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Global Quantum Technology Market Report 2020: Much More than Computing, the Market will Reach $21.6 Billion by 2025

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Dublin, Nov. 10, 2020 (GLOBE NEWSWIRE) -- The **"Quantum Technology Market: Computing, Communications, Imaging, Security, Sensing, Modeling and Simulation 2020 - 2025"** report has been added to **ResearchAndMarkets.com's** offering.

This report provides a comprehensive analysis of the quantum technology market. It assesses companies/organizations focused on quantum technology including R&D efforts and potential gaming-changing quantum tech-enabled solutions. The report evaluates the impact of quantum technology upon other major technologies and solution areas including AI, Edge Computing, Blockchain, IoT, and Big Data Analytics. The report provides an analysis of quantum technology investment, R&D, and prototyping by region and within each major country globally.

The report also provides global and regional forecasts as well as the outlook for quantum technology's impact on embedded hardware, software, applications, and services from 2020 to 2025. The report provides conclusions and recommendations for a wide range of industries and commercial beneficiaries including semiconductor companies, communications providers, high-speed computing companies, artificial intelligence vendors, and more.

Much more than only computing, the quantum technology market provides a foundation for improving all digital communications, applications, content, and commerce. In the realm of communications, quantum technology will influence everything from encryption to the way that signals are passed from point A to point B. While currently in the R&D phase, networked quantum information and communications technology (ICT) is anticipated to become a commercial reality

that will represent nothing less than a revolution for virtually every aspect of ICT.

However, there will be a need to integrate the ICT supply chain with quantum technologies in a manner that does not attempt to replace every aspect of classical computing but instead leverages a hybrid computational framework. Traditional High-Performance Computing (HPC) will continue to be used for many existing problems for the foreseeable future, while quantum technologies will be used for encrypting communications, signaling, and will be the underlying basis in the future for all commerce transactions. This does not mean that quantum encryption will replace Blockchain, but rather provide improved encryption for blockchain technology.

The quantum technology market will be a substantial enabler of dramatically improved sensing and instrumentation. For example, gravity sensors may be made significantly more precise through quantum sensing. Quantum electromagnetic sensing provides the ability to detect minute differences in the electromagnetic field.

The commercial implications for quantum technology cannot be overstated. In many respects today, quantum provides interesting capabilities in search of scalability to support real-world commercial problems. The reason that so much money is being invested in quantum technology is because there is a firm belief that quantum science, such as advanced material science (e.g. quantum computing used in molecular chemistry), will lead to commercially beneficial quantum technologies, such as dramatically improved materials for manufacture of consumer, enterprise, industrial, and governmental goods.

In terms of commercializing quantum technologies, there will be a need to evolve quantum science to an ROI-focused quantum technology market. We see this happening in many ways including industrial-academic collaboration and public-private partnerships, many of which will require governmental funding, stimulated by a desire to substantially improve both digital and physical infrastructure.

One of the key drivers for this developing market opportunity will be future 6G technology market solutions. This is because 6G will provide the potential for many new applications, services, and solutions related benefits such as substantive improvements in the areas of sensing, imaging, and location determination. Higher frequencies will enable much faster sampling rates as well as significantly greater accuracy, down to the centimeter level. The combination of sub-mmWave (e.g. wavelengths smaller than one millimeter) and the use of frequency selectivity to determine relative electromagnetic absorption rates will lead to potentially significant advances in wireless sensing solutions.

Select Report Findings:

- Overall global quantum technology market will reach $21.6B by 2025
- Quantum computing will lead the market with the highest market through 2025
- Quantum communication market will grow with the highest CAGR during 2020 - 2025
- North America will be the biggest regional market for quantum

technologies overall
- Japan will lead the APAC quantum technology market at $1.9B by 2025 with 29.6% CAGR
- Germany will lead the European quantum technology market at $1.32B by 2025 with 23.4% CAGR
- Database encryption, app, and infrastructure security are the largest quantum cryptography components
- Currently the smallest opportunity, quantum sensing and imaging will grow in concert with public safety and defense applications

Select Report Benefits:

- Market forecasts for quantum technologies 2020 - 2025
- Identify who is investing where, why, and what quantum technologies
- Understand the challenges and limitations of deploying various quantum technologies
- Identify opportunities to leverage all types of quantum technologies in different industry verticals
- Understand how quantum technology will accelerate the growth of artificial intelligence and IoT marketplace
- Identify contribution of leading investors, vendors, universities, and government agencies in quantum technology R&D

Key Topics Covered:

1.0 Executive Summary

2.0 Introduction
2.1 Defining Quantum Technology
2.2 Superposition and Entanglement
2.3 Decoherence and Squeezed States
2.4 Quantum Technology Market Application Areas
2.5 Quantum Technology Market Factors

3.0 Market and Application Analysis
3.1 Quantum Computing
3.2 Quantum Sensing and Imaging
3.3 Quantum Communications
3.4 Quantum Dots (QD) Particle
3.5 Quantum Control and Security
3.6 Quantum Technology Value Chain
3.7 Quantum Cloud Platform
3.8 Future Network Connectivity: 5G and Quantum Technology
3.9 AI Solutions in Quantum Technology
3.10 Quantum Technology in IoT and Edge Computing
3.11 Big Data Analytics and Quantum Intelligence
3.12 Blockchain Network and Virtualization

4.0 Company Analysis
4.1 Airbus Group
4.2 Alibaba Group Holding Limited
4.3 BT Group

4.4 Google Inc.
4.5 HP Development Company L.P.
4.6 Hewlett Packard Enterprise (HPE)
4.7 IBM Corporation
4.8 ID Quantique (IDQ)
4.9 Intel Corporation
4.10 KPN
4.11 Lockheed Martin Corporation
4.12 MagiQ Technologies Inc.
4.13 Microsoft Corporation
4.14 Mitsubishi Electric Corp.
4.15 NEC Corporation
4.16 Nokia Corporation
4.17 Nippon Telegraph and Telephone Corporation (NTT)
4.18 PQ Solutions Limited (Post-Quantum)
4.19 Anhui Qasky Science and Technology Limited Liability Company (Qasky)
4.20 Qubitekk
4.21 Quintessence Labs
4.22 Raytheon Company
4.23 SK Telecom
4.24 Toshiba Corporation
4.25 Robert Bosch GmbH
4.26 D-Wave Systems Inc.
4.27 1QB Information Technologies Inc. (IQbit)
4.28 Cambridge Quantum Computing Ltd. (CQC)
4.29 QC Ware Corp.
4.30 QxBranch LLC
4.31 Rigetti Computing
4.32 Anyon Systems Inc.
4.33 Quantum Circuits Inc.
4.34 Fujitsu Ltd.
4.35 Booz Allen Hamilton Inc.
4.36 Amgen Inc.
4.37 Biogen Inc.
4.38 Volkswagen AG
4.39 Texas Instruments
4.40 MicroSemi Corporation
4.41 ST Microelectronics
4.42 Apple Inc. (InVisage Technologies)
4.43 M-Squared Lasers Limited
4.44 Muquans
4.45 Oscilloquartz SA
4.46 AOSense Inc.
4.47 GWR Instruments Inc.
4.48 Honeywell International Inc.
4.49 Infineon Technologies
4.50 McAfee LLC
4.51 Nanosys Inc.
4.52 Nanoco Group PLC
4.53 QD Laser Co. Inc.
4.54 NN-Labs LLC.

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CONTACT: ResearchAndMarkets.com
Laura Wood, Senior Press Manager
press@researchandmarkets.com
For E.S.T Office Hours Call 1-917-300-0470
For U.S./CAN Toll Free Call 1-800-526-8630
For GMT Office Hours Call +353-1-416-8900

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