

# Active LED Technology



**NANTA**  
TECHNOLOGY



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# About the Company



- ▶ **Our Company is engaged in the business of supplying, installation, testing and commissioning of Audio Visual (AV) products, Service Robots and IT Networking solutions (i.e., wired/wireless system cabling) which serves different verticals like retail, hospitality, enterprise, educational and infrastructure, among others. Along with Cables and AV, the company is also engaged in the selling of AI based Robots and software.**
- ▶ **Mission**  
**Delivering excellence in AV & IT through innovation, reliability, and exceptional customer support.**
- ▶ **Vision**  
**Achieving global leadership through innovation, reliability, and exceptional customer support.**

# Our Product



## **Audio Video Solution**

**Active LED, Video Wall , Auditorium, Video Conferencing, Public Address**

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## **Audio Video Components**

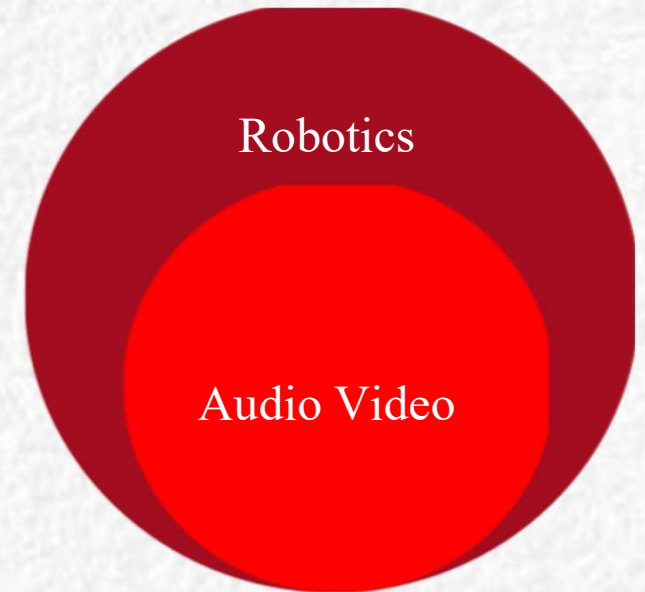
**VC devices, HDMI Cables, USB Cables, Copper Cables**

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## **Robotics**

**Cleaning Robot, Delivery Robot, AI Robot**

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## Collaborations with Leading Global Brands

### Active LED



LG

SAMSUNG



Unilumin



Visual Rhyme

XTREME  
MEDIA

Abjen

# Overview: The Power of Active LED

Active LED displays represent the next generation in digital visual communication — engineered to deliver unmatched clarity, flexibility, and performance. Unlike traditional displays, Active LED panels feature advanced driver circuitry that allows each pixel to be individually controlled. This precise control enables ultra-sharp visuals, deeper contrast, faster refresh rates, and superior brightness across all lighting conditions.

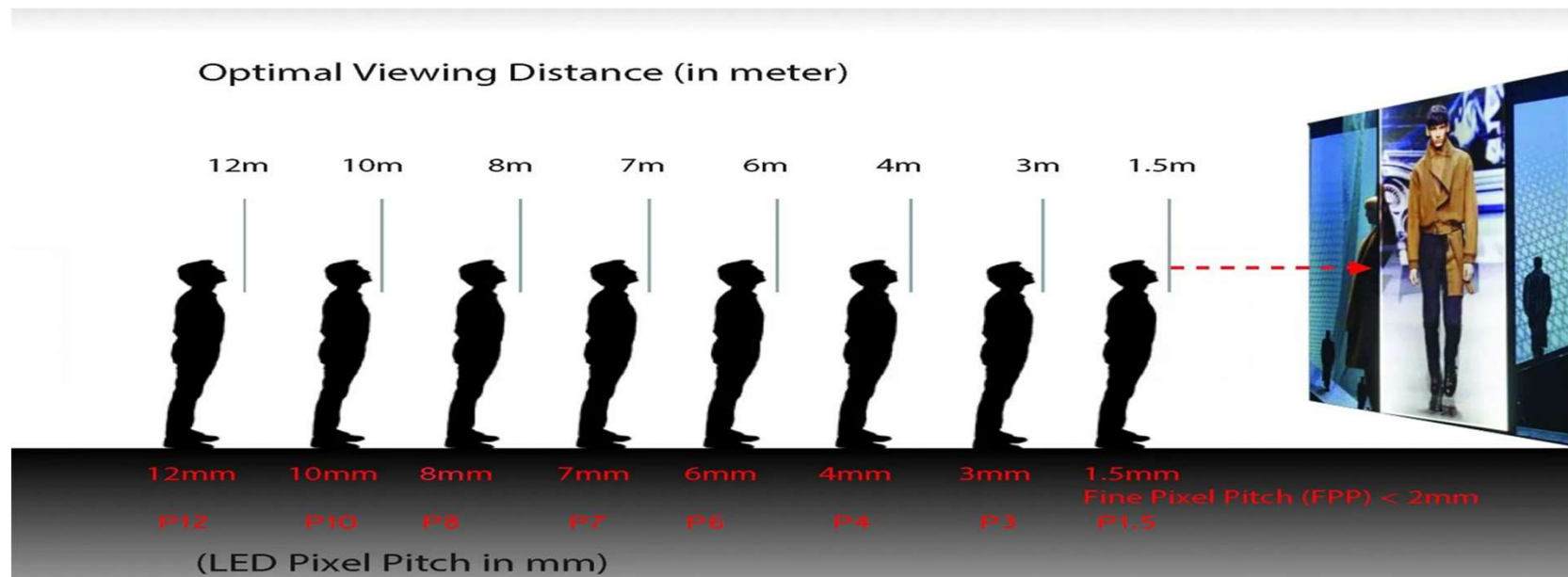
Highly modular and customizable, Active LED solutions can be scaled to any size or shape — from sleek indoor video walls to large-scale outdoor signage. Their seamless design eliminates bezels, creating immersive, uninterrupted viewing experiences. In addition, energy-efficient operation and long lifecycle make Active LEDs a smart investment for businesses seeking high-impact, low-maintenance display solutions.

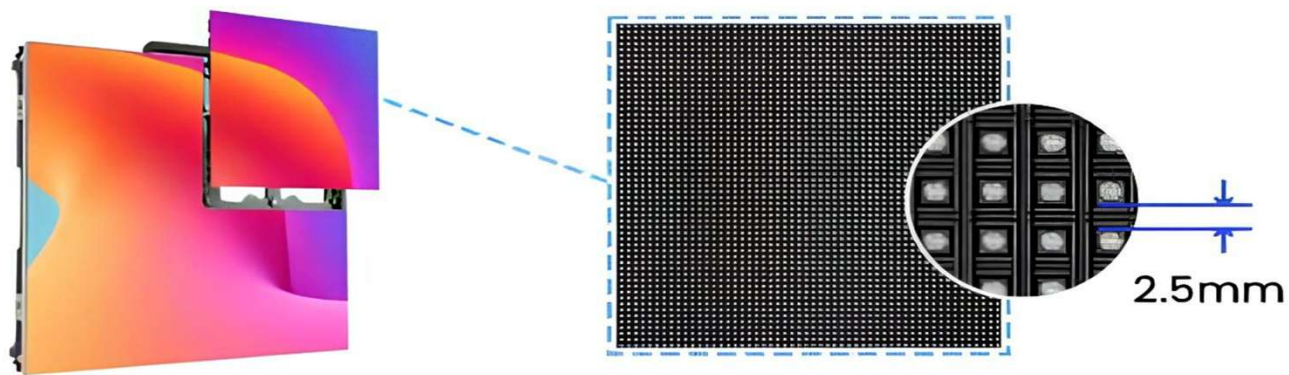
Whether for retail, corporate branding, events, transportation hubs, or digital advertising — Active LED displays redefine how brands engage with audiences.



# Pixels of Active LED Displays

In Active LED displays, each pixel is an individual light-emitting diode (LED) or a cluster of LEDs (typically red, green, and blue) that are individually addressed and controlled by dedicated integrated circuits. This direct control at the pixel level allows for instantaneous adjustments in brightness, color, and refresh rates, eliminating motion blur and delivering stunning visual fidelity.



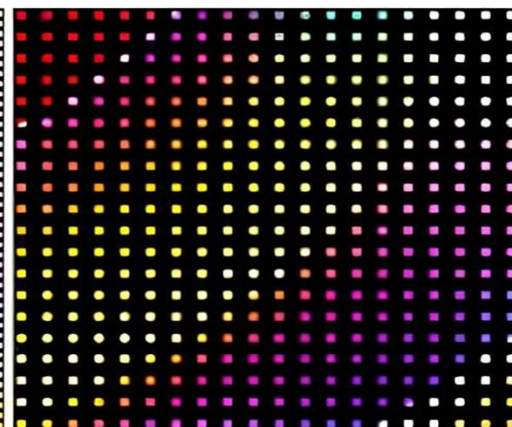
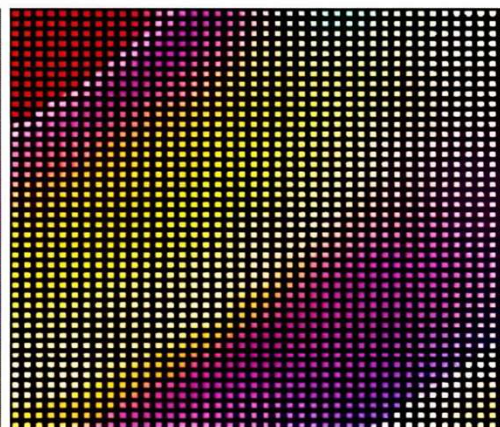
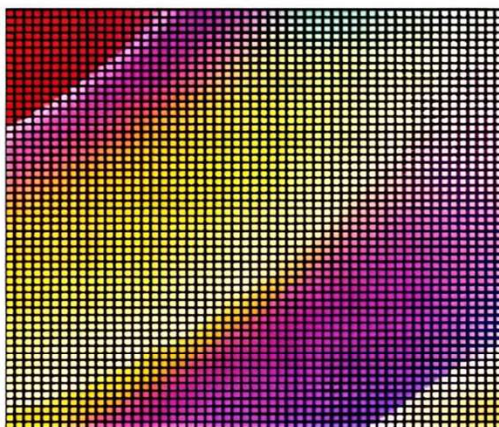
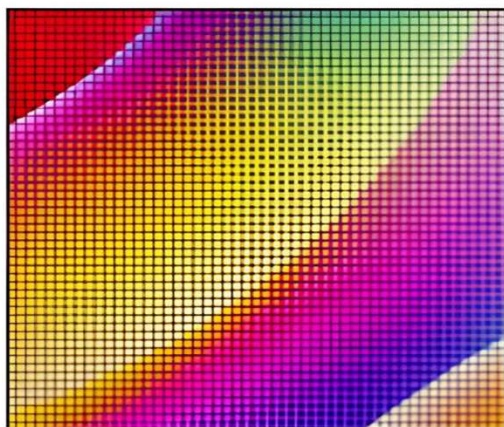


P1.56

P3.91

P4.81

P10



LOWER Pixel Pitch



HIGHER Pixel Pitch

# Why Choose Active LED?



## Seamless Display

Achieve truly borderless visuals with no distracting bezels, creating an immersive viewing experience.



## High Brightness & Contrast

Deliver stunningly vivid images and videos, even in brightly lit environments or direct sunlight.



## Modular & Scalable

Flexibly design displays of any size or shape, from small screens to massive video walls.



## Versatility

Ideal for both indoor and outdoor applications, adapting to diverse environmental conditions.



## Low Maintenance, Long Life

Benefit from durable components and efficient design, ensuring minimal upkeep and extended operational life.



# Active LED Product Portfolio



## Indoor Fine-Pitch LED

Ultra-high resolution for close viewing distances (P1.2 / P1.5 / P2.5), perfect for control rooms and lobbies.



## Outdoor High-Brightness LED

Resilient displays with superior visibility in direct sunlight (P3 / P4 / P6), ideal for billboards and public spaces.



## Transparent LED Screens

Unique displays that maintain natural light flow, transforming storefronts and architectural facades.



## Rental Series for Events

Robust, easy-to-assemble solutions designed for dynamic stage backdrops and live events.



## Flexible & Curved LEDs

Customizable displays that conform to unique architectural shapes, enabling creative installations.

# Types & Components of Active LED Displays

Active LED displays come in various types, each optimized for specific applications. Key components ensure their superior performance.

## Common Types:

**COB (Chip-on-Board):** High durability, better protection.

**SMD (Surface-Mounted Device):**

Versatile, widely used.

**Mini LED/Micro LED:** Smaller pixels, higher resolution, enhanced contrast for premium displays.

## Core Components:

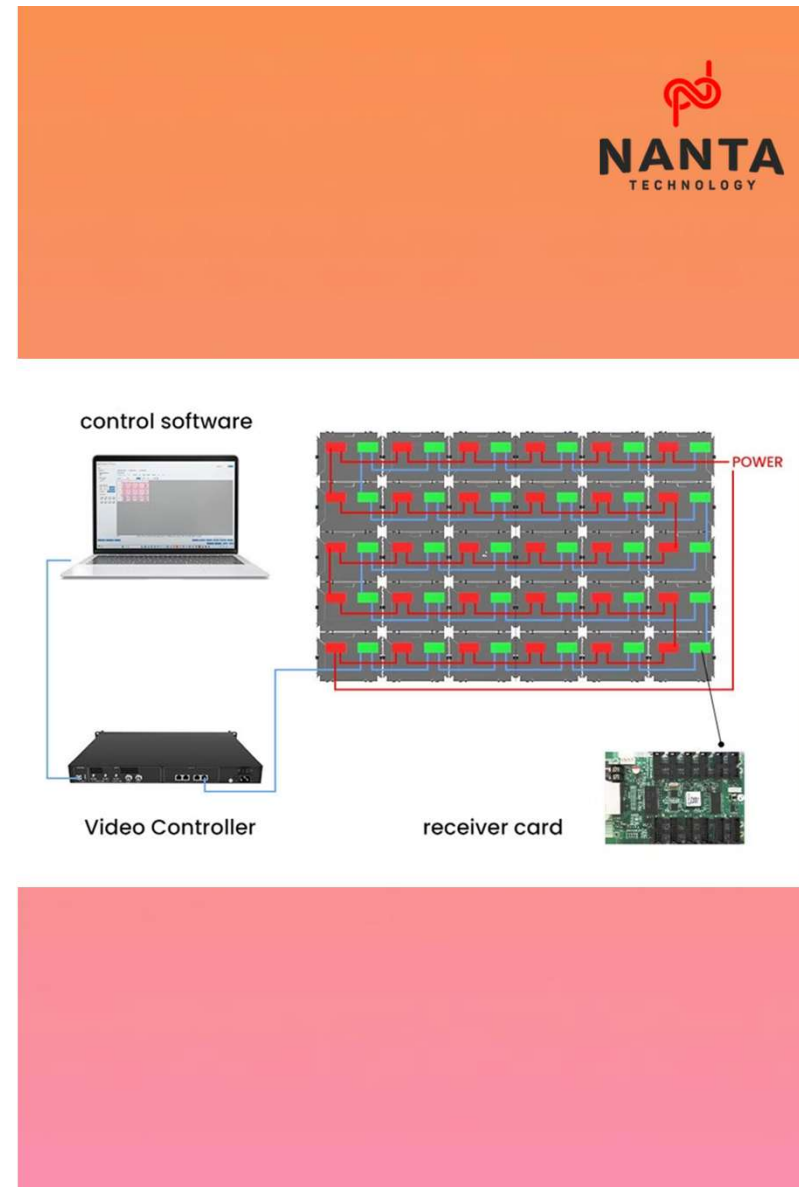
**LEDs (Red, Green, Blue):** Emit light to create colors.

**Driver ICs:** Control individual LEDs for brightness and color.

**Control System:** Manages content and display parameters.

**Power Supply:** Ensures stable power delivery.

**Module & Cabinet:** Structural support and protection.



# Selecting the Right Pixel Pitch for Clients

Choosing the optimal pixel pitch is crucial for visual quality, viewing distance, and cost-effectiveness. Pixel pitch refers to the distance between the centers of two adjacent pixels.

## For Indoor Displays (Close Viewing)

**P1.2mm to P2.5mm:** Ideal for high-resolution and sharp visuals in close-up environments like retail displays, conference rooms, control rooms, and indoor event stages, ensuring exceptional clarity.

## For Outdoor Displays (Long Viewing Distance)

**P4mm to P16mm:** Best for billboards, large outdoor screens in stadiums, public squares, and building facades where the audience is far away, providing visibility from a distance.

## For Event/Rental Displays

**P2mm to P6mm:** Used for concerts, live events, and trade shows where portability, quick setup, high resolution, and quality are required for dynamic visual experiences.

# Modular Design: Cabinets and Modules

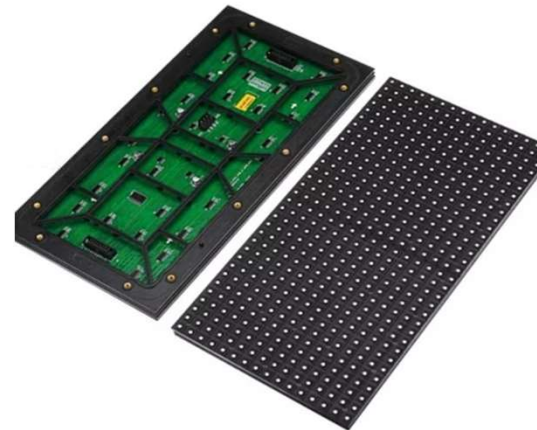
## Cabinet Specifications

- Standard sizes: 500mm x 500mm to 1000mm x 1000mm for flexible assembly.
- Depth: 80mm to 150mm, optimized for cooling and structural integrity.
- Seamless integration for large video walls.



## Module Details

- Common sizes: 160mm x 160mm, 320mm x 320mm, 250mm x 250mm.
- Pixel pitch: 1mm to 6mm, enabling resolutions from high-definition to immersive large-scale displays.
- Each module supports 16-24 pixels horizontally and vertically.





# Diverse Types of Active LED Displays

1

**SMD (Surface-Mounted Device) LED**

2

**MicroLED**

3

**OLED (Organic Light Emitting Diode)**

4

**Mini-LED**

5

**FLIP (Flexible LED) Displays**

6

**Interactive GOB LED Displays**

7

**Autostereoscopic Displays**

8

**COB (Chip-on-Board)**

9

**GOB (Glue-on-Board)**

**And Additional Types**

# Unveiling the Power of Active LED Displays

Explore the leading manufacturers and technological innovations driving the future of visual communication.

1

## Leyard

Renowned for flexible, customizable indoor and outdoor LED video walls with diverse pixel pitches (P1.2 to P5).

2

## Samsung

Pioneering MicroLED with "The Wall" and modular solutions, offering broad pixel pitch options for various applications.

3

## Absen

A prominent manufacturer of indoor and outdoor LED displays, with pixel pitches spanning P1.25mm to P16mm.

4

## Unilumin

A leader in indoor, outdoor, and rental LED screens, providing pixel pitch choices from P1.2mm to P10mm.

5

## Daktronics

Specializes in large-scale outdoor LED displays, including billboards and stadium scoreboards, with pixel pitches from P8mm to P16mm.

## The Brains Behind the Brilliance: OS & Software

Active LED displays rely on robust operating systems and sophisticated software to deliver seamless visual experiences.



### Operating Systems (OS)



- **Windows/Linux:** Ideal for complex digital signage and video wall applications, enabling advanced content management.
- **Android:** Common for simpler, interactive displays, powering many media players and controllers.
- **Embedded Systems:** Cost-effective solutions like Raspberry Pi or NUC for modular setups.

### Content Management & Display Software



These tools are essential for controlling and scheduling content across your LED screens.

- **Xibo:** Open-source digital signage platform for flexible content scheduling.
- **Scala:** Professional-grade software for comprehensive digital signage solutions.
- **Novastar:** Specifically designed for efficient LED control systems.
- **Datapath:** Advanced management for complex video wall configurations.

# Why Active LED? Unmatched Advantages

Active LED technology offers unparalleled characteristics that make it the superior choice for diverse applications, from retail to entertainment.



## Superior Image Quality

Sharper contrast, vibrant color reproduction, and higher resolution for stunning visuals.



## Fast Response Times

Individual pixel control ensures rapid refresh rates, crucial for dynamic content and smooth video.



## High Brightness

Exceptional visibility in all lighting conditions, both indoors and outdoors.



## Energy Efficiency

Inherently power-efficient LED technology, optimized for reduced consumption.



## Durability & Longevity

Robust construction and extended operational lifespan, minimizing replacement needs.



## Scalability & Flexibility

Modular design enables seamless video walls of custom sizes and shapes.



# Pioneering the Future: Market Trends & Advancements

The active LED market is a hub of rapid innovation, constantly evolving with key trends and breakthroughs that define its trajectory.



## MicroLED Technology

Focus on greater efficiency, brightness, and color performance, with developments in ultra-thin and flexible displays.



## Sustainability

Prioritizing energy efficiency, durability, and eco-friendly production, including "Flip-Chip" and "ColdLED" technologies.



## Interactive Displays

Rise of multi-touch LED video walls with built-in cameras, fostering new audience engagement opportunities.



## IoT Integration

Connecting active LED displays with IoT for remote control, adaptive lighting, and real-time content updates.

# Versatile Use Case Examples



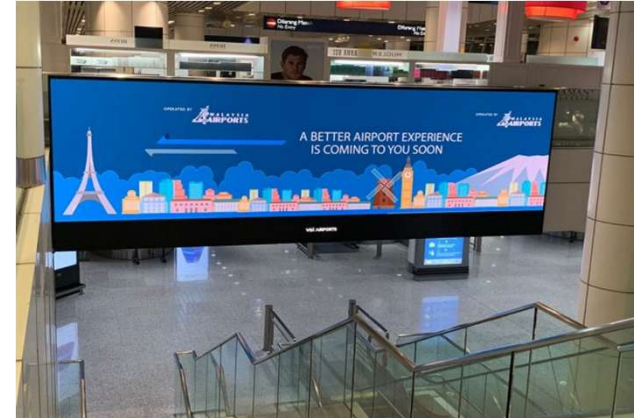
## Retail Storefront (Indoor)

Attract customers with dynamic product promotions and immersive brand experiences.



## Outdoor Billboard (Roadside)

Capture attention 24/7 with high-brightness advertising, even in direct sunlight.



## Airport Display

Provide critical information and engaging content to travelers with clear, reliable displays.

## Stage/Concert Wall

Create spectacular visual effects for live events, enhancing audience engagement and immersion.



# Key Projects Delivered Through Nanta



# Competitive Advantages

## Customized Design Solutions

Tailored LED display solutions to meet unique project requirements and architectural visions.

## 24x7 Technical Support

Round-the-clock expert assistance to ensure uninterrupted operation and peace of mind.

## Quick Installation

Efficient and professional installation services to minimize downtime and accelerate deployment.

## Reliable Warranty

Comprehensive 3-5 year warranty coverage, ensuring long-term product performance and customer satisfaction.

## Energy Efficient & ROI Friendly

Advanced technology for lower power consumption and a strong return on investment.



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