



Projection Technology Creates Larger Than Life Immersive Experiences

No matter the application, today's projection technology produces brighter and more vibrant imagery than ever before

By Rich McPherson

The introduction of 4K projectors that deliver incredibly high resolution and superior color accuracy has given people the power to bring their imaginations to life like never before. Artists, museums, schools and businesses are leveraging the high detail, true color rendition and cinema-quality video of projectors to reimagine spaces all over the world in order to educate, attract and engage new customers or to uplift and inspire people in new and innovative ways. Simply put, projection technology is paving the way to new possibilities.

Creating Life Size Experiential Art

Projection mapping technology, which uses projectors and specially designed software to display images, animation and videos onto all kinds of surfaces is being used to bring communities together. Because it can transform any two- or three-dimensional surface into a showcase for images and video, projection mapping has become an increasingly popular enhancement and even the main attraction for concerts, sporting events, art installations, advertising initiatives and countless other creative efforts.

The projection-mapping trend provides museums, venues and other commercial environments with a unique way to display images that would not be possible with traditional formats. For example, at the start of the pandemic, LuminArtz worked with local artists to create safe, socially-distanced art exhibits, including "Light Up The Night" by video artist Pamela Hersch. The installation was projected on the exterior of the Wenham Museum near Boston, MA with NEC's PA1004UL laser projectors. The application

required a high level of brightness to project onto the building's exterior, expanded connectivity options, a built-in grid test pattern for calibration and optimal projector positioning. The artist used projection-mapping software to project white light onto the surface of the museum, which made it easy for her to trace the outline of the building and allowed her to project her art exactly where she wanted it and only where she wanted it. The exhibit provided massive, stunning visuals that celebrated childhood, connected generations and honored heritage. It featured both historical video and still images of the museum's subjects.

In this case, and many others, projection mapping empowers organizations to use unique architectural or object shapes to tell their stories or to set a specific mood. Lively, dynamic imagery can engage audiences, particularly younger audiences who are more visually oriented than previous generations might have been.

Producing Magical and Immersive Experiences

Projection technology can also create immersive interactions and magical moments that would be impossible for other digital technologies to create. When used to its fullest extent, it can also enhance engagement and become a highly customizable and artistic tool that offers the user versatility and flexibility. For example, Bravo Media Productions in New York City, extended its studio's 4K-projector installation from multiple smaller setups projecting onto different walls to a single, large setup that spans the room's 360-degree canvas. By measuring the dead space and visualizing its studio as a 360-degree space (rather than four

separate walls), Bravo Media Productions created a live piece of art that moves and changes in real time, engaging anyone who walks in the door. In this way, projection, although typically less expensive than displays or video walls, can still deliver a customizable installation within a space of any size or shape.

Engaging eSports Audiences

In recent years, competitive video gaming and viewing, or eSports, has seen massive gains in global popularity. Part of the appeal of eSports is that competitions share many of the same elements of traditional sports. They have amateur and professional players, organized leagues, stand-out heroes, champions, and fans—lots of fans. What's more is unlike baseball, eSports is not tied to any city, country or even culture, which gives it worldwide appeal. Experts predict that eSports will start attracting larger crowds than even traditional sports like basketball. With people sequestered to their homes, the pandemic increased the popularity of not only professional eSports teams but also eSports teams at the university and high-school levels.



Spectators and fans are all in—many younger fans know more about eSports than about traditional sports—and they're eager to pack auditoriums to cheer. Members of the AV industry are front and center in helping advance the sport since it does not take place on a field, but on a screen. They must understand how spectators are engaging with eSports and how to incorporate technology into these new venues to deliver a better overall experience for spectators. At many universities, for example, auditoriums and lecture halls are becoming temporary venues for eSports events.

Utilizing projection technology allows different configurations for eSports events, with varying viewing angles and distances to highlight the action. Projection technology can also be less intrusive to the space by using a retractable screen, and a more cost-effective solution than installing a dvLED wall, especially for smaller venues like restaurants and bars looking to retrofit their space to host eSports viewing events. Other than serving as the projection technology to watch eSports events, projectors can also be purchased and used as projected mapping signage and or other effects to immerse the spectators further.

4K Technology

With all these various applications, it must be noted that not all projection technology is created equal. There's a good reason for all the hype surrounding 4K, which delivers four times as many pixels as full-HD does. This higher pixel density means that images appear lifelike because they have more texture and detail, as well as far better color reproduction. What's more, it ensures that you won't be able to see individual pixels, even if you sit close to the screen. 4K displays also allow users to take advantage of 4K inputs for enhanced screen clarity. There are three basic types of 4K projectors: native, ultra-HD and enhanced or supported 4K. Because they deliver excellent image quality at a lower cost than native projectors do, ultra-HD projectors are a good choice for many of the applications discussed earlier. Auditoriums, museums, theaters, classrooms, sanctuaries and network operations centers are among the venues in which the advantages of 4K ultra-HD projectors can be realized. These projectors are particularly well suited for video, artwork, photos and other color-critical applications, as well as for images that require fine detail. Projection is a powerful tool that can engage audiences, expand outreach and create lasting memories, but there's no one-size-fits-all way to choose the right projector. Determining the right choice depends on the size and shape of the area in which you plan to use each projector, as well as the number of hours you'll run it and the type of imagery you plan to project. However, with the right knowledge and insight from experts who can help manipulate projectors to their fullest extent, you can transform any space by using projection technology. Projectors' flexibility, capabilities and lower cost are poised to serve an even greater number of new applications, and the benefits are becoming clearer than ever.

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