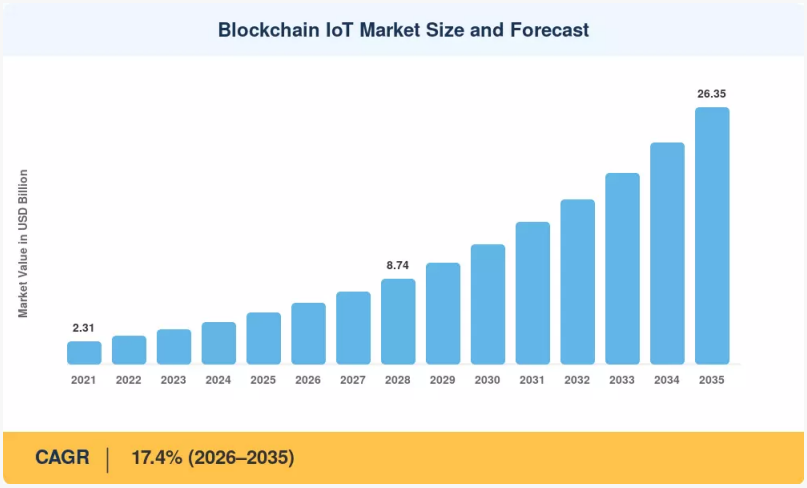
Blockchain IoT Market Size Expected to Grow to USD 26.35 Billion at 17.4% CAGR by 2035

Blockchain IoT Market is expanding rapidly as secure connectivity, smart devices, and decentralized technologies drive global digital transformation.



Blockchain IoT Market

NEW YORK(NY), NY, UNITED STATES, September 8, 2026 /EINPresswire.com/ -- The Blockchain IoT Market is gaining momentum as businesses combine distributed ledger technology with connected devices to improve security, transparency, and data integrity. Blockchain can create trusted records of device activity while IoT networks generate continuous streams of operational information. Together, these technologies support secure communication, automated transactions, traceability, and decentralized data management across industries.

> Blockchain IoT Market is transforming connected ecosystems through secure, decentralized, and intelligent data exchange”
>
> *Market Research Future*

The growing number of connected sensors, industrial devices, smart appliances, vehicles, and infrastructure systems is creating new requirements for reliable device authentication and data protection. Traditional centralized architectures can create vulnerabilities when thousands or millions of devices communicate continuously. Blockchain-based architectures can provide tamper-resistant records, decentralized validation, and improved visibility across complex IoT ecosystems.

Blockchain IoT Market was valued at USD 5.24 billion in 2025 and is forecast to open the projection window at USD 6.22 billion in 2026 before reaching USD 26.35 billion by 2035, expanding at a 17.4% CAGR across 2026–2035. This growth reflects increasing investments in connected infrastructure, industrial automation, supply-chain visibility, cybersecurity, smart cities, and decentralized technologies.

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Increasing Need for Secure Connected Devices

The rapid expansion of IoT networks is creating significant cybersecurity challenges for enterprises. Connected devices can become entry points for unauthorized access, data manipulation, and network disruption when authentication and security mechanisms are inadequate. Blockchain IoT solutions address these concerns by enabling decentralized identity management, immutable transaction records, and trusted communication between participating devices.

Organizations are increasingly exploring blockchain to establish verifiable relationships between devices, users, and applications. Device identities can be recorded and validated through distributed systems, reducing reliance on centralized databases. This capability is particularly valuable in industrial environments where connected machinery, sensors, gateways, and control systems must communicate securely while maintaining accurate operational records.

Blockchain and IoT for Supply Chain Visibility

Supply-chain operations are emerging as an important application area for blockchain-enabled IoT technologies. Sensors can collect information about location, temperature, humidity, handling conditions, and product movement, while blockchain can preserve relevant records in a tamper-resistant ledger. This combination can improve traceability and provide stakeholders with greater confidence in product histories.

Industries such as pharmaceuticals, food and beverages, agriculture, logistics, and manufacturing can benefit from connected supply-chain systems. Real-time IoT information combined with blockchain-based records can help organizations identify disruptions, verify product provenance, and strengthen compliance processes. As businesses increasingly demand transparent supply chains, blockchain IoT adoption is expected to expand across logistics and asset-tracking applications.

Smart Manufacturing Adoption

Smart manufacturing is another major growth opportunity because factories increasingly rely on connected equipment, robotics, sensors, and automated control systems. Blockchain can provide trusted records of machine interactions, maintenance events, production activities, and supply-chain transactions. IoT devices can continuously collect operational information, creating a reliable digital record of industrial processes.

Manufacturers are also investigating blockchain-enabled smart contracts to automate predefined transactions between machines, suppliers, and business systems. For example, an

IoT sensor could trigger a blockchain-based transaction when inventory reaches a specific threshold or when a machine requires maintenance. Such automation can reduce administrative intervention while improving process efficiency and accountability.

Decentralized Device Identity and Security

Device identity is becoming a critical component of large-scale IoT deployments. Conventional systems often depend on centralized identity databases, creating potential single points of failure and increasing management complexity. Blockchain can support decentralized identity frameworks that allow devices to establish verifiable credentials and authenticate interactions without relying exclusively on one central authority.

This approach can become increasingly valuable as enterprises deploy connected devices across geographically distributed environments. Blockchain-based identity mechanisms can support secure device onboarding, authorization, credential management, and transaction verification. These capabilities are encouraging investment in blockchain IoT architectures for industrial facilities, connected transportation, energy infrastructure, and smart-city applications.

Blockchain IoT Market Segmentation

The Blockchain IoT Market can be examined according to component, organization size, application, industry vertical, and deployment model. Components generally include blockchain platforms, IoT hardware, software, and services. Hardware includes sensors, gateways, controllers, and connected devices, while software enables data management, identity verification, analytics, and blockchain integration.

Applications span asset tracking, smart contracts, data sharing, supply-chain management, security, payments, and device management. Industry adoption extends across manufacturing, healthcare, transportation, logistics, agriculture, energy, retail, telecommunications, and government. This broad application landscape allows technology providers to develop specialized solutions tailored to specific operational and regulatory requirements.

Smart Contracts and Automated Transactions

Smart contracts represent an important technology within blockchain IoT ecosystems because they can automatically execute predefined actions when certain conditions are fulfilled. IoT sensors can provide real-world information that triggers smart-contract processes. This can support automated payments, inventory replenishment, equipment servicing, insurance processes, and supply-chain events.

The combination of real-time device data and programmable blockchain transactions can reduce manual processes and improve operational transparency. Businesses can establish rules governing interactions among machines, suppliers, distributors, and customers. As organizations

become more comfortable with decentralized applications, smart contracts could become an increasingly important element of automated IoT ecosystems.

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Regional Market Share Analysis

North America represented approximately 37.8% of the Blockchain IoT Market in 2025, making it a leading regional contributor. Investment is being directed toward zero-trust device identity, pharmaceutical traceability initiatives associated with DSCSA requirements, and emerging decentralized physical infrastructure network pilots. Strong technology ecosystems and enterprise cybersecurity spending support regional adoption.

Europe recorded approximately USD 1.38 billion in 2025, with investment influenced by regulatory and digital-identity initiatives. eIDAS 2.0, the Cyber Resilience Act, and Digital Product Passport programs are encouraging organizations to strengthen device security, product traceability, and digital records. These developments can support blockchain IoT applications across manufacturing, logistics, identity, and connected products.

Asia-Pacific is projected to register a strong 20.6% CAGR from 2026 to 2035, supported by industrial internet development, smart manufacturing, and port logistics modernization. Growing investment in connected factories and automated infrastructure is creating opportunities for blockchain-based device management and data verification. The region's expanding technology ecosystem provides a favorable environment for large-scale IoT deployments.

South America accounted for approximately 6.2% share in 2025, with applications increasingly associated with agricultural traceability and mining provenance. Blockchain IoT technologies can help organizations document the movement and origin of commodities while IoT sensors provide real-time environmental and operational information. These capabilities can strengthen supply-chain transparency and support export-oriented industries.

The Middle East and Africa are projected to expand at an 18.9% CAGR during 2026–2035, supported by smart-city programs and energy-metering initiatives. Connected infrastructure projects are creating demand for secure device communication, automated monitoring, and transparent data management. Blockchain can complement these investments by supporting trusted records across distributed networks and connected public infrastructure.

Major Market Drivers

The Blockchain IoT Market is being driven by increasing cybersecurity concerns, growing IoT deployments, demand for transparent data exchange, supply-chain digitization, smart

manufacturing, and the expansion of decentralized infrastructure. Businesses require technologies capable of managing large numbers of connected devices while maintaining trust and data integrity.

Another driver is the increasing adoption of automation. Organizations want connected systems to perform transactions and operational activities with minimal human intervention. Blockchain provides a trusted environment for recording interactions, while IoT supplies real-time information. Their combination can therefore support automated and auditable business processes across multiple industries.

Emerging Opportunities

The development of decentralized physical infrastructure represents a promising opportunity for blockchain IoT providers. Connected infrastructure such as energy systems, telecommunications equipment, transportation assets, and environmental sensors can potentially participate in decentralized networks. Blockchain can help coordinate ownership, transactions, rewards, and device interactions within these environments.

Agricultural technology also presents considerable potential. IoT sensors can monitor soil conditions, crop environments, livestock, and transportation, while blockchain can document important data throughout the agricultural supply chain. This can support provenance verification and improve confidence among producers, distributors, regulators, and consumers.

Challenges and Restraints

Despite its growth potential, blockchain IoT adoption faces challenges related to scalability, interoperability, energy consumption, regulatory uncertainty, and implementation costs. IoT networks can generate enormous amounts of data, while blockchain networks may have limitations concerning transaction throughput and latency. Organizations therefore need architectures that determine which information should be stored directly on-chain and which should remain in complementary systems.

Interoperability is another challenge because enterprises frequently operate equipment and software from different vendors. Blockchain platforms must integrate with existing IoT protocols, enterprise applications, cloud systems, and operational technologies. Developing common standards and scalable integration frameworks will be important for wider adoption.

Key Industry Trends

AI integration, edge computing, decentralized identity, smart contracts, digital twins, and tokenization are emerging trends influencing blockchain IoT development. Edge computing can process IoT information closer to devices, reducing latency and minimizing the amount of data that needs to travel to centralized systems. Blockchain can then provide trusted records for

important events and transactions.

The convergence of AI and blockchain IoT is also gaining attention. AI can analyze connected-device information and identify patterns, while blockchain can provide provenance for data used by intelligent systems. This combination could become particularly useful in manufacturing, logistics, energy, healthcare, and autonomous systems where trustworthy data is essential.

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Future Outlook

The future of the Blockchain IoT Market is expected to be shaped by the continued expansion of connected infrastructure and the growing requirement for trustworthy digital ecosystems. Enterprises are moving toward architectures that combine cloud, edge computing, IoT, AI, and distributed ledger technologies. This convergence can create opportunities for secure automation and decentralized data exchange.

Over the forecast period, providers are likely to focus on scalable blockchain frameworks, lightweight consensus mechanisms, decentralized device identities, interoperability, and industry-specific solutions. As regulatory frameworks mature and organizations gain greater experience with blockchain deployments, adoption could move from experimental pilots toward production-scale applications.

□□ Frequently Asked Questions

What is the Blockchain IoT Market?

It refers to solutions combining blockchain and IoT to secure connected devices, data exchange, transactions, and digital records.

What is the market size in 2025?

The market was valued at approximately USD 5.24 billion in 2025.

What will the market reach by 2035?

It is projected to reach approximately USD 26.35 billion by 2035.

What is the expected CAGR?

The Blockchain IoT Market is expected to expand at a 17.4% CAGR during 2026–2035.

Which region held the largest share?

North America led with approximately 37.8% share in 2025.

Why is blockchain useful for IoT?

Blockchain can provide decentralized authentication, tamper-resistant records, trusted data exchange, and automated transactions for connected devices.

Which industries use blockchain IoT?

Manufacturing, logistics, healthcare, agriculture, energy, transportation, retail, telecommunications, and government are key application areas.

What is driving blockchain IoT adoption?

Cybersecurity requirements, connected-device growth, supply-chain traceability, automation, and decentralized infrastructure are major adoption factors.

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