Nanolumens®

Is LED for you?

How to navigate the waters of large-format display options

Today, there is a wide variety of large-format display options available, each with their own positives and negatives. How can you easily navigate these waters and understand which technology makes sense for your intended purpose?

LCD

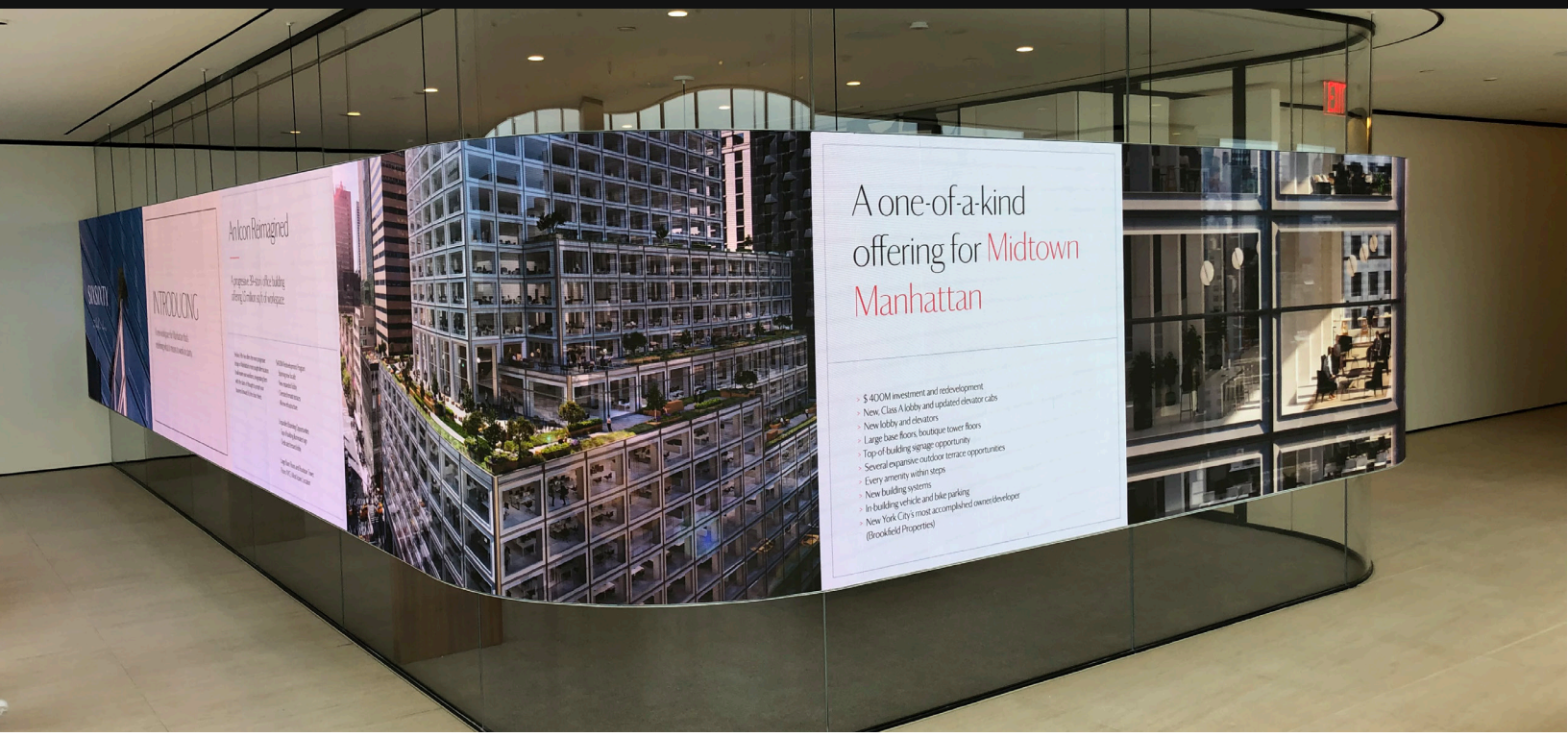
First, some background: LED displays use discreet red, green and blue light-emitting diodes (LED) for each pixel ("dot" on the screen). These shouldn't be confused with LED-backlit LCD displays, such as "LED" televisions, which are still LCD (liquid crystal display), but with an LED backlight. How are these technologies different? For starters, an LED display has virtually no limitations of size or shape, where LCD displays generally must conform to the native 16:9 format, either portrait (vertical) or landscape (horizontal), or some grouping of these shapes into a video wall. Second, each LCD display can be high-resolution (up to 1080p), giving the entire video wall a very high theoretical resolution, but this comes at a cost. Even "zero bezel" LCD displays still have bezel gaps between the displays. It is also difficult to calibrate and maintain calibration between all of the LCD displays (often nine or more individual displays).

Video Projection

So what about video projection? Projection comes in two "flavors": rear projection (the image is projected onto the back side of the screen) and front projection (projected onto the front – like a conventional movie theater). Generally speaking, projection is the least expensive option, especially at large sizes. But it certainly isn't without complications! Both front and rear projection require reasonably light-controlled rooms, with no direct sunlight. This can be overcome to a small degree by "ganging up" two or more projectors together to overlay the same image at a higher brightness, but this can only help so much, plus it causes the cost to increase dramatically. Front projection must have an unimpeded light path to the screen, meaning it generally must hang from a ceiling. Rear projection requires a "throw distance", or a space behind the screen defined by the size of the screen image. This could chop hundreds of square feet of usable space out of your location! Add in the high cost of replacement bulbs – sometimes hundreds of dollars each – plus the labor to change the bulbs, recalibrate and realign multiple projectors, these costs shouldn't be ignored when looking at the total cost of operation.

Mosaic Display

Self-contained projection units ("tiles" or "mosaic display") are another option for large format displays. These are essentially small rear projection displays in a single unit that can be joined together to create much larger displays. These systems can look very nice, but their primary drawbacks are cost, weight, thickness, visible gaps between units and uniformity between modules, especially in aging displays.



LED

That leaves us with LED displays – are they the right choice for your application? They may well be, but we should begin by listing the places where an LED display is not a good choice. How far away is your expected viewer? Are they expected to be near? The exact distance varies by size and application, but as a general rule inside 10-12 feet is too close for most LED displays. Does your application need to be touchscreen? This is also not a good fit for most LED displays, although there could be exceptions. Outside of these considerations, an indoor-specific LED display such as Nanolumens' NanoSlim line are an excellent choice. They are bright, even in direct sunlight, thin and lightweight for architectural considerations, use relatively small amounts of power for their size, produce almost zero heat or noise, can be formed into concave or convex curves and fit into an almost unlimited variety of shapes and sizes!

About Nanolumens

Nanolumens is a US-Based LED design and manufacturer headquartered in Atlanta, Georgia. Nanolumens offers world-class displays across multiple market segments adding wonder to physical spaces. Nanolumens is a pioneer of the true curve technology and are committed to being better. With a bold and visionary team of experts Nanolumens will take your project, in all shapes and sizes, from concept to reality. Nanolumens brings your creative visions to life, leaving a first and lasting impression. We are LED! For more information, visit www.nanolumens.com