Analog and Quantum Computing Trends and Strategies

IDC's *Analog and Quantum Computing Trends and Strategies* provides insights into two emerging technology markets: the classical analog computing industry and market and quantum computing industry and market. For each technology, this CIS reviews and showcases systems, platforms, technologies, services, adjacent computing technologies such as post-quantum cryptography and quantum communication, and the kinds of use cases that are emerging in the quantum-only and hybrid quantum era, as well as for classical analog computing. This document provides IDC's perspective on opportunities for vendors as they seek to offer technology stacks as a service to enable a variety of use cases related to classical analog and quantum computing. The program also sizes, segments, and forecasts the market; delivers data-driven end-user trends; and analyzes the evolving ecosystem. This CIS also explores analog computing systems, platforms, and technologies.

MARKETS AND SUBJECTS ANALYZED

- Quantum computing and classical analog systems, platforms, and technologies
- Quantum computing and classical analog services
- Adjacent quantum computing systems, platforms, and technologies
- Adjacent quantum computing services
- Quantum computing and classical analog use cases and workloads
- Quantum computing and classical analog investments, market opportunities, and trends
- Neuromorphic computing systems, platforms, and technologies
- Analog chips, hardware, and other technologies

CORE RESEARCH

- IDC's Worldwide Quantum Computing Taxonomy
- Quantum Computing Market Forecast
- IDC MarketScape: Worldwide Quantum Computing Systems Vendor Assessment
- Quantum Generative AI
- Post-Quantum Computing Cryptography Adoption Trends
- Quantum Computing in the HPC Space
- AI as a Workload for Quantum Computing
- IDC TechBrief: Post-Quantum Cryptography
- The Resurgence of Analog Computing
- Neuromorphic Computing: What Is It and Why Is It important?
- IDC Innovators: The Emerging World of Quantum Computing
- Key Players of the Analog and Neuromorphic Computing Markets

In addition to the insight provided in this service, IDC may conduct research on specific topics or emerging market segments via research offerings that require additional IDC funding and client investment. To learn more about the analysts and published research, please visit: Analog and Quantum Computing Trends and Strategies.

KEY QUESTIONS ANSWERED

1. Why should organizations begin investing in quantum computing or classical analog computing?
2. How and what business cases are organizations making for investing in quantum computing or classical analog computing?
3. What are the different options for consuming quantum computing?
4. Quantum advantage versus quantum utility? How do they differ? When will each be realized? What technologies and offerings are available to?
5. Which are the leading vendors for quantum computing and for classical analog computing systems, platforms, technologies, and services?
6. What are the key considerations when evaluating quantum computing as-a-service or on-premises deployments?
7. What is post-quantum cryptography? Why is it important? How can organizations begin to protect their data from a quantum breach?
8. How large is the worldwide quantum computing hardware market? How large is it as a service market? How will this market grow over the next five years?
9. Analog computing seems like a technology of the past, so why is there renewed interest?
10. What is neuromorphic computing and how does it differ from classical and quantum computing?
11. What is the developmental status of analog and neuromorphic computing, and who are the key players?

COMPANIES ANALYZED

This service reviews the strategies, market positioning, and future direction of several vendors and service providers in the analog and quantum computing market, including but not limited to:

Atom Computing, AWS Braket, ColdQuanta, D-Wave, Fujitsu, Google, IBM, Innatera, Intel, IonQ, IQM, Microsoft Azure Quantum, Mythic, NVIDIA, Q-CTRL, QC Ware, Quantinuum, Rigetti, SB Technology (Sandbox AQ), Strangeworks, Xanadu, and Zapata Computing.