Video walls
The changing face of oversized displays

Sponsored by Samsung
they are often the centerpiece of a tradeshow floor. They are found in boardrooms and war rooms and broadcast control centers. They can even stop traffic and breathe new life into many environments.

Video walls essentially fuse a series of video displays into a large, self-contained visual experience. The realistic simulation and impact of video walls add to their effectiveness by immersing users in their environments.

Now they are experiencing greater and wider use in various industries, largely due to key technological changes. Advancements in such areas as video-display resolution and the arrival of large-format displays, such as plasma and LCD, have enhanced the effectiveness of video walls and are expanding the scope of experiences offered on video walls.

One of the key benefits of video walls is their capacity to regularly refresh the display media, according to Jim Landy, business development and technology consultant for Electrosonic.

“Content can be continuously updated in video walls,” he said. “These walls offer cutting-edge effects that exploit such new technologies as HDTV and help attract customers and other key audiences.”

Another advantage of video walls is that they can be managed remotely, without the need for onsite personnel. As a result, they are more cost-effective.

**Today’s video-wall technology**

Cube displays for video walls are beginning to vanish from the market, with few manufacturers producing them, according to Landy. He predicts they will likely disappear within five years.

Major advancements have made flat-panel displays more viable in video-wall installations. In fact, Landy sees a migration in the video-wall market toward flat-panel displays free of mullions (narrow, vertical black lines often visible on video walls), given that the industry trend is toward a five-year technology curve and increasingly lower costs. Fifty-inch flat-panel displays, for example, are highly attractive at $1,300 each, he said.
Flat-panel systems also now benefit from significant built-in maintenance systems, and burn-in problems with flat-panels have subsided significantly. For example, Panasonic's flat-display system has a lifespan of 100 hours, which translates into an 11.5-year lifespan if used in a 24/7 environment and 40 years if used a typical eight hours a day.

Samsung also has been focusing on the product lifespan, and on the feature set and form factor. The company currently offers one of the narrowest front bezels (11 mm), which allows for a clean look when used in LCD video walls.

Also, earlier this year, Samsung introduced its patented, video-wall interlocking technology, which allows for seamless and streamlined video-wall installation and setup. The overall benefit of this new interlocking system is the general reduction of labor for installers and the allowance for a matching front-bezel area.

At the moment, Samsung is leading the way with LCD displays in many categories, including high-brightness, large-format LCDs and outdoor-ready enclosures, while Panasonic is pioneering flat-panel plasma displays, according to Landy. Both technologies come with tradeoffs, meaning customers must decide which capabilities are most important to them.

Most video walls are used in “command and control” and traffic-control applications now, with some walls applied in utility and security settings, Landy said. For example, Electrosonic is currently working on a cube and flat-panel video-wall project for antiterrorism task force protection for the U.S. government. Retail applications of video walls currently represent a much smaller segment of the video-wall market.

**Video walls “in the wild”**

In 2007, Trollbäck & Company developed a high-resolution video wall for InterActiveCorp, or IAC, which was installed in the lobby of the company’s New York City headquarters. It incorporated thematic, visual modules reflecting the consumer experience with IAC’s online businesses, including Match.com, Evite.com and Citysearch.com. The modules employed striking graphics to create “clocks,” marking the passage of time.

In one module, graphic bars animate across

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Samsung demonstrates one of the company’s many video-wall applications.
the length of the wall, reflecting the passing of time in a physical way. Another clock employs type moving across the wall to spell out the date and time and to indicate relative positions, affording an animated experience of time. The video wall was designed to create an open visual forum, setting the tone for a dynamic, vibrant destination.

The artistic, cutting-edge video wall was conceived to create awareness of the IAC brand, which encompasses more than 40 Web sites, explained Joe Wright, creative director at Trollbäck & Company. “The project was very challenging, involving the creation of content on a massive scale and the linking of 18 very high-resolution projectors,” he said.

Wright sees an increased use of video walls in residential and commercial buildings, driven by architects’ desire to give buildings a more human face, creating, in effect, a “live surface.” He believes that video walls can be highly effective communications vehicles if they are properly designed and present a positive experience.

“They have the ability to tell stories, provide information and create imagery that evokes emotions,” he said.

Video walls may not only evoke emotions, they can also elicit real-world response through the use of touch or gesture-based interaction.

Schematic, LLC developed an interactive video wall for Accenture that afforded a new level of interactivity and depth. The video wall, which was installed at both JFK and O’Hare International airports, was designed to provide an immersive promotion for Accenture.

Employing a large-scale (11-foot by 7-foot) touchscreen, the video wall delivers weather, news and entertainment content. It also incorporates an innovative user interface developed by Schematic using translucent 3D surfaces, blending video, photos and 3D models to create richer and more compelling user experiences for viewing news, weather and entertainment.

About the Sponsor: Samsung’s Information Technology Division or ITD markets a complete line of award-winning LCD monitor products for a range of business and consumer needs. This line also includes more than 30 models of professional large-format LCD and plasma displays for commercial applications such as digital signage. As a leader in display technology, Samsung offers industry-leading technologies like Digital Information Display, also known as DID, that provide increased brightness and the ability to operate continuously for more than 20 hours a day.