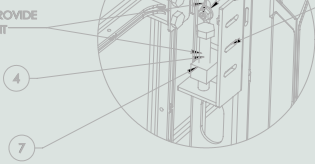
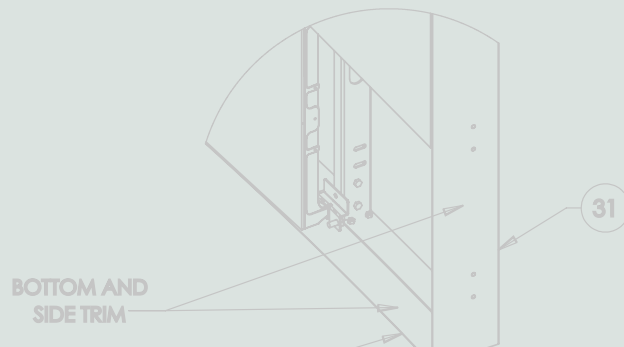


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Introduction to LED Wall Installation





8 Things Systems Integrators Need to Know Before Installing an LED Video Wall

INTRODUCTION TO LED WALL INSTALLATION

The direct view LED video wall market is growing at a staggering rate, and across many verticals. According to industry research, the US alone has a \$1.08 billion dollar LED in the marketplace, with a projected 20.5% rate of year-over-year growth. As the versatility and technological advances of LED continue to grow, this guide will help integrators and installers keep up with the products, technologies and installation techniques used in LED. This white paper covers the 8 essential considerations for LED installations.



1. CUSTOMER'S END GOAL

The customer's end goal can vary greatly depending on the application. The LED video wall could be used as a communication tool, a source of entertainment, a backdrop of a broadcast studio, a work of art, or multiple goals depending on the situation. These are just a few examples of a customer's end goal for an LED screen. Knowing and understanding your customer's end goal is paramount to a successful LED video wall installation.

- ✓ A lobby wall at a corporation doubling as a source of information and an art piece
- ✓ A large screen in a broadcast studio used as a backdrop for on-air talent
- ✓ Command-and-control centers for security, traffic, airport communications
- ✓ Retail and hospitality interactive touch screens for wayfinding and entertainment

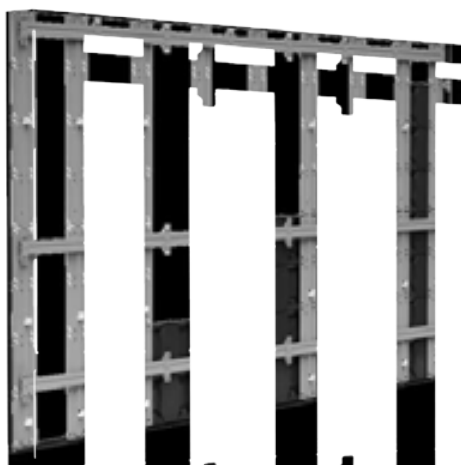


2. ENVIRONMENT

The physical environment where the video wall will be located is the second important consideration when doing an LED installation. It could be inside or outside, in a public or private area, on camera, in an area with a lot of natural light or a room with no windows. If it's outside, environmental impacts of the climate such as temperature, moisture, and lighting will need consideration. If it's inside, in a high-traffic area like an airport, and is within reach of the public, then a rugged LED screen that provides protection against fingerprints, impacts, dust, and moisture will be the best option.

- ✓ Secure applications (i.e. government, airports, control rooms) requiring certification or special access to the space.
- ✓ A factory or industrial environment where the screen might collect dust or chemicals.
- ✓ An outdoor sign close to the ocean where it could come in contact with salt water.
- ✓ High-traffic applications like museums, airports or school classrooms.





3. MOUNTING

With a wide range of options for mounting an LED video wall, it's important to give some thought to how the wall will be utilized to select the ideal mounting solution. The LED panels themselves will dictate whether the wall is front or rear-serviceable. Another important question is whether the panels must be ADA compliant. In some cases, such as a stage, church or live performance application, the wall may need to be moved. All these details play into selecting the ideal mounting.

LED video walls can be wall-mounted, installed on a base structure, or hung from the ceiling. Typically, basic installs don't require additional structural support. But in some cases, more complex, larger or custom designs require additional construction to support the weight and configuration of the LED design.

4. EQUIPMENT –THREE ESSENTIALS

Once an integrator determines the install environment and mounting selection, the next step is to select the three essential pieces of equipment required for LED.

LED panels come in a range of pixel pitches, sizes and with unique feature sets. The pixel pitch will mostly rely on the content and the distance of the viewer from the screen. A good rule of thumb is 1.0mm pixel for every 3 feet of distance. (Refer to Neoti's white paper on pixel pitch for more information.) Other considerations for panel selection are how they will be mounted and serviced, quality, warranty, price and lead time. A larger or more complex project, or one with multiple video walls, may require several different types of panels to achieve the customer's end goal.

The controller is the hardware that sends the video signal to the wall. Additionally, the controller is responsible for managing the input to each panel to create one seamless image. Controllers allow for scaling and other adjustments that impact how the image appears on the wall. There are many controllers to choose from based on the features, input resolution, output specifications, price and capacity requires for the ideal final result.

The content source provides the imagery for the display. The video source can be anything from a file on a USB drive, to computer or camera, or even a much more robust video server. The video source depends largely on the content goals for the LED wall. Usually the end customer provides the content source, but knowing how it's going to be connected will ensure a smooth installation process.





5. INSTALL TIMELINE

The actual installation timeline will be an important detail for the integrator to know. No matter the project size, integrators should be aware of the installation details such as how many hours and days it will take, how many installers it will require, and where the install is relative to the loading dock. Special considerations, for example weather considerations for an outdoor project, must also be considered. In cases where other subcontractors are involved (see #6 below), an integrator should be aware of their timelines as well.

- ✓ For public spaces, is an after-hours installation required, or will it be during normal business hours
- ✓ Construction timelines may affect the LED wall installation
- ✓ Stock status of particular products or materials could impact the timeline



6. ELECTRICAL & CABLING

LED video walls require power and data wiring. Based on the equipment selection, an integrator should be aware of the power requirements for the LED video wall to function. Clear communication about on-site power availability and/or modifications needed to meet these requirements should be completed before the video wall installation. When planning data cabling from screen to controller, integrators should be cautious of the distances between the video wall, controller and content sources. If the distances exceed normal maximums, the project may require additional cabling and/or switching to fiber optic solutions.

- ✓ A sports arena wants to run the same content on all screens around the arena requiring miles of cabling to deliver the signal at the right speed to all screens.



7. HOW TO FINE TUNE LED

After all the equipment is installed, the integrator should know how to fine tune the LED video wall to maximize the results. Start by verifying the panels are installed tightly with no seams or gaps. Check the color for accuracy, including brightness, white point and uniformity, and ensure the sizing is correct. Adjustments to the color and content scaling are done in the controller and/or at the content source. The integrator should understand where these features can be adjusted to deliver the final result the customer wants.





8. SERVICE & MAINTENANCE

The final consideration for integrators is to understand how the customer wants to handle service and maintenance. Knowing this ahead of time will create an easy hand-off after installation. There are a variety of ways service can be handled, often depending upon the capabilities and capacity of the final customer. In any case, a training and onboarding for the LED wall and how to use it makes sure the integrator is setting the customer up for success.

- ✓ The customer wants to take full responsibility for service and maintenance, but requests several hours of training
- ✓ The customer requires an extra warranty and care plan to protect their investment



By working alongside the customer and LED manufacturer, integrators will be able to answer all these questions in advance of an LED video wall installation. Consideration of all eight critical aspects of an LED project will allow for a smooth process, easy hand-off and exceptional results for many years to come.





Why have a relationship with Neoti?

Neoti is a consultative manufacturer. Which means we're equally invested in what you need and how you need it to happen. No one else takes your project more seriously and more personally. This is about you delivering on your own promises. Our job is to help you do it easily, creatively, and confidently.

We provide multi-tiered installation services depending on your comfort level with LED installations. We also offer installation training to our integrators that want to complete the installation themselves. We even provide service and maintenance packages through our NeotiCare program.

