A Whirlwind Tour of the Quantum Computing Market

ISC 22

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Bob Sorensen
Chief Analyst for Quantum Computing

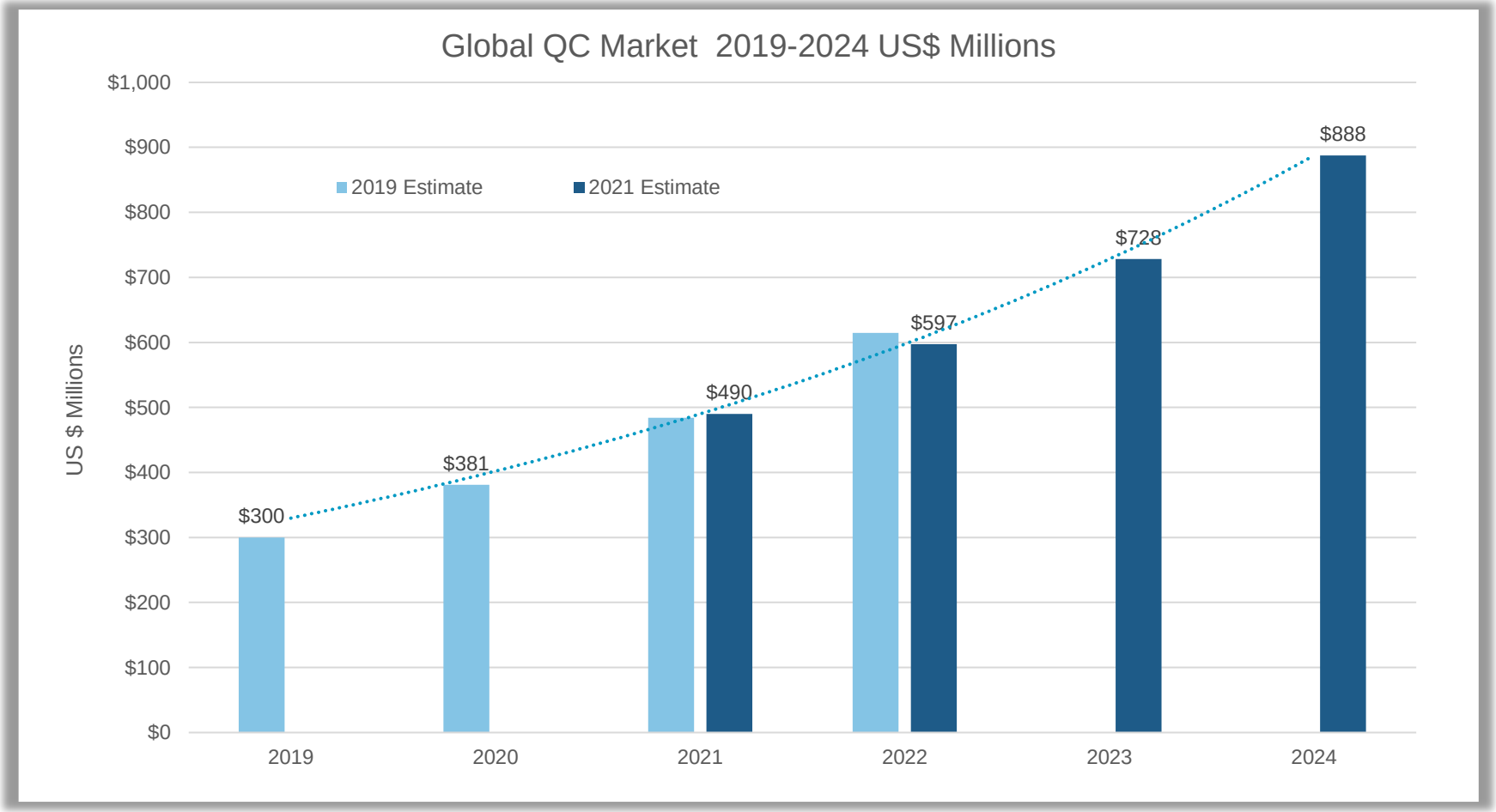
QC Market Study Summary

Continued strong growth seen for global QC sector

- **Based on a study of 112 QC suppliers from around the world, the estimated global QC market was worth about US $490 Million in 2021**
  - The anticipated CAGR for the sector between 2021 and 2024 is 21.9%
  - The global QC market in 2024 is estimated to be approximately US $900 Million
- **Current QC supplier base dominated by a few players**
  - 49% of companies < US $500K, 7% > US $10 Million
- **Cloud access model dominates for next three years**
  - All cloud (43%) + hybrid (21%) = 64%
- **Most Promising Market Segments**
  - QC, Cybersecurity, Financial, Academic, and Chemical/Chemistry

Global QC Market 2019-2024

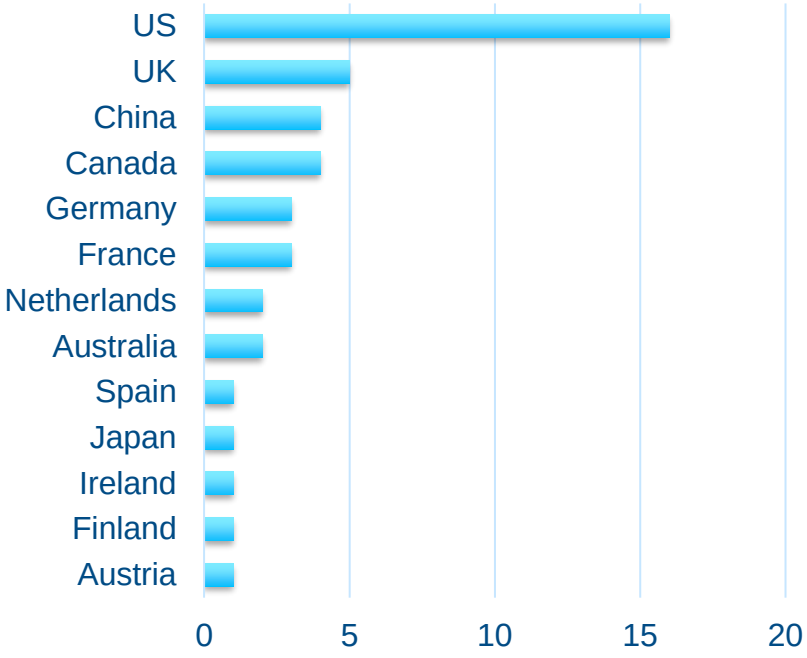
Global QC market reaches ~US $900 Million in 2024

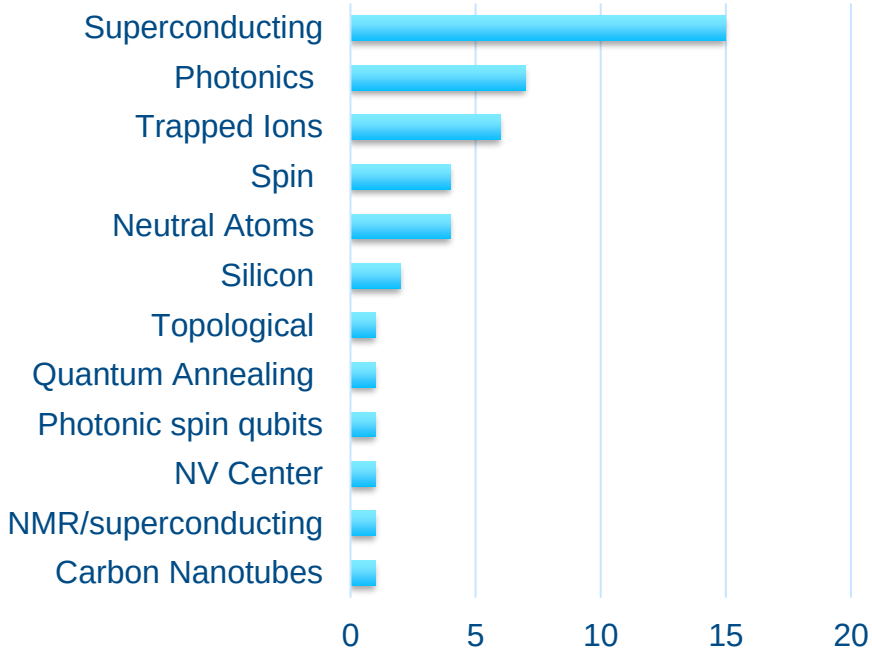


Current Field of Commercial QC Hardware Suppliers

Tracking the visible players from a global perspective

- **44 identified QC hardware developers**
- **12 quantum modalities under consideration**





QC End User Study Key Takeaways

Commercial end users' interest in QC is high

- **Almost 70% of 415 companies surveyed worldwide have some in-house QC program**
  - Additional 20% plan to do so in the next few years
- **QC technology is seen as offering a range of corporate-level benefits including improved research capabilities and increased revenue**
- **End users are looking for solutions in optimization, factory processes, scheduling, etc.**
- **Every vertical surveyed had a significant number of organizations currently involved in some level of QC activity**
- **Most interested companies already involved in data analysis, ML/DL, optimization, mod/sim, material science—some of the most promising areas of QC today**

US Congress: H. R. 8132 Section 4

Study to Explore Quantum Computing Vulnerabilities

SEC. 4. STUDY TO ADVANCE QUANTUM COMPUTING.

(a) IN GENERAL.—

(1) STUDY REQUIRED.—Not later than 1 year after the date of enactment of this Act, the Secretary of Commerce and the Federal Trade Commission shall complete a study on the state of the quantum computing industry and the impact of such industry on the United States economy.

(2) REQUIREMENTS FOR STUDY.—In conducting the study, the Secretary and the Commission shall—

(A) develop and conduct a survey of the quantum computing industry through outreach to participating entities as appropriate to—

(i) establish a list of industry sectors that implement and promote the use of quantum computing;

(ii) establish a l
developed, or are de

(iii) the status o

(iv) provide a d

(B) develop a comprehen

(C) identify which Federa

(D) identify all interagenc

(E) develop a brief descri

(F) identify all regulations, guidelines, mandatory standards, voluntary standards, and other policies implemented by each of the Federal agencies identified under subparagraph (B), as well as all guidelines, mandatory standards, voluntary standards, and other policies implemented by industry-based bodies; and

(G) identify Federal Government resources that exist for consumers and small businesses to evaluate the use of quantum computing.

(b) MARKETPLACE AND SUPPLY CHAIN SURVEY.—The Secretary and Commission shall conduct a survey of the marketplace and supply chain of quantum computing to—

(1) assess the severity of risks posed to such marketplace and supply chain;

(2) review the ability of foreign governments or third parties to exploit the supply chain in a manner that raises risks to the economic and national security of the United States; and

(3) identify emerging risks and long-term trends in such marketplace and supply chain.

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QUESTIONS?

bsorensen@hyperionres.com

Insufficient facts always invite danger.

- Spock, *Stardate: 3141.9.*