

Business needs

Cosm aims to serve global clients and thrill audiences by providing an end-to-end shared reality solution built on flexible, scalable, reliable, high-performance technology.

Business results

Powers dome displays that require as much as 300TB of content data to be reliably available.

Provides the performance and reliability to deliver immersive, communal experiences to millions of viewers.

Scales to support new venues and continuous innovation in shared reality.

Offers unique opportunities for unleashing creative talent in the blending of digital and physical worlds.

Accelerates the setup of new venue technology stacks.

Solutions at a glance

- Dell Precision Rack Workstations with NVIDIA GPUs

- Dell PowerScale

Bringing people together with immersive experiences

Cosm is a global, technology-driven, experiential company that builds complete solutions for delivering immersive experiences that blend reality and virtual realities. Audiences — including families, students and people who might not be able to travel to a traditional event location — come together in instant communities as they attend live or recorded sports games, artistic performances, and scientific and educational productions realized by Cosm. Devin Poolman, chief product and technology officer at Cosm, explains, "Shared reality is the combination of great digital and physical experiences. It's about experiencing the best of media, sports and entertainment in a communal setting. That's the human experience we all crave."

Cosm pioneered planetarium projection and immersive digital graphics technology. Today, its software and display technology power a vast number of planetariums worldwide. For its clients around the globe — such as sports leagues, cultural organizations and science centers — Cosm makes it possible to enable shared reality at any scale by providing them with the engineering and manufacturing of the physical venue along with the software and display technology.

Reserving a front row seat for every audience member

Solutions and support services from Dell Technologies power all 800 planetariums and many science centers in Cosm's portfolio. Cosm also works with Dell Technologies to provide the digital infrastructure for its own venues, the Cosm Experience Centers. "Partnering with Dell Technologies means that we have the right technology solutions and support to execute our vision with the greatest confidence at all our venues, planetariums and science centers around the world," says Poolman.

Creating and delivering truly immersive experiences requires high-performing technology that can process the demanding rendering workloads and massive volumes of graphics-intensive — and often live — content that adapts to audience reactions. Cosm's LED domes, which are 87 feet across and 55 feet high,

display content at 12K resolution with distributed rendering managed by the company's proprietary CX Engine software. A spatially aware audio system with over 70 channels provides rich, deep sound to bring the visuals to life.

In each dome, close to 100 Dell Precision rack workstations with NVIDIA GPUs, centrally managed by a single operator, facilitate rendering and display. They receive as much as 300TB of streaming data from Dell PowerScale all-flash storage to deliver complex graphics and animations to projection hardware. With Dell Precision devices, creatives can seamlessly integrate live content — such as animated team logos — into broadcasts, reacting in real time to audience engagement and game events. "Dell Precision and Dell PowerScale have the flexibility, scalability, performance and reliability to enable flawless streaming of our content," says Poolman. "We can deliver outstanding fan experiences by displaying real-time video or graphics and pull together super-high-resolution content by combining Dell Precision and PowerScale."

In Cosm environments, PowerScale serves as a secure, unified content repository. "Instead of moving video among multiple storage arrays in order to play it back in our dome, it's all in one location," explains Poolman. "It works seamlessly to deliver a great Cosm experience. The flexibility of PowerScale allows us to tackle higher resolutions and bit rates, which means we can advance the quality of our displays and deliver the best possible immersive experiences. In addition, PowerScale runs at twice the performance per watt of comparable storage and data management solutions we tested."

The next step in creating immersive experiences

Cosm runs AI on its high-performance technology with Dell Precision and PowerScale to optimize content and streamline production processes. Generative AI (GenAI) will play a greater role in enabling creators and artists to unleash their talents and develop unheard-of shared reality experiences.

> "
> **Partnering with Dell Technologies means that we have the right technology solutions and support to execute our vision with the greatest confidence at all our venues, planetariums and science centers around the world."**
>
> **Devin Poolman,**
> Chief Product and Technology Officer, Cosm

> ❝ We can deliver outstanding fan experiences by displaying real-time video or graphics and pull together super-high-resolution content by combining Dell Precision and PowerScale."

Devin Poolman,
Chief Product and Technology Officer, Cosm

"AI is a powerful tool that enables many new workflows for us, from optimizing production to using GenAI to create new content," says Poolman. "We're excited about what creators will accomplish on our platform with GenAI."

Scaling rapidly to delight global audiences

Cosm aims to launch up to 100 venues worldwide. Each will feature the same architecture designed for human connection and immersive experiences: a hall for multi-view experiences, a deck where people can mingle outdoors and the dome where audiences enjoy shared reality events. "By deploying a repeatable infrastructure built on Dell Technologies solutions, Cosm can launch new venues faster, taking about four months instead of a whole year," Poolman notes. "We can stand up the same technology footprint everywhere we go, counting on the reliability of the solutions and the support we receive from Dell Technologies."

Cosm's global clients can rely on immersive sports, artist performances and other events delivered with superior quality and boosted by creative innovation. "There's a bright future for shared reality as a platform," emphasizes Poolman. "With Dell Technologies as a partner, we can always push boundaries, whether it's in real-time graphics, content resolution or coming up with new things that we haven't even thought about."

> ❝ With Dell Technologies as a partner, we can always push boundaries, whether it's in real-time graphics, content resolution or coming up with new things that we haven't even thought about."

Devin Poolman,
Chief Product and Technology Officer, Cosm

Learn More About Dell Technologies Solutions.

Connect on Social 𝕏 in

DELLTechnologies