

Quantum Communication Market by Solution (Quantum Detectors, Quantum Key Distribution (QKD), Quantum Random Number Generator (QRNG), Quantum-safe Cryptography), QKD Transmission Type (Fiber-based and Free-space/Satellite-based) - Global Forecast to 2030

<https://marketpublishers.com/r/Q94D93263787EN.html>

Date: November 2024

Pages: 367

Price: US\$ 4,950.00 (Single User License)

ID: Q94D93263787EN

Abstracts

The global quantum communication market size is projected to grow from USD 0.74 billion in 2024 to USD 5.54 billion by 2030 at a Compound Annual Growth Rate (CAGR) of 39.6% during the forecast period.

A major contributing factor to the growth of the quantum communication solutions globally is the advancement of satellite-based networks. As global demand for secure, long-distance communication grows, quantum technologies like Quantum Key Distribution (QKD) are being integrated into satellite systems to enable secure data transmission across vast distances. These satellite-based quantum networks are particularly crucial for industries such as telecommunications and space exploration, as reliable and secure communication channels are essential in these sectors.

'By vertical, the aerospace segment accounts for the highest CAGR during the forecast period.'

The aerospace industry is expected to witness a high growth rate in the quantum communication market due to the rising demand for secure communication systems in space exploration and satellite-based networks. As satellite-based quantum networks and Quantum Key Distribution (QKD) become essential for secure data transmission over long distances, aerospace companies are increasingly investing in quantum

technologies to enhance communication security. For instance, Airbus is advancing quantum communications with its Teleo project, a space-to-Earth optical link demonstrator designed for high resilience against jamming, paving the way for secure and reliable future networks.

'By region, the North America accounts for a larger market share.'

North America is expected to account for a large market share in the quantum communication market due to significant investments in quantum research, strong government support, and the presence of leading tech companies. The region's focus on developing secure communication networks for commercial, scientific, and space-based applications, along with collaborations between quantum technology providers, drives the adoption of quantum communication. For instance, Toshiba America, partnered with Safe Quantum in the areas of quantum key distribution (QKD) and quantum communications. Additionally, initiatives such as the U.S. National Quantum Initiative and partnerships with aerospace and telecom sectors further bolster North America's leadership in the quantum communication market.

Breakdown of primaries

The study contains insights from various industry experts, from component suppliers to Tier 1 companies and OEMs. The break-up of the primaries is as follows:

By Company Type: Tier 1 – 40%, Tier 2 – 35%, and Tier 3 – 25%

By Designation: C-level – 45%, Directors – 35%, and Managers – 20%

By Region: North America – 55%, Europe – 25%, Asia Pacific – 15%, RoW – 5%

The key players in the quantum communication market include Toshiba (Japan), Thales (France), IDEMIA (France), ID Quantique (Switzerland), Quintessence Labs (Australia), QuantumCtek (China), Qubitekk (US), Quantum Xchange (US), HEQA Security (Israel), MagiQ Technologies (US), Crypta Labs (UK), Nuclecrypt (US), Quantum Opus (US), Nu Quantum (UK), Ki3 Photonics Technologies (Canada), Miraex (Switzerland), S-Fifteen Instruments (Singapore), and others.

The study includes an in-depth competitive analysis of the key players in the quantum communication market, their company profiles, recent developments, and key market

strategies.

Research Coverage

The report segments the quantum communication market and forecasts its size by Offering {[Solution (Quantum Communication Components (photon sources, quantum detectors, quantum repeaters, quantum modulators and transceivers, quantum memory), Quantum Key Distribution (QKD) solutions, Quantum Random Number Generator (QRNG), Quantum-Safe Cryptographic Solutions) and Services (Professional (Training & Consulting, Deployment & Integration, and Support & Maintenance) and Managed Services)]}, QKD Transmission Type (Fibre-based QKD and Free-space/satellite-based QKD), Deployment Mode (On-premises and Cloud), Organization Size (Large Enterprises and SMEs), Vertical (BFSI, Government & Defense, Healthcare, Aerospace, IT & Telecommunication, Energy & Utilities, Academia & Research, and Other Verticals), and Region (North America, Europe, Asia Pacific, Middle East and Africa, and Latin America).

The study also includes an in-depth competitive analysis of the market's key players, their company profiles, key observations related to product and business offerings, recent developments, and key market strategies.

Key Benefits of Buying the Report

The report will help the market leaders/new entrants with information on the closest approximations of the revenue numbers for the overall quantum communication market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and plan suitable go-to-market strategies. The report also helps stakeholders understand the market pulse and provides information on key market drivers, restraints, challenges, and opportunities.

The report provides insights on the following pointers:

Analysis of key drivers (increasing cyber threats boosting demand for robust quantum communication solutions, increasing investment in quantum technology, rising adoption of quantum-safe/post quantum cryptography (PQC), advancements in quantum sensing), restraints (high implementation cost and technological complexity), opportunities (integration with emerging technologies and emphasis on data protection and privacy), and challenges (regulatory and

standardization challenges and integration complexity)

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the quantum communication market.

Market Development: Comprehensive information about lucrative markets – the report analyses the quantum communication market across varied regions.

Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the quantum communication market.

Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players Toshiba (Japan), Thales (France), IDEMIA (France), ID Quantique (Switzerland), QuintessenceLabs (Australia), QuantumCTek (China), and Qubitekk (US) among others, in the quantum communication market strategies.

Contents

1 INTRODUCTION

- 1.1 STUDY OBJECTIVES
- 1.2 MARKET DEFINITION
 - 1.2.1 INCLUSIONS AND EXCLUSIONS
- 1.3 MARKET SCOPE
 - 1.3.1 MARKET SEGMENTATION
 - 1.3.2 YEARS CONSIDERED
- 1.4 CURRENCY CONSIDERED
- 1.5 STAKEHOLDERS

2 RESEARCH METHODOLOGY

- 2.1 RESEARCH DATA
 - 2.1.1 SECONDARY DATA
 - 2.1.1.1 List of key secondary sources
 - 2.1.2 PRIMARY DATA
 - 2.1.2.1 Breakup of primaries
 - 2.1.2.2 Key industry insights
- 2.2 DATA TRIANGULATION
- 2.3 MARKET SIZE ESTIMATION
 - 2.3.1 TOP-DOWN APPROACH
 - 2.3.2 BOTTOM-UP APPROACH
- 2.4 MARKET FORECAST
- 2.5 RESEARCH ASSUMPTIONS
- 2.6 STUDY LIMITATIONS

3 EXECUTIVE SUMMARY

4 PREMIUM INSIGHTS

- 4.1 ATTRACTIVE OPPORTUNITIES FOR QUANTUM COMMUNICATION MARKET PLAYERS
- 4.2 QUANTUM COMMUNICATION MARKET, BY OFFERING
- 4.3 QUANTUM COMMUNICATION SOLUTIONS MARKET, BY TYPE
- 4.4 QUANTUM COMMUNICATION SERVICES MARKET, BY TYPE
- 4.5 QUANTUM COMMUNICATION MARKET, BY NETWORK ENVIRONMENT

- 4.6 QUANTUM COMMUNICATION MARKET, BY DEPLOYMENT MODE
- 4.7 QUANTUM COMMUNICATION MARKET, BY ORGANIZATION SIZE
- 4.8 QUANTUM COMMUNICATION MARKET, BY VERTICAL
- 4.9 MARKET INVESTMENT SCENARIO

5 MARKET OVERVIEW AND INDUSTRY TRENDS

5.1 INTRODUCTION

5.2 MARKET DYNAMICS

5.2.1 DRIVERS

5.2.1.1 Increase in cyber threats boosting demand for robust quantum communication solutions

5.2.1.2 Increasing investment in quantum technology

5.2.1.3 Rise in adoption of quantum-safe/post-quantum cryptography (PQC)

5.2.1.4 Advancements in quantum sensing

5.2.2 RESTRAINTS

5.2.2.1 High implementation cost

5.2.2.2 Technological complexity

5.2.3 OPPORTUNITIES

5.2.3.1 Integration with emerging technologies

5.2.3.2 Emphasis on data protection and privacy

5.2.4 CHALLENGES

5.2.4.1 Regulatory and standardization challenges

5.2.4.2 Integration complexity

5.3 CASE STUDY ANALYSIS

5.3.1 HITACHI ENERGY AND ID QUANTIQUE TEAMED UP TO SECURE MISSION-CRITICAL NETWORKS USING QUANTUM ENCRYPTION

5.3.2 EPB, QUBITEKK, AND ALIRO JOINED FORCES TO ENABLE SECURE AND SCALABLE COMMUNICATION THROUGH EPB QUANTUM NETWORK

5.3.3 QUANTUM COMMUNICATIONS HUB IMPLEMENTED QKD ACROSS THE UKQN AND UKQNTL NETWORKS TO CREATE SECURE QUANTUM COMMUNICATION

5.4 VALUE CHAIN ANALYSIS

5.4.1 TECHNOLOGY INFRASTRUCTURE PROVIDERS

5.4.2 QUANTUM COMMUNICATION SOLUTION AND SERVICE PROVIDERS

5.4.3 SYSTEM INTEGRATORS

5.4.4 DISTRIBUTION/RESELLERS/VALUE-ADDED RESELLERS

5.4.5 END USERS

5.5 QUANTUM COMMUNICATION ECOSYSTEM

5.6 IMPACT OF GENERATIVE AI ON QUANTUM COMMUNICATION MARKET

5.6.1 GENERATIVE AI

5.6.2 TOP USE CASES AND MARKET POTENTIAL IN QUANTUM COMMUNICATION MARKET

5.6.2.1 Key use cases

5.6.3 IMPACT OF GENERATIVE AI ON INTERCONNECTED AND ADJACENT ECOSYSTEMS

5.6.3.1 Quantum Cryptography

5.6.3.2 Quantum Networking

5.6.3.3 Quantum Photonics

5.6.3.4 Quantum Sensing

5.6.3.5 Quantum Computing

5.7 PORTER'S FIVE FORCES ANALYSIS

5.7.1 THREAT OF NEW ENTRANTS

5.7.2 THREAT OF SUBSTITUTES

5.7.3 BARGAINING POWER OF SUPPLIERS

5.7.4 BARGAINING POWER OF BUYERS

5.7.5 INTENSITY OF COMPETITIVE RIVALRY

5.8 PRICING ANALYSIS

5.8.1 AVERAGE SELLING PRICE TREND OF KEY PLAYERS, BY OFFERING

5.8.2 INDICATIVE PRICING MODELS OF KEY VENDORS, BY HARDWARE

5.9 TECHNOLOGY ANALYSIS

5.9.1 KEY TECHNOLOGIES

5.9.1.1 Quantum Key Distribution (QKD)

5.9.1.2 Quantum Entanglement

5.9.1.3 Quantum Teleportation

5.9.2 COMPLEMENTARY TECHNOLOGIES

5.9.2.1 Post-quantum Cryptography (PQC)

5.9.2.2 Blockchain technology

5.9.2.3 Quantum Sensing

5.9.3 ADJACENT TECHNOLOGIES

5.9.3.1 AI/ML

5.9.3.2 Photonics and optics

5.10 TRENDS/DISRUPTIONS IMPACTING CUSTOMERS' BUSINESSES

5.11 PATENT ANALYSIS

5.12 TRADE ANALYSIS

5.13 TARIFF AND REGULATORY LANDSCAPE

5.13.1 TARIFF RELATED TO QUANTUM COMMUNICATION

5.13.2 REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER

ORGANIZATIONS

5.13.3 KEY REGULATIONS

- 5.13.3.1 Payment Card Industry Data Security Standard (PCI-DSS)
- 5.13.3.2 Health Insurance Portability and Accountability Act (HIPAA)
- 5.13.3.3 Federal Information Security Management Act (FISMA)
- 5.13.3.4 Gramm-Leach-Bliley Act (GLBA)
- 5.13.3.5 Sarbanes-Oxley Act (SOX)
- 5.13.3.6 International Organization for Standardization (ISO) Standard 27001
- 5.13.3.7 European Union General Data Protection Regulation (EU GDPR)
- 5.13.3.8 California's Privacy Rights Act (CPRA)

5.14 KEY STAKEHOLDERS & BUYING CRITERIA

5.14.1 KEY STAKEHOLDERS IN BUYING PROCESS

5.14.2 BUYING CRITERIA

5.15 KEY CONFERENCES & EVENTS IN 2024–2025

5.16 INVESTMENT LANDSCAPE

5.16.1 QUANTUM COMMUNICATION APPLICATION COVERAGE

- 5.16.1.1 Secure Communications
- 5.16.1.2 Cryptographic Key Distribution
- 5.16.1.3 Data Centre Connectivity
- 5.16.1.4 Satellite Communication
- 5.16.1.5 Network Security
- 5.16.1.6 Blockchain Security
- 5.16.1.7 IoT Security
- 5.16.1.8 Digital Rights Management (DRM) and Intellectual Property (IP)
- 5.16.1.9 Financial Transaction Security
- 5.16.1.10 Secure Cloud Storage
- 5.16.1.11 Quantum Network Deployment
- 5.16.1.12 Critical Infrastructure Protection
- 5.16.1.13 Other Applications

6 QUANTUM COMMUNICATION MARKET, BY OFFERING

6.1 INTRODUCTION

6.1.1 OFFERING: QUANTUM COMMUNICATION MARKET DRIVERS

6.2 SOLUTIONS

6.2.1 QUANTUM COMMUNICATION COMPONENTS

- 6.2.1.1 Photon sources to be key quantum communication components in terms of growth prospects
- 6.2.1.2 Quantum memory

6.2.1.3 Photon sources

6.2.1.4 Quantum detectors

6.2.1.5 Quantum modulators & transceivers

6.2.1.6 Quantum repeaters

6.2.2 QUANTUM KEY DISTRIBUTION (QKD) SOLUTIONS

6.2.2.1 Leveraging quantum mechanics for unbreakable encryption keys

6.2.3 QUANTUM RANDOM NUMBER GENERATOR (QRNG)

6.2.3.1 Enhancing cryptographic security with QRNG hardware and software solutions

6.2.3.2 Hardware-based QRNG

6.2.3.3 Software-based QRNG

6.2.4 QUANTUM-SAFE CRYPTOGRAPHIC SOLUTIONS

6.2.4.1 Need for organizations to protect sensitive data and maintain integrity of secure communications in quantum-prevalent future

6.3 SERVICES

6.3.1 PROFESSIONAL SERVICES

6.3.1.1 Training & consulting services to help streamline quantum communication implementation

6.3.1.2 Training & Consulting

6.3.1.3 Deployment & Integration

6.3.1.4 Support & Maintenance

6.3.2 MANAGED SERVICES

6.3.2.1 Enhancing operational excellence with scalability and flexibility

7 QUANTUM KEY DISTRIBUTION MARKET, BY TRANSMISSION MEDIUM

7.1 INTRODUCTION

7.1.1 TRANSMISSION MEDIUM: QUANTUM KEY DISTRIBUTION MARKET DRIVERS

7.2 FIBER-BASED QKD

7.2.1 LEVERAGING ESTABLISHED INFRASTRUCTURE TO SECURELY TRANSMIT QUANTUM INFORMATION OVER CONSIDERABLE DISTANCES

7.3 FREE-SPACE/SATELLITE-BASED QKD

7.3.1 EXPANDING QUANTUM SECURITY ON GLOBAL-SCALE WITH SATELLITE-BASED QKD

8 QUANTUM COMMUNICATION MARKET, BY DEPLOYMENT MODE

8.1 INTRODUCTION

8.1.1 DEPLOYMENT MODE: QUANTUM COMMUNICATION MARKET DRIVERS

8.2 ON-PREMISES

8.2.1 PARTICULARLY FAVORED BY SECTORS WHERE STRINGENT SECURITY AND COMPLIANCE DEMAND ENHANCED DATA PROTECTION

8.3 CLOUD

8.3.1 DEMAND FROM WIDE RANGE OF INDUSTRIES THAT REQUIRE SECURE COMMUNICATION BUT PREFER INFRASTRUCTURE THAT IS NOT IN-HOUSE

9 QUANTUM COMMUNICATION MARKET, BY ORGANIZATION SIZE

9.1 INTRODUCTION

9.1.1 ORGANIZATION SIZE: QUANTUM COMMUNICATION MARKET DRIVERS

9.2 SMES

9.2.1 QAAS AND OTHER CLOUD OFFERINGS ALLOW SMES TO ACCESS ADVANCED QUANTUM TECHNOLOGIES WITHOUT SPECIALIZED EXPERTISE

9.3 LARGE ENTERPRISES

9.3.1 RISING ADOPTION OF QUANTUM COMMUNICATION SOLUTIONS BY LARGE ENTERPRISES FOR ENHANCED SECURITY

10 QUANTUM COMMUNICATION MARKET, BY VERTICAL

10.1 INTRODUCTION

10.1.1 VERTICAL: QUANTUM COMMUNICATION MARKET DRIVERS

10.2 BANKING, FINANCIAL SERVICES, AND INSURANCE (BFSI)

10.2.1 NEED FOR TO PROTECT SENSITIVE AND PROPRIETARY INFORMATION OF CLIENTS

10.3 GOVERNMENT & DEFENSE

10.3.1 NEED TO PROTECT CRITICAL GOVERNMENT AND CITIZEN-RELATED DATA

10.4 HEALTHCARE

10.4.1 STRICT PRIVACY REGULATIONS TO SECURE PATIENTS' PERSONAL AND CRITICAL HEALTH INFORMATION

10.5 AEROSPACE

10.5.1 INVESTMENT BY AEROSPACE COMPANIES AND SPACE AGENCIES TO PROTECT CRITICAL ASSETS FROM POTENTIAL QUANTUM-BASED CYBERATTACKS

10.6 IT & TELECOMMUNICATIONS

10.6.1 STRENGTHENING IT & TELECOMMUNICATIONS SECURITY THROUGH QUANTUM COMMUNICATION ADOPTION

10.7 ENERGY & UTILITIES

10.7.1 RISE IN CYBER THREATS TARGETING POWER GRIDS AND UTILITY SYSTEMS AND NEED TO OPTIMIZE ENERGY DISTRIBUTION

10.8 ACADEMIA & RESEARCH

10.8.1 NEED TO PROTECT SENSITIVE RESEARCH DATA AND INTELLECTUAL PROPERTY

10.9 OTHER VERTICALS

11 QUANTUM COMMUNICATION MARKET, BY REGION

11.1 INTRODUCTION

11.2 NORTH AMERICA

11.2.1 NORTH AMERICA: MACROECONOMIC OUTLOOK

11.2.2 NORTH AMERICA: QUANTUM COMMUNICATION MARKET DRIVERS

11.2.3 US

11.2.3.1 Policy support by US government and investments by leading companies

11.2.4 CANADA

11.2.4.1 Government support through policies such as National Quantum Strategy and investments

11.3 EUROPE

11.3.1 EUROPE: MACROECONOMIC OUTLOOK

11.3.2 EUROPE: QUANTUM COMMUNICATION MARKET DRIVERS

11.3.3 UK

11.3.3.1 Government funding for QKD projects through National Quantum Technologies Programme

11.3.4 GERMANY

11.3.4.1 Germany's key role in EuroQCI initiative and projects commercializing quantum communication

11.3.5 FRANCE

11.3.5.1 Active role in EuroQCI and establishment of National Quantum Strategy

11.3.6 ITALY

11.3.6.1 Notable initiatives such as Quantum Internet Initiative and Quantum Flagship keep Italy competitive in European landscape

11.3.7 REST OF EUROPE

11.4 ASIA PACIFIC

11.4.1 ASIA PACIFIC: MACROECONOMIC OUTLOOK

11.4.2 ASIA PACIFIC: QUANTUM COMMUNICATION MARKET DRIVERS

11.4.3 CHINA

11.4.3.1 Launch of quantum satellite and collaborations to build secure long-distant

quantum networks

11.4.4 JAPAN

11.4.4.1 Strategic investments in quantum communication by government and leading players

11.4.5 INDIA

11.4.5.1 Government focus on National Mission on Quantum Technologies and Applications

11.4.6 SINGAPORE

11.4.6.1 Initiatives such as Quantum Engineering Program and collaborations with international partners in Europe and US

11.4.7 REST OF ASIA PACIFIC

11.5 MIDDLE EAST & AFRICA

11.5.1 MIDDLE EAST & AFRICA: MACROECONOMIC OUTLOOK

11.5.2 MIDDLE EAST & AFRICA: QUANTUM COMMUNICATION MARKET DRIVERS

11.5.3 GCC COUNTRIES

11.5.3.1 UAE

11.5.3.1.1 Investments from leading companies to drive deployment of QKD systems

11.5.3.2 KSA

11.5.3.2.1 National security research by KACST, infrastructure improvement under STC, and Vision 2030

11.5.3.3 Rest of GCC

11.5.4 SOUTH AFRICA

11.5.4.1 Government initiatives including National Integrated Cyber Security Strategy, National Cybersecurity Hub, and Quantum Computing and Quantum Cryptography Research Group

11.5.5 REST OF THE MIDDLE EAST & AFRICA

11.6 LATIN AMERICA

11.6.1 LATIN AMERICA: MACROECONOMIC OUTLOOK

11.6.2 LATIN AMERICA: QUANTUM COMMUNICATION MARKET DRIVERS

11.6.3 BRAZIL

11.6.3.1 Government investment and robust academic and industrial collaboration over quantum technologies

11.6.4 MEXICO

11.6.4.1 Fostering quantum communication growth through innovation and collaborative research

11.6.5 REST OF LATIN AMERICA

12 COMPETITIVE LANDSCAPE

- 12.1 KEY PLAYER STRATEGIES/RIGHT TO WIN
- 12.2 REVENUE ANALYSIS
- 12.3 MARKET SHARE ANALYSIS
- 12.4 BRAND COMPARISON
 - 12.4.1 TOSHIBA
 - 12.4.2 THALES
 - 12.4.3 IDEMIA
 - 12.4.4 ID QUANTIQUE
 - 12.4.5 QUINTESSENCELABS
- 12.5 COMPANY VALUATION AND FINANCIAL METRICS
 - 12.5.1 COMPANY VALUATION
 - 12.5.2 FINANCIAL METRICS USING EV/EBITDA
- 12.6 COMPANY EVALUATION MATRIX: KEY PLAYERS, 2023
 - 12.6.1 STARS
 - 12.6.2 EMERGING LEADERS
 - 12.6.3 PERVASIVE PLAYERS
 - 12.6.4 PARTICIPANTS
 - 12.6.5 COMPANY FOOTPRINT: KEY PLAYERS, 2023
 - 12.6.5.1 Company footprint
 - 12.6.5.2 Solution footprint
 - 12.6.5.3 Vertical footprint
 - 12.6.5.4 Region footprint
- 12.7 COMPANY EVALUATION MATRIX: STARTUPS, 2023
 - 12.7.1 PROGRESSIVE COMPANIES
 - 12.7.2 RESPONSIVE COMPANIES
 - 12.7.3 DYNAMIC COMPANIES
 - 12.7.4 STARTING BLOCKS
 - 12.7.5 COMPETITIVE BENCHMARKING: STARTUPS/SMES, 2023
 - 12.7.5.1 Detailed list of key startups/SMEs
 - 12.7.5.2 Competitive benchmarking of key startups/SMEs
- 12.8 COMPETITIVE SCENARIO
 - 12.8.1 PRODUCT LAUNCHES
 - 12.8.2 DEALS

13 COMPANY PROFILES

- 13.1 KEY PLAYERS
 - 13.1.1 TOSHIBA

- 13.1.1.1 Business overview
- 13.1.1.2 Products/Solutions/Services offered
- 13.1.1.3 Recent developments
 - 13.1.1.3.1 Product launches
 - 13.1.1.3.2 Deals
- 13.1.1.4 MnM view
 - 13.1.1.4.1 Key strengths
 - 13.1.1.4.2 Strategic choices
 - 13.1.1.4.3 Weaknesses and competitive threats
- 13.1.2 THALES
 - 13.1.2.1 Business overview
 - 13.1.2.2 Products/Solutions/Services offered
 - 13.1.2.3 Recent developments
 - 13.1.2.3.1 Product launches
 - 13.1.2.3.2 Deals
 - 13.1.2.4 MnM view
 - 13.1.2.4.1 Key strengths
 - 13.1.2.4.2 Strategic choices
 - 13.1.2.4.3 Weaknesses and competitive threats
- 13.1.3 IDEMIA
 - 13.1.3.1 Business overview
 - 13.1.3.2 Products/Solutions/Services offered
 - 13.1.3.3 Recent developments
 - 13.1.3.3.1 Product launches
 - 13.1.3.3.2 Deals
 - 13.1.3.4 MnM view
 - 13.1.3.4.1 Key strengths
 - 13.1.3.4.2 Strategic choices
 - 13.1.3.4.3 Weaknesses and competitive threats
- 13.1.4 ID QUANTIQUE
 - 13.1.4.1 Business overview
 - 13.1.4.2 Products/Solutions/Services offered
 - 13.1.4.3 Recent developments
 - 13.1.4.3.1 Product launches
 - 13.1.4.3.2 Deals
 - 13.1.4.4 MnM view
 - 13.1.4.4.1 Key strengths
 - 13.1.4.4.2 Strategic choices
 - 13.1.4.4.3 Weaknesses and competitive threats

13.1.5 QUINTESSENCELABS

13.1.5.1 Business overview

13.1.5.2 Products/Solutions/Services offered

13.1.5.3 Recent developments

13.1.5.3.1 Deals

13.1.5.4 MnM view

13.1.5.4.1 Key strengths

13.1.5.4.2 Strategic choices

13.1.5.4.3 Weaknesses and competitive threats

13.1.6 QUANTUMCTEK

13.1.6.1 Business overview

13.1.6.2 Products/Solutions/Services offered

13.1.7 MAGIQ TECHNOLOGIES

13.1.7.1 Business overview

13.1.7.2 Products/Solutions/Services offered

13.1.8 CRYPTA LABS

13.1.8.1 Business overview

13.1.8.2 Products/Solutions/Services offered

13.1.8.3 Recent developments

13.1.8.3.1 Deals

13.1.9 QUANTUM XCHANGE

13.1.9.1 Business overview

13.1.9.2 Products/Solutions/Services offered

13.1.9.3 Recent developments

13.1.9.3.1 Product launches

13.1.9.3.2 Deals

13.1.10 QUBITEKK

13.1.10.1 Business overview

13.1.10.2 Products/Solutions/Services offered

13.1.10.3 Recent developments

13.1.10.3.1 Product launches

13.1.10.3.2 Deals

13.2 OTHER KEY PLAYERS

13.2.1 QEYNET

13.2.2 QULABS

13.2.3 QUANTROPI

13.2.4 QIKE QUANTUM

13.2.5 QTI S.R.L.

13.2.6 NODEQ

13.2.7 THINKQUANTUM

13.2.8 ARQIT

13.2.9 ALIRO QUANTUM

13.2.10 NUCRYPT

13.2.11 QUANTUM OPUS

13.2.12 KI3 PHOTONICS

13.2.13 MIRAEX

13.2.14 S-FIFTEEN INSTRUMENTS

13.2.15 HEQA SECURITY (FORMERLY QUANTLR)

13.2.16 QPHOX

13.2.17 QUNNECT

13.2.18 SPEQTRAL

13.2.19 LUXQUANTA

14 ADJACENT MARKETS

14.1 INTRODUCTION TO ADJACENT MARKETS

14.1.1 LIMITATIONS

14.2 QUANTUM CRYPTOGRAPHY MARKET

14.3 QUANTUM NETWORKING MARKET

15 APPENDIX

15.1 DISCUSSION GUIDE

15.2 KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL

15.3 CUSTOMIZATION OPTIONS

15.4 RELATED REPORTS

15.5 AUTHOR DETAILS

I would like to order

Product name: Quantum Communication Market by Solution (Quantum Detectors, Quantum Key Distribution (QKD), Quantum Random Number Generator (QRNG), Quantum-safe Cryptography), QKD Transmission Type (Fiber-based and Free-space/Satellite-based) - Global Forecast to 2030

Product link: <https://marketpublishers.com/r/Q94D93263787EN.html>

Price: US\$ 4,950.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/Q94D93263787EN.html>