

Quantum Cryptography Market by Offering (Solutions and Services), Security Type (Network Security and Application Security), Vertical (Government, Defense, BFSI, Healthcare, Retail, and eCommerce) and Region - Global Forecast to 2028

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Report description:

The Quantum Cryptography market is expected to grow from an estimated USD 0.5 billion in 2023 to 3.0 billion USD by 2028 at a Compound Annual Growth Rate (CAGR) of 41.2% from 2023 to 2028. The market growth can be attributed to the growing instances of cyberattacks and increased adoption of cloud and IoT technology solutions. However, lack of awareness and understanding; inadequate infrastructure, lack of skilled professionals and the constantly evolving threat landscape are expected to hinder the market growth.

By solution, Quantum Random Number Generator (QRNG) segment is expected to grow at a higher CAGR during the forecast period

Quantum Random Number Generator is a highly sophisticated engineering innovation that involves the power of complex deep-tech technologies (such as semiconductors, optoelectronics, high-precision electronics, and quantum physics) working together to create the highest level of randomness possible. Quantum random number generators (QRNGs) are a special case of True Random Number Generator (TRNG) that generates randomness by measuring quantum processes, which are, non-deterministic. The advantages are multiple, including a fundamental advantage in using quantum indeterminacy, typically faster performances by leveraging photonics and most importantly, the ability to understand and verify the origin of unpredictability, which is a core assurance for the entire cybersecurity chain. QRNG technology has been used in everything from automotive, state lotteries, and HSMs, to IoT devices and smartphones.

By Vertical, Government is expected to hold the highest market share during the forecast period

Quantum cryptography is virtually unbreakable, making it an ideal tool for protecting sensitive information. This makes it particularly attractive to government and public sector organizations, which often handle highly sensitive data. The demand for

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managed services is rising due to the increase in large-scale networks and IoT applications in organizations. Quantum cryptography plays a major role in ensuring security during data transfer and reducing the risk of data loss. As the digital age continues to evolve, so too does the need for robust quantum cryptography measures. Quantum cryptography is one of the latest advancements in quantum field, and its potential impact on government sector is immense.

By Region, North America is expected to grow at a higher CAGR during the forecast period

Private companies in North America, such as IBM, Microsoft, and Google, are investing in quantum technology research and development, with the development of quantum computers and quantum communication networks. This investment is expected to drive the growth of the quantum cryptography market. In recent years, there have been several high-profile data breaches in North America, such as the Equifax breach in 2017, the Capital One breach in 2019, and the SolarWinds breach in 2020. While these breaches were not prevented by quantum cryptography, they highlight the need for more secure communication methods and the potential benefits of quantum cryptography in preventing similar breaches in the future.

Breakdown of Primaries

In-depth interviews were conducted with Chief Executive Officers (CEOs), marketing directors, other innovation and technology directors, and executives from various key organizations operating in the Quantum Cryptography market.

-□By company type: Tier 1: 35%, Tier 2: 45%, and Tier 3: 20%

-□By designation: C-level Executives: 40% and Managerial and other levels: 60%

-□By region: North America: 35%, Asia Pacific: 30%, and Europe: 20%, and RoW : 15%

Major vendors in the Quantum Cryptography market are ID Quantique (Switzerland), QuintessenceLabs (Australia), Toshiba (Japan), QuantumCTek (China), Magiq Technologies (US), Crypta Labs (UK), Qasky (China), Qubitekk (US), ISARA (Canada), Nucrypt (US), Quantum Xchange (US), qutools (Germany), QNu Labs (India), Post Quantum (UK), IBM (US), HPE (US), NEC (Japan), Crypto Quantique (UK), Qrypt (US), KETS Quantum Security (UK), PQShield (UK), QuBalt (Germany), VeriQloud (France), SSH Communication Security (Finland), QuantLR (Israel), and QuSecure (US).

The study includes an in-depth competitive analysis of the key players in the Quantum Cryptography market, with their company profiles, recent developments, and key market strategies.

Research Coverage

This research report categorizes the Quantum Cryptography market by Offering (Solutions and Services), Security Type (Network Security and Application Security), Vertical (Government, Defense, BFSI, Healthcare, Retail, and eCommerce), and Region. The scope of the report covers detailed information regarding the major factors, such as drivers, restraints, challenges, and opportunities, influencing the growth of the Quantum Cryptography market. A detailed analysis of the key industry players has been done to provide insights into their business overview, solutions, and services; key strategies; Contracts, partnerships, agreements. new product & service launches, mergers and acquisitions, and recent developments associated with the Quantum Cryptography market. Competitive analysis of upcoming startups in the Quantum Cryptography market ecosystem is covered in this report.

Reasons to buy this report

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

The report provides insights on the following pointers:

-□Analysis of key drivers (Increased cyber threats and attacks; Growth of eCommerce and digital payment solutions; Stringent regulations and compliance requirements; digital transformation initiatives), restraints (Lack of awareness and understanding; Inadequate infrastructure and lack of skilled professionals; Rapidly evolving threat landscape), opportunities (Cross sector collaboration, International cooperation), and challenges (Limited cybersecurity budgets, Insufficient regulatory frameworks) influencing the growth of the Quantum Cryptography market.

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- Product Development/ Innovation: Detailed insights on the upcoming technologies, research & development activities, and new product and service launches in the Quantum Cryptography Market
- Market Development: Comprehensive information about lucrative markets - the report analyses the Quantum Cryptography market across varied regions
- Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the Quantum Cryptography Market
- Competitive Assessment: In-depth assessment of market shares, growth strategies and service offerings of leading players like ID Quantique (Switzerland), QuintessenceLabs (Australia), Toshiba (Japan), QuantumCTek (China), Magiq Technologies (US), Crypta Labs (UK), Qasky (China), Qubitekk (US), ISARA (Canada), Nucrypt (US), Quantum Xchange (US), among others in the Quantum Cryptography Market strategies.

Table of Contents:

1□INTRODUCTION□	32
1.1□STUDY OBJECTIVES□	32
1.2□MARKET DEFINITION□	32
1.2.1□INCLUSIONS AND EXCLUSIONS□	33
1.3□MARKET SCOPE□	34
1.3.1□MARKET SEGMENTATION□	34
1.3.2□REGIONS COVERED□	34
1.4□YEARS CONSIDERED□	35
1.5□CURRENCY CONSIDERED□	35
TABLE 1□USD EXCHANGE RATES, 2018-2022□	35
1.6□STAKEHOLDERS□	36
1.7□SUMMARY OF CHANGES□	36
2□RESEARCH METHODOLOGY□	37
2.1□RESEARCH DATA□	37
FIGURE 1□QUANTUM CRYPTOGRAPHY MARKET: RESEARCH DESIGN□	38
2.1.1□SECONDARY DATA□	38
2.1.2□PRIMARY DATA□	39
2.1.2.1□Breakup of primary profiles□	39
2.1.2.2□Key industry insights□	40
2.2□DATA TRIANGULATION□	40
FIGURE 2□QUANTUM CRYPTOGRAPHY MARKET: RESEARCH FLOW□	41
2.3□MARKET SIZE ESTIMATION□	41
2.3.1□REVENUE ESTIMATES□	42
FIGURE 3□MARKET SIZE ESTIMATION METHODOLOGY-APPROACH 1, SUPPLY-SIDE ANALYSIS: REVENUE OF SOLUTIONS AS SERVICE IN QUANTUM CRYPTOGRAPHY MARKET□	42
FIGURE 4□MARKET SIZE ESTIMATION METHODOLOGY-APPROACH 1, SUPPLY-SIDE ANALYSIS□	43
FIGURE 5□MARKET SIZE ESTIMATION METHODOLOGY-APPROACH 2, BOTTOM-UP (SUPPLY SIDE): COLLECTIVE REVENUE FROM ALL SOLUTIONS IN QUANTUM CRYPTOGRAPHY MARKET□	43
2.3.2□DEMAND-SIDE ANALYSIS□	44
FIGURE 6□MARKET SIZE ESTIMATION METHODOLOGY-APPROACH 3, BOTTOM-UP (DEMAND SIDE)□	44
2.4□COMPANY EVALUATION QUADRANT METHODOLOGY□	45
FIGURE 7□COMPANY EVALUATION QUADRANT: CRITERIA WEIGHTAGE□	45
2.5□STARTUPS EVALUATION QUADRANT METHODOLOGY□	46
FIGURE 8□STARTUP EVALUATION QUADRANT: CRITERIA WEIGHTAGE□	46
2.6□MARKET FORECAST□	46

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TABLE 2	FACTOR ANALYSIS	46
2.7	ASSUMPTIONS	47
2.8	LIMITATIONS	48
3	EXECUTIVE SUMMARY	49
TABLE 3	QUANTUM CRYPTOGRAPHY MARKET AND GROWTH RATE, 2023-2028 (USD MILLION, Y-O-Y %)	49
FIGURE 9	GLOBAL QUANTUM CRYPTOGRAPHY MARKET SIZE AND Y-O-Y GROWTH RATE	50
FIGURE 10	NORTH AMERICA TO ACCOUNT FOR LARGEST MARKET SHARE IN 2023	51
4	PREMIUM INSIGHTS	52
4.1	ATTRACTIVE OPPORTUNITIES IN QUANTUM CRYPTOGRAPHY MARKET	52
FIGURE 11	GROWING ADOPTION OF IOT AND CLOUD TRENDS TO DRIVE GROWTH OF QUANTUM CRYPTOGRAPHY MARKET	52
4.2	QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023	52
FIGURE 12	SOLUTIONS SEGMENT TO ACCOUNT FOR LARGER MARKET SHARE DURING FORECAST PERIOD	52
4.3	QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023	53
FIGURE 13	NETWORK SECURITY SEGMENT TO ACCOUNT FOR LARGER MARKET SHARE IN 2023	53
4.4	QUANTUM CRYPTOGRAPHY MARKET SHARE OF TOP THREE VERTICALS AND REGIONS	53
FIGURE 14	GOVERNMENT AND NORTH AMERICA TO ACCOUNT FOR LARGEST MARKET SHARES IN 2023	53
4.5	QUANTUM CRYPTOGRAPHY MARKET INVESTMENT SCENARIO, BY REGION	54
FIGURE 15	NORTH AMERICA TO EMERGE AS BEST MARKET FOR INVESTMENT IN NEXT FIVE YEARS	54
5	MARKET OVERVIEW AND INDUSTRY TRENDS	55
5.1	INTRODUCTION	55
5.2	MARKET DYNAMICS	55
FIGURE 16	QUANTUM CRYPTOGRAPHY MARKET: DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES	55
5.2.1	DRIVERS	56
5.2.1.1	Rising cyberattacks in digitalization era	56
5.2.1.2	Increasing cybersecurity fundings	56
5.2.1.3	Rising demand for next-generation security solutions for cloud and IoT technologies	56
5.2.1.4	Evolving next-generation wireless network technologies	56
5.2.2	RESTRAINTS	57
5.2.2.1	High implementation cost	57
5.2.2.2	Rising technical complexities	57
5.2.2.3	Lack of expertise	57
5.2.3	OPPORTUNITIES	58
5.2.3.1	Spur in demand for security solutions across industry verticals	58
5.2.3.2	Increasing need for integrated solutions	58
5.2.4	CHALLENGES	58
5.2.4.1	Commercialization of quantum cryptography	58
5.2.4.2	Technological implementation challenges	58
5.3	ECOSYSTEM ANALYSIS	59
FIGURE 17	ECOSYSTEM: QUANTUM CRYPTOGRAPHY MARKET	59
5.4	TECHNOLOGY ANALYSIS	60
5.4.1	AI/ML	60
5.4.2	BIG DATA ANALYTICS	60
5.4.3	IOT	61
5.4.4	CLOUD COMPUTING	61
5.5	REGULATORY IMPLICATIONS	61
5.5.1	PAYMENT CARD INDUSTRY DATA SECURITY STANDARD (PCI-DSS)	61
5.5.2	HEALTH INSURANCE PORTABILITY AND ACCOUNTABILITY ACT (HIPAA)	62

5.5.3 FEDERAL INFORMATION SECURITY MANAGEMENT ACT (FISMA) 62

5.5.4 GRAMM-LEACH-BLILEY ACT (GLBA) 62

5.5.5 SARBANES-OXLEY ACT (SOX) 62

5.5.6 INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO) STANDARD 27001 63

5.5.7 EUROPEAN UNION GENERAL DATA PROTECTION REGULATION (EU GDPR) 63

5.5.8 CALIFORNIA'S PRIVACY RIGHTS ACT (CPRA) 63

5.5.9 REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 64

TABLE 4 LIST OF REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS 64

5.6 PATENT ANALYSIS 65

FIGURE 18 PATENT ANALYSIS 65

5.7 VALUE CHAIN ANALYSIS 65

FIGURE 19 VALUE CHAIN ANALYSIS 66

5.8 PORTER'S FIVE FORCES MODEL ANALYSIS 67

FIGURE 20 PORTER'S FIVE FORCE ANALYSIS 67

TABLE 5 IMPACT OF PORTER'S FIVE FORCES ON QUANTUM CRYPTOGRAPHY MARKET 67

5.8.1 THREAT FROM NEW ENTRANTS 68

5.8.2 THREAT FROM SUBSTITUTES 68

5.8.3 BARGAINING POWER OF SUPPLIERS 68

5.8.4 BARGAINING POWER OF BUYERS 68

5.8.5 INTENSITY OF COMPETITIVE RIVALRY 68

5.9 USE CASES 69

5.9.1 USE CASE 1: HITACHI ENERGY AND ID QUANTIQUE TO DELIVER HIGHLY SECURE END-TO-END ENCRYPTION FOR CRITICAL INFRASTRUCTURE NETWORKS 69

5.9.2 USE CASE 2: QUINTESSENCELABS' CRYPTO GATEWAY SOLUTION TO ENABLE HIGH SECURITY AND LOW-COST CLOUD STORAGE FOR FINANCIAL INSTITUTIONS 70

5.9.3 USE CASE 3: KOREAN GOVERNMENT TO PRIORITIZE OPTIMIZING EFFICIENCY AND STRENGTHENING THEIR SECURITY MEASURES 71

5.10 PRICING ANALYSIS 72

5.11 TRENDS AND DISRUPTIONS IMPACTING CUSTOMERS 73

FIGURE 21 TRENDS AND DISRUPTIONS IMPACTING CUSTOMERS 73

5.12 KEY STAKEHOLDERS AND BUYING CRITERIA 73

5.12.1 KEY STAKEHOLDERS IN BUYING PROCESS 73

FIGURE 22 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS (%) 73

TABLE 6 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS (%) 74

5.13 KEY CONFERENCES & EVENTS, 2023-2024 74

TABLE 7 KEY CONFERENCES & EVENTS, 2023-2024 74

6 QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING 75

6.1 INTRODUCTION 76

FIGURE 23 SOLUTIONS SEGMENT TO DOMINATE DURING FORECAST PERIOD 76

TABLE 8 QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION) 76

TABLE 9 QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION) 76

6.2 SOLUTIONS 77

6.2.1 INCREASING NEED TO PROTECT CRITICAL COMMUNICATIONS WITH ADVANCED QUANTUM TECHNOLOGIES 77

6.2.2 SOLUTIONS: QUANTUM CRYPTOGRAPHY MARKET DRIVERS 77

TABLE 10 SOLUTIONS: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2017-2022 (USD MILLION) 78

TABLE 11 SOLUTIONS: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2023-2028 (USD MILLION) 78

TABLE 12 QUANTUM CRYPTOGRAPHY MARKET, BY SOLUTION, 2017-2022 (USD MILLION) 78

TABLE 13	QUANTUM CRYPTOGRAPHY MARKET, BY SOLUTION, 2023-2028 (USD MILLION)	79
6.2.3	QUANTUM KEY DISTRIBUTION	79
6.2.4	QUANTUM RANDOM NUMBER GENERATOR (QRNG)	79
6.2.5	OTHER SOLUTIONS	80
6.3	SERVICES	80
6.3.1	SERVICES TO PROVIDE SECURITY EXPERTISE TO UNDERSTAND QUANTUM-SAFE NEEDS	80
6.3.2	SERVICES: QUANTUM CRYPTOGRAPHY MARKET DRIVERS	80
TABLE 14	SERVICES: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2017-2022 (USD MILLION)	80
TABLE 15	SERVICES: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2023-2028 (USD MILLION)	81
7	QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE	82
7.1	INTRODUCTION	83
FIGURE 24	NETWORK SECURITY SEGMENT TO DOMINATE MARKET DURING FORECAST PERIOD	83
TABLE 16	QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION)	83
TABLE 17	QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION)	83
7.2	NETWORK SECURITY	84
7.2.1	RISE IN VIRTUALIZATION OF SERVERS AND USE OF CLOUD SERVICES	84
7.2.2	NETWORK SECURITY: QUANTUM CRYPTOGRAPHY MARKET DRIVERS	84
TABLE 18	NETWORK SECURITY: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2017-2022 (USD MILLION)	84
TABLE 19	NETWORK SECURITY: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2023-2028 (USD MILLION)	85
7.3	APPLICATION SECURITY	85
7.3.1	APPLICATION SECURITY TO PROTECT APPLICATIONS FROM HIGH-RISK ATTACKS	85
7.3.2	APPLICATION SECURITY: QUANTUM CRYPTOGRAPHY MARKET DRIVERS	85
TABLE 20	APPLICATION SECURITY: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2017-2022 (USD MILLION)	86
TABLE 21	APPLICATION SECURITY: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2023-2028 (USD MILLION)	86
8	QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL	87
8.1	INTRODUCTION	88
FIGURE 25	AEROSPACE AND DEFENSE VERTICAL TO ACCOUNT FOR LARGEST MARKET DURING FORECAST PERIOD	88
TABLE 22	QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION)	88
TABLE 23	QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	89
8.2	GOVERNMENT	89
8.2.1	NEED TO PROTECT CRITICAL INFORMATION FROM HACKERS	89
8.2.2	GOVERNMENT: QUANTUM CRYPTOGRAPHY MARKET DRIVERS	89
TABLE 24	GOVERNMENT: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2017-2022 (USD MILLION)	90
TABLE 25	GOVERNMENT: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2023-2028 (USD MILLION)	90
8.3	DEFENSE	90
8.3.1	RISE IN DEMAND TO PROTECT MILITARY SECRETS AND CLASSIFIED DOCUMENTS	90
8.3.2	DEFENSE: QUANTUM CRYPTOGRAPHY MARKET DRIVERS	91
TABLE 26	DEFENSE: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2017-2022 (USD MILLION)	91
TABLE 27	DEFENSE: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2023-2028 (USD MILLION)	91
8.4	BFSI	92
8.4.1	QUANTUM CRYPTOGRAPHY TO PROTECT SENSITIVE AND PROPRIETARY INFORMATION OF CLIENTS	92
8.4.2	BFSI: QUANTUM CRYPTOGRAPHY MARKET DRIVERS	92
TABLE 28	BFSI: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2017-2022 (USD MILLION)	92
TABLE 29	BFSI: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2023-2028 (USD MILLION)	93
8.5	HEALTHCARE	93
8.5.1	QUANTUM CRYPTOGRAPHY TO SECURE PATIENTS' PERSONAL AND CRITICAL HEALTH INFORMATION	93
8.5.2	HEALTHCARE: QUANTUM CRYPTOGRAPHY MARKET DRIVERS	93

TABLE 30	HEALTHCARE: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2017-2022 (USD MILLION)	94
TABLE 31	HEALTHCARE: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2023-2028 (USD MILLION)	94
8.6	RETAIL AND ECOMMERCE	94
8.6.1	GROWING INSTANCES OF CYBER-ATTACKS AND DATA THEFT ACTIVITIES TO SPEED UP ADOPTION RATE	94
8.6.2	RETAIL AND ECOMMERCE: QUANTUM CRYPTOGRAPHY MARKET DRIVERS	95
TABLE 32	RETAIL AND ECOMMERCE: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2017-2022 (USD MILLION)	95
TABLE 33	RETAIL AND ECOMMERCE: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2023-2028 (USD MILLION)	95
8.7	OTHER VERTICALS	96
TABLE 34	OTHER VERTICALS: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2017-2022 (USD MILLION)	96
TABLE 35	OTHER VERTICALS: QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2023-2028 (USD MILLION)	96
9	QUANTUM CRYPTOGRAPHY MARKET, BY REGION	97
9.1	INTRODUCTION	98
FIGURE 26	NORTH AMERICA TO WITNESS HIGHEST GROWTH DURING FORECAST PERIOD	98
TABLE 36	QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2017-2022 (USD MILLION)	98
TABLE 37	QUANTUM CRYPTOGRAPHY MARKET, BY REGION, 2023-2028 (USD MILLION)	99
9.2	NORTH AMERICA	99
9.2.1	NORTH AMERICA: MARKET DRIVERS	99
9.2.2	NORTH AMERICA: RECESSION IMPACT	100
9.2.3	NORTH AMERICA: REGULATORY LANDSCAPE	101
FIGURE 27	NORTH AMERICA: QUANTUM CRYPTOGRAPHY MARKET SNAPSHOT	102
TABLE 38	NORTH AMERICA: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION)	103
TABLE 39	NORTH AMERICA: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION)	103
TABLE 40	NORTH AMERICA: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION)	103
TABLE 41	NORTH AMERICA: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION)	103
TABLE 42	NORTH AMERICA: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION)	104
TABLE 43	NORTH AMERICA: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	104
TABLE 44	NORTH AMERICA: QUANTUM CRYPTOGRAPHY MARKET, BY COUNTRY, 2017-2022 (USD MILLION)	104
TABLE 45	NORTH AMERICA: QUANTUM CRYPTOGRAPHY MARKET, BY COUNTRY, 2023-2028 (USD MILLION)	105
9.2.4	US	105
9.2.4.1	Rising research and development initiatives to strengthen future of secure communications	105
TABLE 46	US: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION)	105
TABLE 47	US: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION)	105
TABLE 48	US: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION)	106
TABLE 49	US: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION)	106
TABLE 50	US: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION)	106
TABLE 51	US: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	107
9.2.5	CANADA	107
9.2.5.1	Growing scope of communication network via quantum cryptography	107
TABLE 52	CANADA: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION)	107
TABLE 53	CANADA: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION)	108
TABLE 54	CANADA: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION)	108
TABLE 55	CANADA: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION)	108
TABLE 56	CANADA: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION)	109
TABLE 57	CANADA: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	109
9.3	EUROPE	110
9.3.1	EUROPE: MARKET DRIVERS	110
9.3.2	EUROPE: RECESSION IMPACT	111

9.3.3 EUROPE: REGULATORY LANDSCAPE 111

TABLE 58 EUROPE: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION) 112

TABLE 59 EUROPE: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION) 112

TABLE 60 EUROPE: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION) 112

TABLE 61 EUROPE: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION) 112

TABLE 62 EUROPE: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION) 113

TABLE 63 EUROPE: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION) 113

TABLE 64 EUROPE: QUANTUM CRYPTOGRAPHY MARKET, BY COUNTRY, 2017-2022 (USD MILLION) 113

TABLE 65 EUROPE: QUANTUM CRYPTOGRAPHY MARKET, BY COUNTRY, 2023-2028 (USD MILLION) 114

9.3.4 UK 114

9.3.4.1 Quantum cryptography to emerge as promising field 114

TABLE 66 UK: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION) 114

TABLE 67 UK: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION) 114

TABLE 68 UK: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION) 115

TABLE 69 UK: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION) 115

TABLE 70 UK: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION) 115

TABLE 71 UK: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION) 116

9.3.5 GERMANY 116

9.3.5.1 Increased investments to boost market 116

TABLE 72 GERMANY: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION) 116

TABLE 73 GERMANY: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION) 117

TABLE 74 GERMANY: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION) 117

TABLE 75 GERMANY: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION) 117

TABLE 76 GERMANY: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION) 118

TABLE 77 GERMANY: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION) 118

9.3.6 FRANCE 119

9.3.6.1 Adoption and innovation to bolster market growth 119

TABLE 78 FRANCE: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION) 119

TABLE 79 FRANCE: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION) 119

TABLE 80 FRANCE: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION) 120

TABLE 81 FRANCE: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION) 120

TABLE 82 FRANCE: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION) 120

TABLE 83 FRANCE: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION) 121

9.3.7 REST OF EUROPE 121

9.3.7.1 Growing investments in research and applicability to enhance adoption of quantum cryptography 121

TABLE 84 REST OF EUROPE: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION) 121

TABLE 85 REST OF EUROPE: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION) 122

TABLE 86 REST OF EUROPE: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION) 122

TABLE 87 REST OF EUROPE: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION) 122

TABLE 88 REST OF EUROPE: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION) 123

TABLE 89 REST OF EUROPE: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION) 123

9.4 ASIA PACIFIC 124

9.4.1 ASIA PACIFIC: MARKET DRIVERS 124

9.4.2 ASIA PACIFIC: RECESSION IMPACT 125

9.4.3 ASIA PACIFIC: REGULATORY LANDSCAPE 125

FIGURE 28 ASIA PACIFIC: QUANTUM CRYPTOGRAPHY MARKET SNAPSHOT 126

TABLE 90 ASIA PACIFIC: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION) 127

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TABLE 91	ASIA PACIFIC: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION)	127
TABLE 92	ASIA PACIFIC: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION)	127
TABLE 93	ASIA PACIFIC: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION)	127
TABLE 94	ASIA PACIFIC: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION)	128
TABLE 95	ASIA PACIFIC: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	128
TABLE 96	ASIA PACIFIC: QUANTUM CRYPTOGRAPHY MARKET, BY COUNTRY, 2017-2022 (USD MILLION)	129
TABLE 97	ASIA PACIFIC: QUANTUM CRYPTOGRAPHY MARKET, BY COUNTRY, 2023-2028 (USD MILLION)	129
9.4.4	CHINA	129
9.4.4.1	Extensive research to strengthen market for quantum cryptography	129
TABLE 98	CHINA: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION)	130
TABLE 99	CHINA: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION)	130
TABLE 100	CHINA: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION)	130
TABLE 101	CHINA: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION)	130
TABLE 102	CHINA: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION)	131
TABLE 103	CHINA: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	131
9.4.5	JAPAN	131
9.4.5.1	Rising mergers and innovation to strengthen market	131
TABLE 104	JAPAN: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION)	132
TABLE 105	JAPAN: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION)	132
TABLE 106	JAPAN: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION)	132
TABLE 107	JAPAN: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION)	132
TABLE 108	JAPAN: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION)	133
TABLE 109	JAPAN: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	133
9.4.6	INDIA	133
9.4.6.1	India's national mission on quantum technologies to unlock opportunities for quantum cryptography	133
TABLE 110	INDIA: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION)	134
TABLE 111	INDIA: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION)	134
TABLE 112	INDIA: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION)	134
TABLE 113	INDIA: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION)	135
TABLE 114	INDIA: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION)	135
TABLE 115	INDIA: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	135
9.4.7	REST OF ASIA PACIFIC	136
TABLE 116	REST OF ASIA PACIFIC: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION)	136
TABLE 117	REST OF ASIA PACIFIC: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION)	137
TABLE 118	REST OF ASIA PACIFIC: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION)	137
TABLE 119	REST OF ASIA PACIFIC: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION)	137
TABLE 120	REST OF ASIA PACIFIC: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION)	138
TABLE 121	REST OF ASIA PACIFIC: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	138
9.5	MIDDLE EAST AND AFRICA	139
9.5.1	MIDDLE EAST AND AFRICA : MARKET DRIVERS	139
9.5.2	MIDDLE EAST AND AFRICA: RECESSION IMPACT	140
9.5.3	MIDDLE EAST AND AFRICA: REGULATORY LANDSCAPE	140
TABLE 122	MIDDLE EAST AND AFRICA: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION)	140
TABLE 123	MIDDLE EAST AND AFRICA: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION)	141
TABLE 124	MIDDLE EAST AND AFRICA: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION)	141
TABLE 125	MIDDLE EAST AND AFRICA: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION)	141
TABLE 126	MIDDLE EAST AND AFRICA: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION)	142

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TABLE 127	MIDDLE EAST AND AFRICA: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	142
TABLE 128	MIDDLE EAST AND AFRICA: QUANTUM CRYPTOGRAPHY MARKET, BY COUNTRY, 2017-2022 (USD MILLION)	142
TABLE 129	MIDDLE EAST AND AFRICA: QUANTUM CRYPTOGRAPHY MARKET, BY COUNTRY, 2023-2028 (USD MILLION)	143
9.5.4	MIDDLE EAST	143
9.5.4.1	Investments to unlock potential of quantum cryptography	143
TABLE 130	MIDDLE EAST: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION)	143
TABLE 131	MIDDLE EAST: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION)	144
TABLE 132	MIDDLE EAST: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION)	144
TABLE 133	MIDDLE EAST: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION)	144
TABLE 134	MIDDLE EAST: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION)	145
TABLE 135	MIDDLE EAST: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	145
9.5.5	AFRICA	145
9.5.5.1	Africa to take steps toward secure communications	145
TABLE 136	AFRICA: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION)	146
TABLE 137	AFRICA: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION)	146
TABLE 138	AFRICA: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION)	146
TABLE 139	AFRICA: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION)	147
TABLE 140	AFRICA: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION)	147
TABLE 141	AFRICA: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	147
9.6	LATIN AMERICA	148
9.6.1	LATIN AMERICA: MARKET DRIVERS	148
9.6.2	LATIN AMERICA: RECESSION IMPACT	149
9.6.3	LATIN AMERICA: REGULATORY LANDSCAPE	149
TABLE 142	LATIN AMERICA: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2017-2022 (USD MILLION)	149
TABLE 143	LATIN AMERICA: QUANTUM CRYPTOGRAPHY MARKET, BY OFFERING, 2023-2028 (USD MILLION)	150
TABLE 144	LATIN AMERICA: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2017-2022 (USD MILLION)	150
TABLE 145	LATIN AMERICA: QUANTUM CRYPTOGRAPHY MARKET, BY SECURITY TYPE, 2023-2028 (USD MILLION)	150
TABLE 146	LATIN AMERICA: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2017-2022 (USD MILLION)	151
TABLE 147	LATIN AMERICA: QUANTUM CRYPTOGRAPHY MARKET, BY VERTICAL, 2023-2028 (USD MILLION)	151
10	COMPETITIVE LANDSCAPE	152
10.1	OVERVIEW	152
10.2	REVENUE ANALYSIS OF LEADING PLAYERS	152
FIGURE 29	QUANTUM CRYPTOGRAPHY MARKET: REVENUE ANALYSIS	152
10.3	MARKET SHARE ANALYSIS OF TOP MARKET PLAYERS	153
TABLE 148	QUANTUM CRYPTOGRAPHY MARKET: DEGREE OF COMPETITION	153
10.4	HISTORICAL REVENUE ANALYSIS	153
FIGURE 30	HISTORICAL FIVE-YEAR REVENUE ANALYSIS OF KEY PUBLIC SECTOR QUANTUM CRYPTOGRAPHY PROVIDERS	154
10.5	RANKING OF KEY PLAYERS IN QUANTUM CRYPTOGRAPHY MARKET	154
FIGURE 31	KEY PLAYERS RANKING	154
10.6	EVALUATION QUADRANT OF KEY COMPANIES	155
10.6.1	STARS	155
10.6.2	EMERGING LEADERS	155
10.6.3	PERVASIVE PLAYERS	155
10.6.4	PARTICIPANTS	155
FIGURE 32	QUANTUM CRYPTOGRAPHY MARKET: KEY COMPANY EVALUATION QUADRANT 2022	156
10.7	COMPETITIVE BENCHMARKING	157
10.7.1	EVALUATION CRITERIA OF KEY COMPANIES	157

TABLE 149	REGIONAL FOOTPRINT OF KEY COMPANIES	157
10.7.2	EVALUATION CRITERIA OF SMES/STARTUP	157
TABLE 150	LIST OF STARTUPS/SMES	157
TABLE 151	REGIONAL FOOTPRINT OF SMES/STARTUP COMPANIES	158
10.8	SMES/STARTUPS EVALUATION QUADRANT	158
10.8.1	PROGRESSIVE COMPANIES	158
10.8.2	RESPONSIVE COMPANIES	159
10.8.3	DYNAMIC COMPANIES	159
10.8.4	STARTING BLOCKS	159
FIGURE 33	QUANTUM CRYPTOGRAPHY MARKET: SMES/STARTUP EVALUATION QUADRANT 2022	160
10.9	COMPETITIVE SCENARIO AND TRENDS	161
10.9.1	PRODUCT LAUNCHES AND PRODUCT ENHANCEMENTS	161
TABLE 152	QUANTUM CRYPTOGRAPHY MARKET: PRODUCT LAUNCHES AND PRODUCT ENHANCEMENTS, 2020-2023	161
10.9.2	DEALS	165
TABLE 153	QUANTUM CRYPTOGRAPHY MARKET: DEALS, 2020-2023	165
11	COMPANY PROFILES	170
11.1	KEY PLAYERS	170
(Business Overview, Products/Services/Solutions Offered, MnM View, Key Strengths and Right to Win, Strategic Choices Made, Weaknesses and Competitive Threats, Recent Developments)*		
11.1.1	TOSHIBA	170
TABLE 154	TOSHIBA: BUSINESS OVERVIEW	170
FIGURE 34	TOSHIBA: COMPANY SNAPSHOT	171
TABLE 155	TOSHIBA: PRODUCTS/SOLUTIONS/SERVICES OFFERED	171
TABLE 156	TOSHIBA: PRODUCT LAUNCHES	172
TABLE 157	TOSHIBA: DEALS	173
11.1.2	ID QUANTIQUE	175
TABLE 158	ID QUANTIQUE: BUSINESS OVERVIEW	175
TABLE 159	ID QUANTIQUE: PRODUCTS/SOLUTIONS/SERVICES OFFERED	176
TABLE 160	ID QUANTIQUE: PRODUCT LAUNCHES	177
TABLE 161	ID QUANTIQUE: DEALS	179
11.1.3	QUINTESSENCE LABS	182
TABLE 162	QUINTESSENCE LABS: BUSINESS OVERVIEW	182
TABLE 163	QUINTESSENCE LABS: PRODUCTS/SOLUTIONS/SERVICES OFFERED	182
TABLE 164	QUINTESSENCE LABS: PRODUCT LAUNCHES	183
11.1.4	QUANTUMCTEK	184
TABLE 165	QUANTUMCTEK: BUSINESS OVERVIEW	184
TABLE 166	QUANTUMCTEK: PRODUCTS/SOLUTIONS/SERVICES OFFERED	184
11.1.5	MAGIQ TECHNOLOGIES	186
TABLE 167	MAGIQ TECHNOLOGIES: BUSINESS OVERVIEW	186
TABLE 168	MAGIQ TECHNOLOGIES: PRODUCTS/SOLUTIONS/SERVICES OFFERED	186
11.1.6	CRYPTA LABS	188
TABLE 169	CRYPTA LABS: BUSINESS OVERVIEW	188
TABLE 170	CRYPTA LABS: PRODUCTS/SOLUTIONS/SERVICES OFFERED	188
TABLE 171	CRYPTA LABS: DEALS	189
11.1.7	QASKY	190
TABLE 172	QASKY: BUSINESS OVERVIEW	190
TABLE 173	QASKY: PRODUCTS/SOLUTIONS/SERVICES OFFERED	190

TABLE 174	QASKY: PRODUCT LAUNCHES	191
11.1.8	QUBITEKK	192
TABLE 175	QUBITEKK: BUSINESS OVERVIEW	192
TABLE 176	QUBITEKK: PRODUCTS/SOLUTIONS/SERVICES OFFERED	192
TABLE 177	QUBITEKK: PRODUCT LAUNCHES	193
TABLE 178	QUBITEKK: DEALS	193
11.1.9	ISARA	194
TABLE 179	ISARA: BUSINESS OVERVIEW	194
TABLE 180	ISARA: PRODUCTS/SOLUTIONS/SERVICES OFFERED	194
TABLE 181	ISARA: DEALS	195
11.1.10	NUCRYPT	196
TABLE 182	NUCRYPT: BUSINESS OVERVIEW	196
TABLE 183	NUCRYPT: PRODUCTS/SOLUTIONS/SERVICES OFFERED	196
11.1.11	QUANTUM XCHANGE	197
TABLE 184	QUANTUM XCHANGE: BUSINESS OVERVIEW	197
TABLE 185	QUANTUM XCHANGE: PRODUCTS/SOLUTIONS/SERVICES OFFERED	197
TABLE 186	QUANTUM XCHANGE: PRODUCT LAUNCHES	198
TABLE 187	QUANTUM XCHANGE: DEALS	198
*Business Overview, Products/Services/Solutions Offered, MnM View, Key Strengths and Right to Win, Strategic Choices Made, Weaknesses and Competitive Threats, Recent Developments might not be captured in case of unlisted companies.		
11.2	OTHER PLAYERS	200
11.2.1	QUTOOLS	200
11.2.2	QNU LABS	201
11.2.3	POST QUANTUM	202
11.2.4	IBM	202
11.2.5	HPE	203
11.2.6	NEC	203
11.2.7	CRYPTO QUANTIQUE	204
11.2.8	QRYPT	204
11.2.9	KETS QUANTUM SECURITY	205
11.2.10	PQ SHIELD	205
11.2.11	QUBALT	206
11.2.12	VERIQLOUD	206
11.2.13	SSH COMMUNICATIONS SECURITY	207
11.2.14	QUANTLR	207
11.2.15	QUSECURE	208
12	APPENDIX	209
12.1	ADJACENT MARKETS	209
TABLE 188	ADJACENT MARKETS AND FORECASTS	209
12.2	LIMITATIONS	209
12.2.1	QUANTUM COMPUTING MARKET	209
TABLE 189	QUANTUM COMPUTING MARKET, BY APPLICATION, 2019-2022 (USD MILLION)	210
TABLE 190	QUANTUM COMPUTING MARKET, BY APPLICATION, 2023-2028 (USD MILLION)	210
TABLE 191	OPTIMIZATION: QUANTUM COMPUTING MARKET, BY REGION, 2019-2022 (USD MILLION)	210
TABLE 192	OPTIMIZATION: QUANTUM COMPUTING MARKET, BY REGION, 2023-2028 (USD MILLION)	211
TABLE 193	MACHINE LEARNING: QUANTUM COMPUTING MARKET, BY REGION, 2019-2022 (USD MILLION)	211
TABLE 194	MACHINE LEARNING: QUANTUM COMPUTING MARKET, BY REGION, 2023-2028 (USD MILLION)	211

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TABLE 195	SIMULATION: QUANTUM COMPUTING MARKET, BY REGION, 2019-2022 (USD MILLION)	212
TABLE 196	SIMULATION: QUANTUM COMPUTING MARKET, BY REGION, 2023-2028 (USD MILLION)	212
TABLE 197	OTHERS: QUANTUM COMPUTING MARKET, BY REGION, 2019-2022 (USD MILLION)	212
TABLE 198	OTHERS: QUANTUM COMPUTING MARKET, BY REGION, 2023-2028 (USD MILLION)	213
12.2.2	ENCRYPTION SOFTWARE MARKET	213
TABLE 199	ENCRYPTION SOFTWARE MARKET, BY DEPLOYMENT MODE, 2015-2020 (USD MILLION)	213
TABLE 200	ENCRYPTION SOFTWARE MARKET, BY DEPLOYMENT MODE, 2021-2026 (USD MILLION)	213
TABLE 201	ON-PREMISES: ENCRYPTION SOFTWARE MARKET, BY REGION, 2015-2020 (USD MILLION)	214
TABLE 202	ON-PREMISES: ENCRYPTION SOFTWARE MARKET, BY REGION, 2021-2026 (USD MILLION)	214
TABLE 203	CLOUD: ENCRYPTION SOFTWARE MARKET, BY REGION, 2015-2020 (USD MILLION)	214
TABLE 204	CLOUD: ENCRYPTION SOFTWARE MARKET, BY REGION, 2021-2026 (USD MILLION)	215
12.3	DISCUSSION GUIDE	216
12.4	KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL	220
12.5	CUSTOMIZATION OPTIONS	222
12.6	RELATED REPORTS	222
12.7	AUTHOR DETAILS	223

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