Staying in *touch* via Ethernet

Introduced in 2003 with the IEEE 802.3af standard, PoE (Power-over-Ethernet) is a revolutionary technology that transmits electrical power and data over a single Ethernet cable, eliminating the need for separate power cords for certain devices.

PoE monitors, commonly used in industrial settings, digital signage, and security applications, are ideal for situations with limited space or a need for simplified cable management. The technology of **PoE AIO (All-in-One) *touch*** monitors, which combines AIO *touch* screen technology with PoE capabilities, has advanced the AV market. These monitors are increasingly popular in interactive kiosks, point-of-sale systems, industrial control panels, and even in home automation and smart home systems in the residential industry.

This year, GVision USA is unveiling the **All-Over-Ethernet (AoE)** monitor, a distinct and advanced design available in both touch and non-touch versions. The AoE monitor offers enhanced flexibility for future OS upgrades and streamlines installation diagram designs.

The Greatest Advantages of Ethernet Powered Monitor

Reliable Power Supply

They receive power from centralized Power Sourcing Equipment (PSE) like a PoE switch or injector, ensuring uninterrupted operation of the *touch* monitor without risk of power disruptions.

Enhanced Safety

The absence of high-voltage electrical wiring near the display reduces risks of electrical accidents, beneficial in public spaces, educational institutions, and healthcare environments.

Eco-Friendly

These displays consume less energy compared to traditional ones, as they don't require individual power adapters, contributing to reduced overall power consumption and aiding in meeting sustainability goals.

Mobility & Scalability

Displays can be easily moved and require no rewiring or power source modifications. Ethernet cables have a 100-meter limit for reliable data transmission, extendable with additional equipment like switches or repeaters.

Space Saver

Simplifying installation and reducing cable clutter, these monitors also minimize workspace requirements for operating equipment like computers, keyboards, and mice

Remote Power Management

Enables centralized power management, allowing for the remote power cycling or turning off/on of displays, which is convenient for IT personnel.

Cost Savings

Leveraging existing Ethernet infrastructure reduces the need for additional electrical wiring and power outlets, offering cost savings, especially in scenarios where new power lines are costly or impractical.

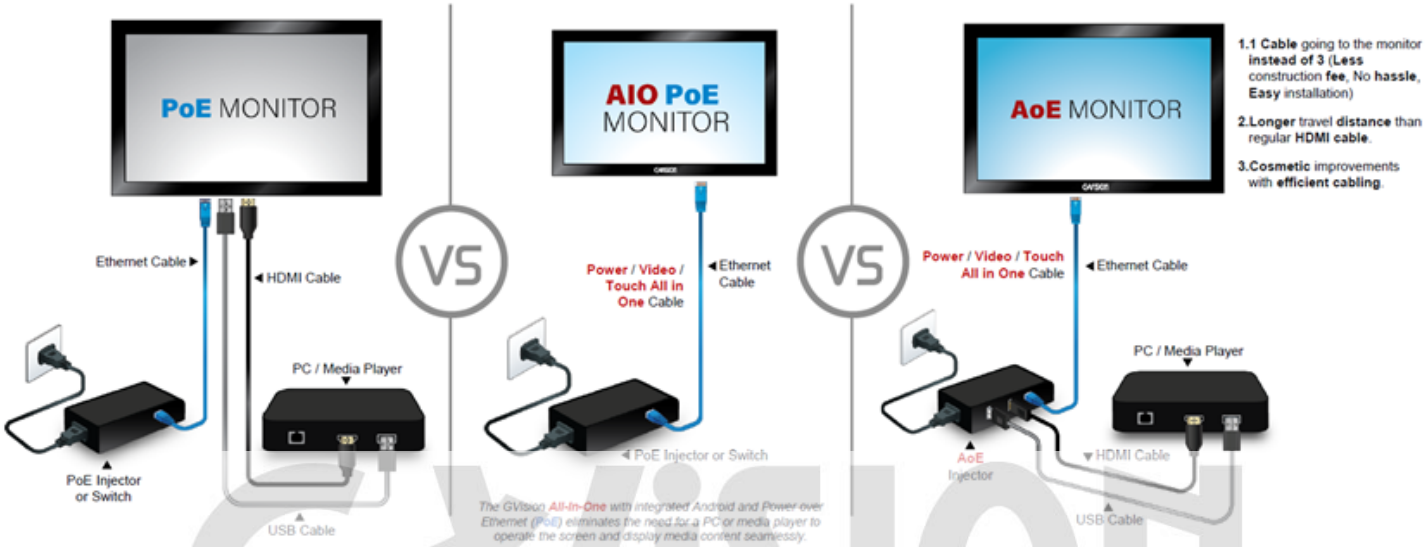
Integration with IoT Devices

All-in-one touchscreen PoE monitors can be integrated into smart building or smart home systems, enhancing automation and control by communicating with other connected IoT devices.

All-Over-Ethernet (AoE) monitors add further advantages to the traditional PoE design:

- **More Simplified Installation:** AoE monitors offer a "true" one-cable solution, connecting all other equipment with the monitor, which is different from traditional PoE designs.
- **Better OS Flexibility:** This design allows for easier replacement or upgrading of the operating system, as there is no built-in OS chip, unlike the AIO PoE design.

- **PoE Monitor** vs **AIO PoE Monitor** vs **AoE Monitor**



What Can I Power with PoE?

13W	30W	60W	100W	200W
IP Cameras, VoIP Phones, Wireless Access Point, Networked, Audio	IP Telephones, WIMAX Access Point, PTZ Cameras, Remote Computer Terminals	Door Access Systems, Video Phones, Thin Clients	Digital Signage Display, Point-of-Sale System, LCD TVs, Computer Monitors	Large TV's, Large Displays, Large Monitors, Laptop

The Industry Influence with AoE Monitor

Power-Over-Ethernet (PoE) monitors are significantly impacting the digital signage, kiosks, and other display application markets due to their unique combination of features and benefits, especially in the following AV sectors:

- **Security Industry:** One of the earliest adopters, utilizing PoE technology extensively in surveillance and monitoring. PoE monitors, compatible with IP camera systems, offer integrated solutions with capabilities like direct video feed display and touch functionality for feed manipulation.
- **Commercial Industry:** Implementation spans across multiple areas, especially with larger monitor sizes, including media and entertainment, hospitality, restaurants, digital signage, kiosk machines, and corporate/commercial buildings, leveraging both touch and non-touch screen options. PoE monitors

also work synergistically with other PoE utilities such as PoE cameras and PoE lighting that are increasingly being adopted in the commercial industry.

- The advancement of smart home technologies in the **Residential** sector has led to sophisticated home automation systems. Compact All-In-One PoE PCAP touch monitors now serve as centralized control panels, providing a sophisticated interface for managing an array of smart home devices and systems. These systems include, but are not limited to, lighting, HVAC, security cameras, door locks, and home entertainment systems. Such monitors enable homeowners to effortlessly supervise and manipulate their smart home features through a single, intuitive touch interface. This development reflects broader trends in the industry towards more integrated and user-friendly home automation solutions.
    - **Seamless Integration:** PoE monitors integrate smoothly with smart home systems using protocols like Zigbee or Z-Wave, ensuring unified communication for a cohesive smart home experience.
    - **Security and Surveillance:** These monitors play a vital role in home security by displaying live video feeds, providing access to alarm systems, and facilitating property access control, enhancing security through intuitive touch interactions.
    - **Energy Management:** They offer real-time energy consumption data, scheduling, and automation settings, enabling homeowners to efficiently manage energy usage and costs.
    - **Home Entertainment and Media:** Functioning as media control centers, these monitors handle audio and video streaming, and access to various media sources, offering a seamless and immersive entertainment experience.
    - **Futureproofing:** The integration of AoE and All-In-One touchscreen monitors in new constructions makes homes future-ready, simplifying future upgrades and expansions without the need for extensive renovations or rewiring.

- Healthcare facilities benefit greatly by leveraging several remarkable features in All-Over-Ethernet (AoE) and All-In-One touchscreen monitors in several ways:
    - **Reduced Cabling and Electrical Safety:** These monitors minimize the need for cables and high-voltage wiring in patient areas, significantly lowering electrical accident risks. This is especially important in settings with sensitive medical equipment.
    - **Enhanced Medical Measurement Accuracy:** By reducing electromagnetic interference, these monitors help ensure more accurate readings from medical devices, free from power-related disruptions.
    - **Flexible Placement and Adaptability:** Their ability to be placed in areas without direct power sources or in otherwise inaccessible zones makes them ideal for specialized healthcare environments. This flexibility also allows for easy addition or relocation of monitors, which is crucial for adapting to changing patient care needs or facility expansions.

PoE technology is also in a great position to make an impact in the market, given these promising projected market trends over the next 8-10 years:

- The ProAV industry has a projected CAGR (Compound Annual Growth Rate) of around 6%
- The video segment is currently outperforming other segments in the industry, with video products outperforming services.
- LCD displays have the highest expected growth of all display types by a substantial margin.
- The versatile applications of PoE monitors are promising given the increased demand in many markets, especially digital signage.