

Blockchain IoT - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

Market Report | 2024-02-17 | 100 pages | Mordor Intelligence

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Report description:

The Blockchain IoT Market size is estimated at USD 0.82 billion in 2024, and is expected to reach USD 4.93 billion by 2029, growing at a CAGR of 43.31% during the forecast period (2024-2029).

The Internet of Things (IoT) is an advanced technology that connects all devices over the Internet, and blockchain is a kind of distributed financial technology. The main advantages of using blockchain for IoT include lower chances of collusion and manipulation and lower transaction settlement and costs.

Key Highlights

- With the rapid development of communication technologies, IoT (Internet of Things) is experiencing exponential growth in research and industry. It is getting out of its infancy to a maturity phase with the volume of data generated, transmitted, and processed.
- The traditional IoT systems are powered by centralized topology, where data is transmitted from physical devices to the cloud, where the data is processed using analytics. Output is received back to the IoT device. Still, the increase in the frequency of network devices limits the scalability of the IoT platforms and risks them with vulnerabilities that would eventually compromise users' network security and privacy.
- The blockchain powered by decentralized architecture and cryptographic encryptions leverages the IoT platform by ensuring privacy and security in a peer-to-peer network. However, it requires high computational power, resulting in higher bandwidth overhead and delay.
- The Internet of Things ecosystem is quite diversified. Creating IoT devices that are compatible with blockchain technology involves many challenges. Scalability, which involves processing a huge volume of data generated by a wide network of sensors, is one of the primary challenges IoT faces. The processing power and time necessary to encrypt all IoT devices in a

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blockchain-based ecosystem are not as anticipated. Another key challenge in blockchain systems that keep the ledger on edge nodes is storage. IoT smart devices at the edge are currently incapable of storing large amounts of data or processing large amounts of computational power.

-The COVID-19 pandemic has impacted many sectors, including individuals and corporations. The internet ecosystem has played a critical role worldwide. The reliance on internet enterprises has grown dramatically due to the COVID-19 epidemic. BFSI, healthcare and life sciences, manufacturing, automotive, retail, transportation, and logistics are embracing the Internet to offer customers the required services. Suppliers have noticed a decrease in demand for a blockchain IoT solution. The global shutdown impacts the demand and availability of specific hardware components necessary for blockchain IoT. In the future, the healthcare and government verticals are expected to see moderate adoption of IoT sensors and blockchain to protect hospitals, government buildings, and populations during epidemics.

-Post-COVID-19, the government has also been investigating the potential for implementing a number of smart city technologies to increase urban resilience in times of crisis, which may propel the market's growth.

Blockchain IoT Market Trends

Smart City End Users Segment is Expected to Hold Significant Market Share

- Over the last few decades, the world has experienced unparalleled urban growth, majorly due to increased population, scarcity of resources, and climate changes. According to the United Nations, about 54% of people dwell in cities, which is expected to reach 66% by 2050. Government bodies focus on modern technologies like IoT, wireless communication, and blockchain to cope with urban growth, reduce costs, and optimize resources.

- Providing a sustainable environment is one of the key characteristics of smart cities. Keeping track of the environmental indicators in light of the rapid industrial and urbanization trends is critical. The primary challenge in environmental monitoring is real-time data collection using reliable and precise monitoring tools. The major role of smart city platforms may benefit the market's expansion during the forecast period.

- Data security is one of the vital constraints for devices and services deployed in a metropolitan city, which, leveraged with the blockchain's decentralized platform, ensures the public's trust and fosters the market's growth.

- According to The Economist's smart city index rating, Copenhagen was one of the leading global digital cities in 2022, with a score of 80.3. Seoul, Beijing, Amsterdam, and Singapore completed the top five list of finest digital cities.

- Also, government initiatives across the world are starting to appreciate the potential of blockchain as it provides the infrastructure necessary for transaction management while ensuring transparency and security, which stand to be critical elements in smart city implementation.

- Globally, many smart city projects and efforts are being implemented, encouraging global investments due to urbanization. The OECD estimates that between 2010 and 2030, worldwide investments in smart city initiatives would total around USD 1.8 trillion for all metropolitan city infrastructure projects.

Asia-Pacific is Expected to Be the Fastest-growing Market

- The Asia-Pacific region is expected to grow at the highest rate over the forecast period, owing to the rising influx of technology companies in the area and the increasing investments in IoT technology, smart city deployments, government initiative, and the growth of the urban population.

- Rapid urbanization and regional government initiatives foster the demand for smart cities. Smart cities are entitled to problems, such as high data center operation costs, poor IoT security, and equipment maintenance. However, technologies like blockchain

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IoT would provide the necessary infrastructure for transaction management, asset tracking, and smart contracts while ensuring security and transparency, thereby increasing operational efficiency.

- In February 2023, Conflux Network collaborated with China Telecom to develop blockchain-based SIM cards. Conflux Network, a blockchain protocol, will develop blockchain-based SIM cards in collaboration with China Telecom, one of the country's largest wireless providers with an estimated 390 million users.

- In November 2022, China's state blockchain infrastructure, Xinghuo Blockchain Infrastructure and Facility, signed an agreement with Malaysian digital service provider MY EG, Services Berhad (MyEG), to own and run an "international supernode," as Beijing expands its international blockchain push.

Blockchain IoT Industry Overview

The blockchain IoT market is highly fragmented, with the presence of major players like IBM Corporation, Intel Corporation, Microsoft Corporation, Cisco Systems Inc., and Amazon Inc. Players in the market are adopting strategies such as partnerships, innovations, mergers, and acquisitions to enhance their product offerings and gain sustainable competitive advantage.

- May 2022 - IBM collaborated with Web3 to create a digital native experience, accelerating and evolving the future of enterprise blockchain. A hybrid enterprise blockchain solution may assist enterprises in achieving new business outcomes, such as fine-grained security, privacy, auditable regulatory compliance, and competitive advantage protection. Adaptability to the market may help the company gain a competitive edge. With decreased friction, cost reductions, and efficiency, a single source of truth is visible to all participating members in near real-time.

- April 2022 - Intel released information on its new Intel Blockscales ASIC. Its application-specific integrated circuit (ASIC) would provide customers with energy-efficient computing for proof-of-work consensus networks, based on years of Intel R&D. The buzz surrounding blockchain technology is growing. It enables decentralized and distributed computing, paving the path for new business models. Intel is developing technologies that can offer an appropriate mix of computing throughput and energy efficiency independent of a customer's operating environment to enable this new era of computing. Intel's decades of research and development in encryption, hashing algorithms, and ultra-low voltage circuits enable blockchain applications to increase their computational capacity without affecting sustainability.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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