In-Depth Analysis of the Post-Quantum Crypto Market for Internet of Things (IoT): Key Opportunities and Challenges

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LONDON, GREATER LONDON, UNITED KINGDOM, May 19, 2026 /EINPresswire.com/ -- "The post-quantum cryptography landscape for the Internet of Things (IoT) is rapidly evolving as the need to secure connected devices against emerging quantum threats becomes more urgent. This market is witnessing substantial growth due to increasing IoT deployments and rising cybersecurity challenges, setting the stage for significant advancements in the years ahead. Let’s explore the current market size, key drivers, leading regions, and future trends shaping this promising sector.

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>
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Rapid Expansion of the Post-Quantum Crypto for Internet of Things (IoT) Market Size
The market for post-quantum cryptography tailored to IoT applications has seen impressive growth recently. It is projected to increase from $1.6 billion in 2025 to $2.16 billion in 2026, reflecting a strong compound annual growth rate (CAGR) of 34.8%. This surge is largely driven by the growing deployment of IoT devices, an escalating volume of cybersecurity threats, widespread use of traditional encryption methods, regulatory focus on safeguarding data, and the expanding scope of smart home and industrial IoT applications.

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Forecasting the Post-Quantum Crypto for Internet of Things (IoT) Market Through 2030

Looking ahead, the market is expected to experience exponential expansion, reaching $7.17 billion by 2030 with a CAGR of 35.0%. This growth will be supported by the adoption of post-quantum cryptographic technologies, heightened demand for IoT devices with quantum-resistant security, integration of artificial intelligence for automated protection, and the spread of smart city initiatives and industrial IoT networks. Additionally, advancements in edge computing and secure firmware update mechanisms will play a pivotal role. Notable trends shaping this future landscape include the use of lightweight cryptographic algorithms for resource-limited IoT devices, quantum-resistant key management solutions, edge-based encryption protocols, seamless integration with IoT device management platforms, and fortified authentication and firmware update processes.

Understanding Post-Quantum Crypto for Internet of Things (IoT)

Post-quantum cryptography for IoT involves the development of cryptographic methods designed to shield connected devices from potential threats posed by quantum computing. These algorithms ensure that data exchanged among resource-constrained devices remains protected against future quantum-enabled attacks. This level of security is essential to maintain long-term confidentiality, data integrity, and authentication across sprawling IoT ecosystems, which consist of numerous interconnected devices operating in diverse environments.

View the full post‑quantum crypto for internet of things (iot) market report:
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Key Factors Fueling Growth in the Post-Quantum Crypto for Internet of Things (IoT) Market

The rapid expansion of connected devices is a primary force driving the post-quantum crypto market for IoT. Connected devices refer to internet-enabled physical objects that communicate and share data over networks. This growth is largely fueled by accelerating digital transformation across various industries including healthcare, manufacturing, and smart infrastructure. These sectors are increasingly adopting IoT devices to automate processes and facilitate real-time data exchange, which significantly broadens the overall IoT ecosystem.

Growing Demand for Quantum-Safe Security in Connected Devices

As the number of connected devices skyrockets, the need for quantum-resistant encryption becomes more urgent. Each additional device potentially introduces vulnerabilities that traditional cryptographic techniques may not withstand against future quantum computing threats. For example, in February 2025, Scania, a commercial vehicle manufacturer based in Sweden, reported approximately 638,000 connected vehicles by the end of 2024, with numbers continuing to rise rapidly. This surge in connected devices directly contributes to the rising demand and expansion of the post-quantum cryptography market for IoT.

Regional Leadership and Growth Prospects in the Post-Quantum Crypto for Internet of Things (IoT) Market
North America held the largest share of the post-quantum crypto for IoT market in 2025, underlining its leadership in embracing advanced cybersecurity solutions. Meanwhile, Asia-Pacific is anticipated to emerge as the fastest-growing region during the forecast period, driven by its extensive digital infrastructure development and increasing IoT adoption. The market report covers several key regions including Asia-Pacific, South East Asia, Western Europe, Eastern Europe, North America, South America, the Middle East, and Africa, providing a comprehensive view of global market dynamics.

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