

Charlottesville High School Success Story

Facility:

- Charlottesville High School

Vertical:

- K-12 Education

Location:

- Charlottesville, VA

Challenges:

- Inspire students to pursue STEM careers through high-tech curriculum

Solution:

- 46" NEC X464UNV, 46" NEC E464, and 55" NEC E554

Result:

- A dynamic and engaging solution for students to share and receive information

Date:

- August 2014

The call from Washington is loud and clear: The U.S. needs more skilled engineers for advanced manufacturing jobs that will boost the economy, as well as national security. Indeed, almost 40 percent of U.S. manufacturing executives say the gap in skilled workers is "severe," according to a recent survey conducted by Accenture and the Manufacturing Institute.

Charlottesville High School in Virginia has eagerly accepted the challenge by partnering with the University of Virginia on a new lab designed to enhance students' science, technology, engineering and math (STEM) education.

"The project resulted from a combination of curriculum needs, student desire and national needs specifically focused on advanced manufacturing," said Jeff Faust, director of technology for Charlottesville City Schools (CCS).

A lab created to boost STEM skills, naturally, needs to feature cutting edge technology of its own. Enter two massive video walls.

The Challenge

As the school designed the lab, it sent students to tour a professional advanced manufacturing lab and asked them to share ideas that could be integrated in their own space. Everyone agreed Charlottesville's lab needed to inspire collaboration while celebrating students who achieve academically.

The school soon decided video walls would make an ideal centerpiece that would capture students' attention while facilitating interaction, like a 21st century blackboard. Size, versatility and ease of use were keys.

"Our students grow up in a very engaged, media-rich world, more so than we ever experienced," Faust said. "They have a natural proclivity toward media, whether that's video or images. Having a space that brings that to students both aesthetically as well as through learning experiences lets us speak to them in a language they can understand."

Several technical features played a role in the decision about what kind of video walls to install. The solution needed to be power efficient because the school wanted to fuel it with energy from solar panels on the school's roof. Because schools must carefully watch their budgets, the displays needed to have a long life, be easy to service and offer a wide range of functionality.



The Solution

The high school decided to install two video walls in the spacious lab, which includes dramatic 20-foot tall ceilings. Faust evaluated several different display vendors before deciding that NEC Display Solutions offered everything he was looking for.

"We were all bouncing ideas back and forth about what was going to be feasible and what wouldn't be," Faust said. "NEC's representatives brought up things we hadn't even thought of."

Once Faust and NEC decided on the design and solution, NEC managed and installed the project over the summer, in addition to providing onsite training.

"The solution and support we got from NEC was truly a turnkey experience," Faust said. "It was a fantastic experience overall."

One video wall features a 2X2 array of 46-inch X464UNV displays, while the other uses the same displays in a 2X6 horizontal configuration. The Hiperwall software allows teachers to share a single image across all the panels of a wall or segment it so each screen presents a different picture. Students can also share the screen from the computers at their workstations.

"It was great for NEC to bring us a solution we hadn't previously thought of," Faust said. "It went from a static delivery system to one that was dynamic and engaging. It added functionality other providers weren't able to give us yet."

NEC's displays stood out for their commercial-grade performance, low power consumption and thin bezels. The screens' longevity mean they'll reliably showcase vibrant images for years to come, even after being used for hours every school day. The power consumption is low enough that the school can offset all of it with its solar panels. The thin bezel ensures that students see a virtually uninterrupted image on the video walls.



It didn't take long for students to fully embrace the new video walls. On the very first day of school, students used the resources displayed on the video walls to support their efforts to program/code Arduinos, an open source platform used for building electronics projects, to perform as they needed. The video walls were a tapestry of source code and supporting documentation that the students used at their workstations to program the Arduinos. For their part, teachers use the video walls daily, both to share demonstrations, as well as announcements.

"That's the kind of maker space we want," Faust said. "Student feedback has been overwhelmingly positive. On several occasions, we've had parents who wanted to tour the space after their kids talked about it."

The new space, now known as "The Sigma Lab," has garnered attention from many different groups and organizations. CCS has hosted visitors from across Virginia, the U.S., and from international locales with the hope that all the visitors might walk away with new ideas for implementing STEM and maker spaces in their own communities.



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