Product
Clarity Matrix G3
LCD Video Wall System

Location
Martinez, California

Industry
Local Government

Application
Control Room

Partner
Rosendin

Planar Video Wall Heightens Situational Awareness at Contra Costa County's Emergency Operations Center

Contra Costa County Emergency Operations

In June 2020, Contra Costa County opened its new Public Safety and Emergency Operations Center (EOC), a 38,000-square-foot building fitted with the latest in disaster management and public safety technology. The new building, which replaces an outdated facility, houses the Office of the Sheriff Administration and includes a high-tech Emergency Operations Center that serves as a command for emergency management in the event of a crisis or natural disaster.

When the project was initially being conceived, a planning team organized by the County and Sheriff's Office conducted extensive research on EOC best practices to formulate a strategy for their facility.

"EOCs don't manage incidents in the field but instead function in a support role, providing resource coordination and logistics support," said Contra Costa County Sheriff's Office Emergency Services Manager Rick Kovar, who was part of the planning team. "It's extremely important for EOC personnel to be able to understand an event and then make decisions on where critical resources need to go."

With support and resources provided by Contra Costa County Sheriff David Livingston, the planning team used their learnings to design a state-of-the-art situation room equipped with infrastructure and technology to support rapid and intelligent decision making in response to emergency situations. At the heart of Contra Costa's design is a nearly 32-foot-long, 13.5-foot-high Clarity® Matrix® G3 LCD Video Wall System in an 8-wide by 6-high configuration.

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— Dustin Bransford,
Audio-Visual Engineer,
Rosendin Electric

As a tool for visualizing data, Kovar said the video wall functions as a source for displaying a range of information like real-time maps, news updates, live videos and more. "One of the biggest things we learned from previous disasters is the need for situational awareness. The video wall is key for enhancing that. We have fire cameras on the hilltops across the county and we can show the feeds live on the video wall. Other resources include GIS maps that display power outages and a wildfire map with infrared that indicates hotspots. The clarity is great. The content is abundantly clear from anywhere in the room.

Rosendin Electric integrated the video wall and built a virtual computing cluster running 12 instances of Microsoft Windows, providing unlimited web interfaces. "EOC operations are incredibly reliant on web content," said Dustin Bransford, Rosendin Electric audio-visual engineer. "The localized cloud allows them to access web pages, set them to auto refresh and stay connected to critical information."

User-friendly and multifunctional

The video wall system gives Contra Costa County the ability to aggregate multiple sources of information and display it in different layouts.

"We can literally push a button on the controller to activate the EOC screen and a number of presets automatically appear," Kovar said. "Typically, we have seven different screens on the video wall, but we can easily change it to two screens, four screens or 20 screens if needed.

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Emergency Services Manager,
Contra Costa County Sheriff's Office

When not activated for emergencies, the situation room supports normal day-to-day operations and the Clarity Matrix video wall is used as a platform for conducting presentations during meetings and training.

Video wall designs ensure uptime

Clarity Matrix G3 is built with unique designs that make the video wall system aptly suited for Contra Costa's mission critical EOC operations. A feature that significantly reduces the time spent configuring the video wall is Planar® WallDirector™ Software, which includes presets for setup, configuration and recalling windowing layouts. In addition to making the initial setup quicker, the software minimizes downtime for service and maintenance.

"If a display needs to be swapped out, it can be replaced very rapidly without the need to manually reconfigure the video wall," Bransford said. "With control rooms, there is a tremendous requirement for reliability and uptime. That's why this feature is so important."

Further designs for increasing reliability include off-board electronics, redundant power supplies and redundant AC input circuitry. The distributed architecture allowed Rosendin Electric to route the video wall's power cabling to a nearby equipment room, thereby reducing risks associated with thermal stress.

"The benefit is that we're offloading all that heat into a room that is temperature controlled with redundant air conditioners," Bransford said.

"We know for a fact that the components are going to stay cool instead of baking behind the video wall."

The ability to offload the power supplies also significantly reduced the electrical costs for the project, according to Bransford.

"With an installation of that size, putting power behind the wall in conduit can be very expensive," he said. "Clarity Matrix G3 is entirely low voltage—you don't need to install outlets or another electrical panel and that allowed for enormous cost-savings."
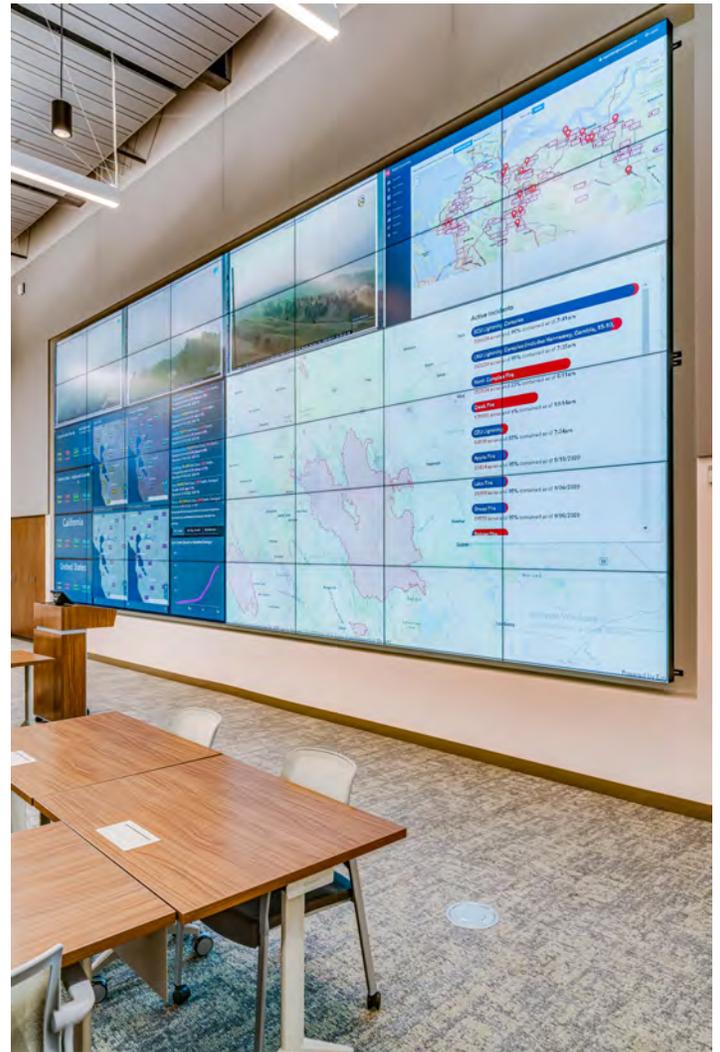
About the Clarity Matrix Video Wall System

Featuring mission-critical reliability and ultra-high resolution, the Clarity Matrix G3 LCD Video Wall System provides superb image quality and is the first LCD video wall on the market to embed advanced video processing directly into the product. With extreme narrow bezels, Clarity Matrix G3 offers tiled bezel widths as small as 0.88mm between adjacent LCD displays for a nearly seamless video wall solution. Clarity Matrix G3 features a unique off-board electronics design for maximum reliability and minimal downtime.