Quantum Full Stack Vendors

Key offerings that enable a complete quantum solution from both software and hardware requirements

2025 CONSTELLATION SHORTLIST

The Constellation ShortList™ presents vendors on different categories of the market relevant to early |adopters. In addition, products included in this document meet the threshold criteria for this category as determined by Constellation Research.

This Constellation ShortList of vendors for a market category is compiled through conversations with early adopter clients, independent analysis and briefings with vendors and partners.

ABOUT THIS SHORTLIST

Quantum computing describes an approach to computing using quantum mechanical phenomena such as entanglement and superposition. The goal is to apply a probabilistic model to solve problems more quickly. Quantum computing is such a radical new way of computing that it needs software to be rewritten to take advantage of the platform.

Originally, vendors had to solve the hardware challenges related to quantum computing—but as platforms matured, some even argue quantum superiority has been reached—the focus has moved to the software platforms that operate these quantum platforms. This Constellation ShortList is the combination of the already multi-year published Constellation ShortList Quantum Computing Platforms and Constellation ShortList Quantum Computing Software Platforms. Only vendors that have passed both single ShortLists can be on this ShortList.

As technology matures, suites have always won in the enterprise. Constellation foresees the same thing happening for quantum technology, where enterprises will both procure and use hardware and software together—ideally from the same vendor.

Quantum computing at the moment is most promising for use cases of annealing, adiabatic optimization, chemistry, cryptography, financial markets, machine learning, search, and simulation in the next 12–18 months, so not surprisingly the vendor focus is on enabling these.

Enterprises are looking for holistic solutions beyond hardware, so vendors included in this list also offer related products and services that accelerate enterprise adoption. These can be in the areas of platform services, cloud services, programming languages, Q&A/testing, administration services, early adjacent products, and more.

7 SOLUTIONS TO KNOW

Constellation evaluates more than **20 solutions** categorized in this market. This Constellation ShortList is determined by client inquiries, partner conversations, customer references, vendor selection projects, market share and internal research.

- D-WAVE
- GOOGLE
- IBM
- IONQ
- MICROSOFT
- QUANTINUUM
- RIGETTI COMPUTING

LIKE WHAT YOU SEE?

Consider partnering with Constellation Research on your go-to-market-strategy. Email **ShortList@ContellationR.com** for more info.

To learn more about Constellation Research Shortlists visit: **www.constellationr.com/ShortList**

THRESHOLD CRITERIA

Constellation considers the following criteria for these solutions:

- Multiple generations of working quantum machine
- A working quantum computing enabling product
- Available since three-plus years for customer use
- At least two adjacent products, software, services, or other offerings next to hardware
- Active work on three to five enterprise use cases
- At least 75 or more active customer/prospect conversations and/or beta/live customers
- Working actively on accelerating popular quantum computing use cases
- Active relationships with two or more quantum computing hardware vendors (unless being a quantum computing hardware vendor)
- At least 100 or more active customer/prospect conversations and/or beta/live customers
- Sufficient funding to remain a player at least in the early rounds of the quantum computing market

BUSINESS THEMES

- Technology Optimization
- New C-Suite

ABOUT CONSTELLATION RESEARCH

As an award-winning Silicon Valley-based strategic advisory and futurist analyst firm, Constellation Research serves leaders and organizations navigating the challenges of digital strategy, business-model disruption and digital transformation. Constellation works closely with solution providers, partners, C-suite executives, board of directors, and its Constellation Executive Network of buy-side leaders to lead the way in research coverage and advise clients how to achieve valuable business results.

FREQUENCY OF EVALUATION

Each Constellation ShortList is updated at least once per year. Updates may occur after six months if deemed necessary.

EVALUATION SERVICES

Constellation clients can work with the analyst and the research team to conduct a more thorough discussion of this ShortList. Constellation can also provide guidance in vendor selection and contract negotiation.

Holger Mueller
VP & Principal Analyst

Holger Mueller focuses on the synergies between people and software. As the hand-to-machine ratio radical-ly changes over the next decade (primary factors: age dynamics and technology innovation), enterprises need to find the appropriate balance between changes in a dynamic workforce and the creation and adoption of next-generation applications, all determining the Future of Work and helping enterprises accelerate. Mueller provides strategy and counsel for key clients, including CTOs, CHROs and CIOs as well as investment analysts, VCs, PE firms and technology buyers.