

Digital Signage Solution for Glass Surfaces Promises Novelty and Differentiation

By Rich McPherson



While use cases for digital signage are as expansive as ever, the hardware that makes up digital signage systems has traditionally remained the same – until now. Digital display screens and video walls that have typically been the apparatus utilized for sharing content create an element of commonality, making it difficult to excite customers with slight differences from one product to another.

While content continues to evolve, it may not be enough to push a bid over the threshold of new and exciting. Projection, however, has stepped in to offer some non-traditional digital signage opportunities, and brought excitement back to the product category.

Sharp NEC Display Solutions strives to discover new trends and take advantage of them, continually evolving hardware to create new possibilities and do so flawlessly. That's why Sharp NEC Display Solutions teamed up with Avery Dennison to create a cutting-edge display system, ActiveScene, that utilizes projection to turn conventional glass, such as a conference room glass wall or a retail store window, into a high-quality video display.

"We're trying to change the way people look at signage and what they can do with it," says Richard McPherson, senior product manager for projectors, Sharp/NEC. "To offer them something different."

Early stages of glass projection

ActiveScene marries NEC's laser projectors with Avery Dennison's Vela smart window film, which uses an electrical charge to instantly turn glass transparent or opaque, allowing it to serve as a projection surface. No longer are spaces confined to digital signage based on their layout. There is no need to limit installations to walls – glass surfaces become just as capable of displaying digital signage.

While projection vendors began exploring how to project images onto conventional glass seven or eight years ago, early solutions relied on static films that left the glass opaque (usually dark gray) when an image or video wasn't being projected. At that time, laser projection was also in its very beginnings, so those systems primarily used lamp-based projectors. Given the increase in light output and long duration of digital signage applications—18 hours a day, seven days a week, or even 24/7—frequent bulb replacement was required.

Avery Dennison uses its Vela film to tackle that opacity problem. Vela is a polymer-dispersed liquid crystal (PDLC) film that has liquid crystals floating between two electrically conductive membranes. When the film is in its "lazy" state with no electricity applied, the liquid crystals are left unorganized, which makes the window opaque, giving the appearance of frosted glass. But, as soon as an electric charge is applied to the film, the liquid crystals straighten and become aligned in a row, allowing light to pass through and thus making the glass transparent.

A projection revolution

Avery Dennison Business Development Manager Doug Phelps says that for retailers, ActiveScene provides the "best of both worlds"—the ability to dynamically show branding on their store windows and then make it instantly disappear to reveal their merchandise displays and other point-of-sale items.

Capable of everything a digital signage screen is capable of in terms of showing content, ActiveScene might display advertisements in retail environments; provide privacy or a presentation canvas during meetings in corporate boardrooms; or create that magical 'wow' factor in museums or amusement applications.



The Vela technology actually provides ActiveScene customers with a choice of three states for their glass: transparent for conventional use; opaque for privacy screen applications; or as a high-quality display with widescreen ultra-extended graphics array (WUXGA) resolution for advertising, marketing, or education applications.

Because the Vela film replaces all the traditional signage, it's an extremely sustainable product. The retailer doesn't need to have marketing materials printed time and time again when sales and promotions change. It just requires a change of the CMS content. That also gives retailers the ability to provide consistent messaging across different retail store locations with minimal effort.

The complete ActiveScene solution from Sharp/NEC and Avery Dennison includes the NEC projector, lens, standard mount, VELA film, VELA-designated controller, media player, and basic content management system (CMS). It is available with three NEC laser projector options with different brightness levels, including the 10,000-lumen PX1004UL, the 8,000-lumen PA803UL, and the 6,000 lumen P605UL.

Setting integrators apart

Digital signage has been an important category in almost every integrator's portfolio for decades. Depending on the market, it is used as a tool to provide information, advertise offerings, promote events, and even encourage interactivity between what's on the screen and who is viewing the content.

"ActiveScene allows users to create a marketing piece, turn it off, and be able to look into the space," says McPherson. "It all depends on how often you want to do that. It could be store branded, product branded, sales, anything you want to put up there is available just as if it was a large format display."

When pitching digital signage applications to customers, being able to show off products that stand out from the rest can be the difference between winning and losing a bid. Integrators know that one of the best ways to sell a system is to show the customer something they've never seen before. That gives them a sense of being cutting-edge and future thinking, and when investing in technology like digital signage that is top of mind for many customers. Not only does ActiveScene allow for integrators to show their clients something new and exciting, but it also has practical applications.

It may be floor projection guiding prospective customers to a certain section of a department store. It may be projection mapping transforming the outside of a museum and encouraging people to enter. In this case, it's about transforming any ordinary glass fixture into on-demand digital signage screens.

This new-age digital signage offering opens up possibilities in terms of the architecture of a given space. In a world saturated with digital signage, it's helpful to have something new and exciting to show off to clients.

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