

Europe Post-Quantum Cryptography Market: Focus on Application, Product, and Regional and Country-Level Analysis - Analysis and Forecast, 2024-2034

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Abstracts

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This report will be delivered in 7-10 working days. Introduction to Europe Post-Quantum Cryptography Market

The Europe post-quantum cryptography market was valued at \$162.8 million in 2024 and is expected to grow at a CAGR of 42.16%, reaching \$5,485.9 million by 2034. The post-quantum cryptography market in Europe is being driven by the increasing need to protect digital infrastructure from new threats posed by quantum computing, which is causing cryptographic algorithms to advance. The creation of quantum-resistant encryption solutions is being accelerated by increased R&D expenditures, government financing, and industry partnerships. Strategic alliances and a proactive regulatory framework that places a high priority on protecting sensitive data in important sectors like banking, defence, and telecommunications further support market expansion. In order to handle upcoming cybersecurity issues throughout the region, the market is still concentrated on innovation and enhancing security resilience as cyber threats continue to change.

Market Introduction

The Europe post-quantum cryptography (PQC) market is expanding rapidly as organizations and governments prepare for the cybersecurity challenges posed by quantum computing. Traditional encryption methods, including RSA and ECC, are vulnerable to quantum attacks, making the development of quantum-resistant

cryptographic solutions a priority for industries such as banking, defense, telecommunications, and healthcare.

Governments across Europe are taking proactive steps to strengthen digital security, with initiatives supporting the research and implementation of PQC solutions. Increased R&D investments, collaborations between technology firms and academic institutions, and regulatory frameworks emphasizing data protection are driving innovation in cryptographic algorithms. The adoption of lattice-based, hash-based, and multivariate polynomial encryption techniques is accelerating, ensuring long-term data security.

The market is further fueled by the European Union's commitment to cybersecurity advancements and digital sovereignty. As cyber threats evolve, organizations are integrating PQC into their security frameworks to future-proof sensitive data against quantum threats. The rising demand for secure communication, financial transactions, and defense applications is expected to propel market growth. With strong regulatory support and increasing enterprise adoption, the Europe PQC market is poised for sustained expansion, ensuring robust cybersecurity solutions for the quantum computing era.

Market Segmentation

Segmentation 1: by Security Application

Network Security

Application Security

Segmentation 2: by End-Use Industry

BFSI

Government and Defense

IT and Telecommunications

Healthcare

Others

Segmentation 3: by Solution

Lattice-Based Cryptography

Code-Based Cryptography

Multivariate Cryptography

Hash-Based Cryptography

Isogeny-Based Cryptography

Symmetric Key Quantum Resistance

Segmentation 4: by Product

Hardware

PQC Chips

Quantum-Resistant Processors

Cryptographic Accelerator

Quantum-Resistant HSMs

Embedded Systems with PQC

Software

PQC Encryption Libraries

PQC Key Management Systems

Quantum Resistant VPNs

PQC-Integrated Security Software

PQC for Cloud Security

Segmentation 5: by Region

Europe: Germany, France, Spain, Italy, U.K., and Rest-of-Europe

How can this report add value to an organization?

Product/Innovation Strategy: The product segment helps readers understand the various applications of post-quantum cryptography solutions based on use cases (such as network security, data storage, secure communications, and digital transactions). It covers different cryptographic approaches, including lattice-based, hash-based, and multivariate algorithms. With advancements in quantum-resistant encryption and increasing concerns over data security, the post-quantum cryptography market presents a high-growth, high-investment opportunity.

Growth/Marketing Strategy: The Europe post-quantum cryptography market has been expanding rapidly, offering significant opportunities for both established and emerging players. Key strategies covered include R&D investments, partnerships, collaborations, and product development initiatives. Companies in post-quantum cryptography market have been focusing on developing robust, quantum-resistant solutions to secure a leading position and address evolving cybersecurity needs.

Competitive Strategy: The report profiles key players in the Europe post-quantum cryptography market, including technology providers and cybersecurity firms. It offers a comprehensive view of the competitive landscape, covering alliances, joint ventures, and innovation strategies, enabling readers to identify new revenue opportunities and gain a competitive edge in this evolving market.

Key Market Players and Competition Synopsis

The companies profiled in the report have been selected based on inputs gathered from primary experts and analyzing company coverage, product portfolio, and post-quantum cryptography market penetration.

Some of the prominent names in the market are:

ID Quantique

ETAS

Infineon Technologies AG

PQShield Ltd

Thales

CryptoNext, inc.

Crypto Quantique

PQ Solutions Limited

Quantum Blockchains

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