

LUCINTEL INSIGHT  
DECEMBER 2021

# FIVE TRENDS SHAPING THE FUTURE OF THE POWER OVER ETHERNET SOLUTION MARKET

The Power over Ethernet solution market is growing and gaining traction due to increasing penetration of IoT in the industrial sectors, which has resulted in an increase in the number of wireless devices. To support a wide range of business-critical applications, these devices require high power and connectivity. This has led to a rise in the usage of Power over Ethernet solutions,

such as PoE-enabled gigabit switches and routers, enabling high data transfer and low latency to support wireless devices deployed even in harsh environments. The rising wave of Power over Ethernet solution technology is creating significant potential in various applications such as connectivity, security and access control, infotainment, and LED lighting and control. The major growth drivers for this market are growing adoption of Voice over Internet Protocol (VoIP) phones and wireless networking, simple and cost-effective installation, and a high level of reliability.



The Power over Ethernet solution market is divided into several segments, such as powered devices and power sourcing equipment. Key players in the Power over Ethernet solution market include Texas Instruments, Linear Technology, Microsemi, STMicroelectronics, Broadcom, Monolithic Power Systems, ON Semiconductor, Cisco Systems, Silicon Laboratories, and Akros Silicon. These have been working on different strategies to drive sales using highly influential marketing approaches; however, as we examine the challenges and opportunities ahead in this market, companies can benefit from a strategy of developing Microchip mPoE and Power over Ethernet solutions for digital building applications, along with the key target market trends we have identified. Lucintel predicts the global Power over Ethernet solution market will be valued at \$1.3 billion by 2025, with an expected CAGR of approx. 10.0% between 2020 and 2025.

Lucintel identifies five trends set to influence the global Power over Ethernet solution market. Most of the industry players and experts agree that these five trends will accelerate developments in the Power over Ethernet solution industry in the near future. In terms of the widespread knowledge about the Power over Ethernet solution market already on the horizon, there is still a lack of unified perspective on the direction the industry is moving to proactively address developments. To help bring more clarity to this gap, our study aims to provide insights concerning the direction that changes are taking and how these changes will impact the Power over Ethernet solution market.

## 1. Growing Adoption of Power over Ethernet in LED Lighting

The demand for PoE-based smart LED lighting is growing due to the increasing number of connected devices in residential and industrial applications. The current scenario of lighting technology is not just about energy saving or energy efficiency. IEEE802.3bt technology can transmit 100W of power in 100M of network cable.



PoE LED lighting positively impacts cost for organizations and also reduces the strain on local power authorities to produce energy by lowering usage. PoE will allow personalization in LED lighting and can easily connect with virtual assistants such as Alexa and Siri.

PoE LED smart bulbs can be connected to various sensors to control system and brightness, and the On or Off time of each LED can be adjusted through PoE. A small Wi-Fi module can be added to the LED bulb and power it through PoE. The demand for PoE in LED lighting systems is expected to increase tremendously in the future.

## 2. Multi-Power over Ethernet (mPoE) Technology

Microchip mPoE is an excellent solution for traditional network devices such as IP phones, Wireless Access Points (WAPs), IP surveillance cameras, 5G small cells, LoRa® gateways, LED luminaires, access control terminals, and other IoT devices. Microchip's multi-Power over Ethernet (mPoE) technology seamlessly and efficiently powers wired network devices, making it the ideal solution for Ethernet-based applications. Leveraging a uniquely designed algorithm, mPoE enables backward compatibility with pre-standard devices while supporting all IEEE® PoE standards.



## 3. Use of Optical Fiber in PoE

Recently there has been an increase in demand for optical fiber-based PoE to overcome the limitations of copper cable PoE. PoE refers to the transfer of data and power to any device over copper communication cable. There are devices that require





both data and power communications, such as digital security cameras, and that require the equivalent of two pairs of copper cable simultaneously. This method is both inefficient and costly, as it needs two copper cables and two separate contractors for installation, and device use is limited to a certain range around the power supply source. With PoE fiber, these challenges are mitigated, as it does not require double cable and drastically reduces cost. PoE fiber also has some range limitations, but these are not as restrictive as those of copper PoE cable.

The usage of fiber optics has increased due to various advantages of transmission distance, bandwidth, and resistance to electrical noise. The range limit of PoE fiber is now proven up to 1000 meters. Security cameras, highway cameras monitoring traffic, and sensing devices used in public transit can now send high resolution videos, and they can be easily installed and placed in transport areas and vehicles.

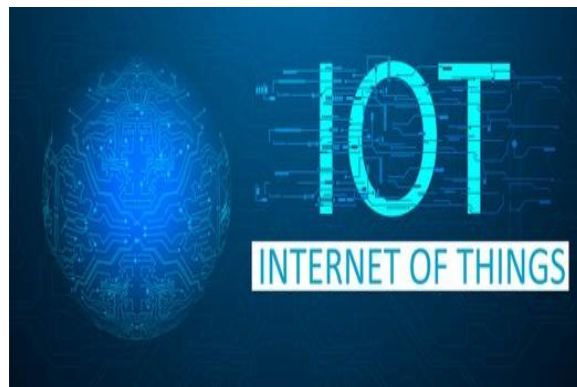
## 4. Introduction of IEEE 802.3bt Standard

The latest IEEE 802.3bt standard is gaining traction and ups the ante to 60W for 802.3bt type 3-class devices and 90W for 802.3bt type 4-class devices. This not only provides power for single-port endpoint applications, but also allows remote multi-port implementations, each capable of supplying power that can accumulate up to the 90W of a multi-port switch. This can also allow solenoids, motors, and other electromechanical functions such as emergency door opening or cockpit system locking.



## 5. IoT Devices and Data Technology

Internet of Things is gaining popularity, bringing momentum to the growth of IP cameras, smart lights, and smart IoT devices. It is clear that that PoE technology will be a significant driver in the world of IoT. Generally, devices need a power supply in order to function, which means additional outlet and power cables are required. Devices using Power over Ethernet technology can export data signals and power simultaneously through the twisted pair.



Voice over IP applications, closed-circuit televisions (CCTVs), Wi-Fi access points, and LED lighting hold the major share in the Power over Ethernet solution market and these are expected to drive the global Power over Ethernet solution market in the future. An existing cat-5 cable can be used to send data and power devices on the same network without the need for extra UPS, adapters, or power cables. In addition, the technology is user-safe, as it has low voltage level with no danger of electrical shock due to the high AC voltage.

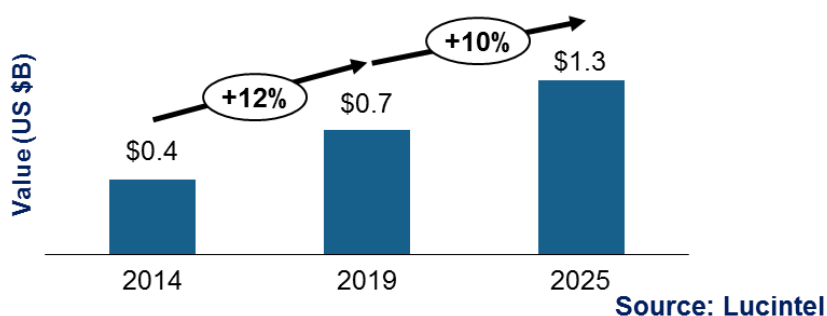
Advancements in data technology and growth in the usage of IoT (Internet of Things) technology have led to growing demand for the PoE solution market. High growth in IoT, including smart mobility, smart buildings, and smart healthcare, is expected to drive PoE demand. Demand for high-end cameras, wireless access points, and LED lighting is expected to increase penetration of the PoE solution market.



## Strategic Considerations for Key Players in the Power over Ethernet Solution Market

The Power over Ethernet solution industry is dynamic and ever-changing. Successful industry players are necessarily masters of innovation, change, and adaptation. To retain this status, they need to be attentive to current trends. We believe there will be promising opportunities for Power over Ethernet solutions in the residential, commercial, and industrial sectors. As per Lucintel's latest market research report (Source: <https://www.lucintel.com/power-over-ethernet-solution-market.aspx>), the [Power over Ethernet solution market](#) is expected to grow with a CAGR of approx. 10.0% between 2020 and 2025, and reach \$1.3 billion by 2025. This market is primarily driven by growing adoption of Voice over Internet Protocol (VoIP) phones and wireless networking, simple and cost-effective installation, and a high level of reliability.

**Trends and Forecast for the Global PoE Solution Market (US \$B) (2014-2025)**



Whether you are new to the Power over Ethernet solution market or an experienced player, it is important to understand the trends that impact the development process, as these trends as listed above will lead players to create long-term strategy formulation that will allow them to remain competitive and successful in the long run. For example, to capture growth, some of the strategic considerations for players in the Power over Ethernet solution market are as follows:

- Power over Ethernet solution market players can increase their capabilities to develop Power over Ethernet solutions for digital building applications.
- Players can focus on development of multi-Power over Ethernet (mPoE) technology, which is expected to lead future trends.
- Investment to increase competencies in the development of long-distance transmission cable solutions
- Research and development activities for development of low-cost PoE controllers and chipsets

**Note:** In order to gain better understanding, and learn more about the scope, benefits, and companies researched, as well as other details in the Power over Ethernet solution market report from Lucintel, click on <https://www.lucintel.com/power-over-ethernet-solution-market.aspx>. This comprehensive report provides you in-depth analysis on market trends and forecast, segment analysis, regional analysis, competitive benchmarking, and company profiling of key players. In addition, we also offer **strategic growth consulting** to meet your customized needs. We have worked with many PE firms and corporate customers in the process of their market entry and M & A initiatives.



## Lucintel - At a Glance

- Premier management consulting and market research firm. Founded in 1998.
- Deep global insights into major industries. Team of over 120 analysts / consultants across globe
- Management comprised of PhDs, MBAs, and subject matter experts. Head quarter in Dallas, USA.

Conducted 500+ consulting projects across industries for 3M, Audi, Dupont, Carlyle, GE, etc.

### Consulting Services



### Why Lucintel

**Trusted insights:** Reliable insights. Widely cited in Wall Street Journal, Financial Times, Forbes, etc.

**Clients we serve:** Over 1000 clients from 70 countries – Fortune 500 companies

**Strategic advice:** Over 20 years of proven global strategic management consulting experience

### Industries Served



### Contact Us



**Sanjay Mazumdar, Ph.D.**  
CEO, Author, & Strategist

Email: [sanjay.mazumdar@Lucintel.com](mailto:sanjay.mazumdar@Lucintel.com)  
Tel.: 972-636-5056



**Eric Dahl**  
Senior Executive Advisor

Email: [eric.dahl@lucintel.com](mailto:eric.dahl@lucintel.com)  
Tel.: +1-323-388-6971



**Brandon Fitzgerald**  
Director of Client Engagement

Email: [brandon.fitzgerald@lucintel.com](mailto:brandon.fitzgerald@lucintel.com)  
Tel.: +1-303-775-0751



**Sabonn Dammarell**  
Client Engagement Specialist

Email: [sabonn.dammarell@lucintel.com](mailto:sabonn.dammarell@lucintel.com)  
Tel.: +1-208-570-0101