

The Quantum Computing Market: Key Players, Ranked (as of August 2026)

This document was built through several rounds of research and prompting with Claude. Pulling current data on funding, hardware, partnerships, and headcount for each company, combined with direction on scope, framing, and what to prioritize. The ranking at the end is Claude's, based on input given, see explanation at the end. Therefore, treat the document and ranking, less as a precise scoreboard for each company and more as a guide and overview of the Key Players out there in the “Quantum Computing World”.

Ranked Summary Table

Table 1 — Company Basics

Rank	Company	Headquarters	Employees	Founded
1	IBM	Armonk, New York, USA	~280,000 (whole company; quantum unit not separately disclosed)	Quantum program 2016 (co. founded 1911)
2	Google Quantum AI	Santa Barbara, California, USA	Part of Alphabet (~180,000+); lab headcount not disclosed	Lab founded 2012
3	Quantinuum	Broomfield, Colorado, USA (+ Cambridge, UK)	~600–800	2021
4	IonQ	College Park, Maryland, USA	~1,392	2015
5	IQM	Espoo, Finland (+ Munich, Germany)	~460	2018

6	D-Wave	Palo Alto, California, USA	~220+	1999
7	PsiQuantum	Palo Alto, California, USA	~634	2015/2016
8	Rigetti	Berkeley, California, USA	~140	2013
9	Pasqal	Palaiseau, France	~300–304	2019
10	QuEra	Boston, Massachusetts, USA	Not disclosed (likely low hundreds)	2018
11	Xanadu	Toronto, Canada	Not disclosed	2016
12	Microsoft (Azure Quantum)	Redmond, Washington, USA	Part of Microsoft (~228,000)	~2019

Table 2 — Market Position

Rank	Company	HW / Cloud	Modality	Qubits (current)	Funding / Backing	Score
1	IBM	Yes / Yes	Supercondu cting	156 (Heron); roadmap 2,000+ (Blue Jay)	\$10B+ committed; \$1.1B+ client contracts	9.5
2	Google Quantum AI	Yes* / Yes	Supercondu cting	105 (Willow)	Alphabet balance sheet	8.5
3	Quantinuum	Yes / Yes	Trapped-ion	Helios (~96); 48 logical (record)	\$100M CHIPS Act; Honeywell, NVentures- backed	8.5
4	IonQ	Yes / Yes	Trapped-ion	Tempo (256-qubit)	Public (NYSE); ~\$12–20B mkt cap	8
5	IQM	Yes / Yes	Supercondu cting	Radiance (150-class)	Public (Nasdaq: IQMX);	7

					~€309M cash	
6	D-Wave	Yes / Yes	Annealing + gate-model	Advantage2 (4,400+ annealing)	Public (NYSE: QBTS); \$550M QCI deal	7
7	PsiQuantum	Yes** / No	Photonic	Not yet benchmarked	\$2.3B+ raised; \$10.5B valuation	7
8	Rigetti	Yes / Yes	Superconducting	Cepheus (108)	Public (Nasdaq: RGTI); ~\$6B mkt cap	6
9	Pasqal	Yes / Yes	Neutral-atom	324 physical (sector-leading)	Public (Nasdaq: PSQL, Aug 2026); ~\$2.0B valuation	6
10	QuEra	Yes / Yes	Neutral-atom	96 logical / 448 physical (record)	\$230M+ raised (Google, SoftBank, NVentures)	6
11	Xanadu	Yes / Yes	Photonic	Aurora (216 physical / 12 logical)	Public (Nasdaq/TSX: XNDU); \$500M+ backing	5.5
12	Microsoft (Azure Quantum)	Yes*** / Yes	Topological + reseller	Majorana 1 (not comparably disclosed)	Microsoft balance sheet	7.5

*Research-access, not commercial sale. **Pre-commercial, no shipping product yet. ***Own R&D (Majorana 1) plus marketplace reselling IonQ, Quantinuum, Atom Computing hardware access.

Profiles

1. IBM — Score: 9.5

Hardware & cloud: Both. Superconducting qubits, delivered primarily through cloud-hosted "quantum-centric supercomputing" (System Two) rather than customer-owned on-prem sale — IBM's own materials say the delivery model stays cloud-centric near-term. Current chips: Heron (133/156 qubits), Nighthawk (120 qubits, higher connectivity).

Roadmap: Kookaburra (1,386-qubit multi-chip processor, 2026) linking into a 4,000+-qubit System Two; Starling (2029) as the first large-scale fault-tolerant system (~200 logical qubits, ~10,000 physical); Blue Jay following with 2,000 qubits and 1 billion operations.

Key partnerships: AMD (quantum-centric supercomputing architecture, joint hybrid demos), Cleveland Clinic/RIKEN (protein modeling), national labs and universities. Qiskit used by ~70% of quantum developers; 340+ organizations running real workloads.

Funding: \$10B+ committed over five years (June 2026), spanning R&D, manufacturing, and M&A. \$1.1B+ in signed client contracts since 2017.

Why the score: Unmatched balance sheet, developer mindshare, and credible fault-tolerance roadmap. The main risk isn't capital or technology — it's whether IBM's cloud-first delivery model cedes the on-prem/owned-hardware segment (where IQM and others compete) entirely.

2. Google Quantum AI — Score: 8.5

Hardware & cloud: Hardware yes, but positioned as research access rather than a commercial product line or cloud-service business in the IBM/IonQ sense.

Hardware: Willow, 105 qubits, superconducting. The headline 2024/2025 result — error rates falling as the code grows ("below threshold") — is one of the field's most credible fault-tolerance proof points to date.

Key partnerships: Prioritizes error-correction research publication over commercial revenue; less externally partnership-driven than peers.

Funding: Alphabet's balance sheet — no disclosed dedicated round, but effectively unconstrained relative to pure-plays.

Why the score: Technically at or near the frontier, with the deepest pockets in the market, but deliberately not chasing near-term commercial traction — which caps the score below IBM on the "commercial ecosystem" dimension even though the physics may be ahead.

3. Quantinuum — Score: 8.5

Hardware & cloud: Both. Trapped-ion, using a quantum charge-coupled device (QCCD) architecture for full qubit-to-qubit connectivity.

Hardware roadmap: Helios (current, ~96 qubits) → Sol (2027, first commercial 2D-grid system, 2x faster) → Apollo (2029, targeted fault-tolerant, millions of gates). Holds the record for most verified logical qubits in a commercial system (48).

Key partnerships: BMW Group (five-year materials-science relationship, 2024 Nature-published catalytic-simulation milestone), Microsoft (joint logical-qubit demonstration), NVIDIA (NVQLink/CUDA-Q), OQC/JPMorgan-adjacent ecosystem work, aerospace algorithm work with partners in aerodynamics and composites.

Funding: \$100M CHIPS Act award (May 2026); majority-backed by Honeywell; NVIDIA's venture arm (NVentures) invested across Quantinuum, PsiQuantum, and QuEra in a single week in 2025.

Why the score: The strongest combination of hardware credibility (logical-qubit record) and real enterprise relationship depth (BMW) of any single company — held back only by remaining private and by trapped-ion's harder scaling path relative to superconducting at very high qubit counts.

4. IonQ — Score: 8

Hardware & cloud: Both. Trapped-ion.

Hardware: Forte (production system), Tempo (256-qubit system, first sale to a US university). Targeting over 2 million physical qubits by 2030 — an aggressive claim relative to peers.

Key partnerships: AWS Braket, Microsoft Azure Quantum (distribution), government and enterprise customers; SkyWater Technology acquisition (\$1.8B) brings in-house semiconductor fabrication.

Funding: Public (NYSE: IONQ). Market cap in the \$12–20B range depending on the date sampled; 2025 revenue ~\$130M with 2026 guidance of \$225–270M; backlog grew 500%+ year-over-year — the strongest commercial revenue trajectory of any pure-play.

Why the score: Best commercial/revenue story in the sector by a wide margin, with real hyperscaler distribution. Scored just below Quantinuum because IonQ's technical differentiation (fidelity, scaling claims) is less independently validated than Quantinuum's logical-qubit record.

5. IQM — Score: 7

Hardware & cloud: Both — this is IQM's core differentiator: customer-owned, on-premises full-stack systems plus a cloud platform, versus competitors' cloud-only models.

Hardware: Radiance platform (150-qubit class); Constellation architecture purpose-built for scalable quantum error correction.

Key partnerships: NVIDIA (CUDA-Q, NVQLink, agentic calibration), AWS, HPE (named quantum collaborator in HPE's hybrid quantum-HPC platform).

Funding: Public (Nasdaq: IQMX, dual-listed Helsinki, July 2026); ~€309M cash, runway into 2028.

Why the score: 26 systems sold / 17 delivered — more than any other hardware manufacturer by unit count — but revenue is small and lumpy, and enterprise (as opposed to institutional/lab) demand is nearly greenfield. Strong technical and partnership positioning; commercial proof still ahead.

6. D-Wave — Score: 7

Hardware & cloud: Both, and now dual-architecture — the only company building both annealing and gate-model systems, following its \$550M acquisition of Quantum Circuits Inc. (Yale spinout) in January 2026.

Hardware: Advantage2 (4,400+ qubits, annealing), targeting 100,000 qubits by 2031; initial gate-model system expected later in 2026.

Key partnerships: Named an IDC MarketScape "Leader" (one of only two companies); commercial deals with AT&T, Nasdaq Verafin, Ford Otosan, and a \$10M Fortune 100 QCaaS agreement.

Funding: Public (NYSE: QBTS); bookings up 1,120% year-over-year in H1 2026.

Why the score: Oldest company in the sector (1999) with the most mature commercial optimization business, but annealing's long-term relevance versus fault-tolerant gate-based machines remains genuinely debated in the field — that architectural uncertainty is the main drag on the score.

7. PsiQuantum — Score: 7

Hardware & cloud: Hardware only, and pre-commercial — no publicly benchmarked qubit count or cloud offering yet. The company's entire thesis is skipping past NISQ-era intermediate products straight to utility-scale, fault-tolerant photonic hardware manufactured on standard silicon-foundry processes (with GlobalFoundries).

Key partnerships: Airbus and Lockheed Martin (algorithms for fluid mechanics, aerodynamics, impact modeling); Microsoft (strategic investor); significant Australian and US government backing.

Funding: Highest private valuation in the sector — \$10.5B as of a \$1.5B round in May 2026, up from \$7B in September 2025. Total raised exceeds \$2.3B.

Why the score: The funding and government backing reflect real confidence in the photonic thesis, but the total absence of a shipping product or disclosed qubit count makes this the highest-risk, highest-variance bet on the list — score reflects capital strength more than proven execution.

8. Rigetti — Score: 6

Hardware & cloud: Both. Superconducting, using a distinctive chiplet architecture (linking smaller chips rather than one large die).

Hardware: Cepheus (108 qubits), generally available across Rigetti QCS, Amazon Braket, and Azure Quantum.

Key partnerships: Astex Pharmaceutical (drug-discovery simulations), Norma (South Korea, cybersecurity research on an 84-qubit cloud network).

Funding: Public (Nasdaq: RGTI); ~\$6B market cap; \$100M CHIPS Act letter of intent (not yet binding); ~\$541M cash with no debt.

Why the score: Real technical milestones and a healthy balance sheet, but revenue remains small relative to IonQ, and notable insider selling in 2026 is a caution flag on internal confidence.

9. Pasqal — Score: 6

Headquarters & size: Palaiseau, France; ~300–304 employees.

Hardware & cloud: Both. Neutral-atom architecture.

Hardware: 324 physical qubits — the highest count in the neutral-atom sector; delivered a 140-qubit system to CINECA in Italy; Vela QPU launching in 2026.

Funding: €340M+ raised prior to listing. Completed its business combination with Bleichroeder Acquisition Corp. II on August 27, 2026, at a ~\$2.0B pre-money valuation, with ~\$360M cash at closing; began trading on Nasdaq as PSQI on August 28, 2026 — making it the most recent of the group to go public.

Why the score: Leading physical-qubit count in a promising modality with real institutional deployment (CINECA) and a fresh, well-capitalized public listing, but earlier-stage commercially than the superconducting/trapped-ion leaders.

10. QuEra — Score: 6

Hardware & cloud: Both. Neutral-atom, spun out of Harvard/MIT research.

Hardware: 96 logical qubits across 448 physical atoms (January 2026) — the most logical qubits of any company using encoded methods, validated in a Nature paper on below-threshold error suppression.

Funding: \$230M+ raised, with investors including Google Quantum AI, SoftBank, and NVIDIA's NVentures.

Why the score: The logical-qubit record is a genuinely strong technical proof point, but QuEra is earlier on commercial/revenue traction than the higher-ranked names.

11. Xanadu — Score: 5.5

Hardware & cloud: Both. Photonic, room-temperature-operating (no cryogenics required, a real differentiator).

Hardware: Aurora — the first modular, networked photonic quantum computer (216 physical / 12 logical qubits); roadmap targets 500 logical qubits by 2029–2030.

Key partnerships: AMD (20-qubit, 35-million-gate hybrid CFD simulation demonstrating 25x acceleration for aerospace/engineering workloads), Lockheed Martin (quantum talent pipeline), Oak Ridge National Laboratory.

Funding: Public (Nasdaq/TSX: XNDU, March 2026 via SPAC); \$500M+ total backing; advanced to Stage B of DARPA's Quantum Benchmarking Initiative.

Why the score: Real differentiation (room-temperature operation) and credible government validation (DARPA QBI), but current qubit counts are modest relative to the leaders, and the company is earliest-stage among the newly public names.

12. Microsoft (Azure Quantum) — Score: 7.5

Hardware & cloud: Cloud-primary — Azure Quantum is both a marketplace reselling IonQ, Quantinuum, and Atom Computing hardware access, and the platform for Microsoft's own long-shot hardware bet.

Hardware: Majorana 1, a topological qubit chip unveiled in 2025 — the highest-risk architectural bet among major players, wagering on built-in error resistance rather than heavy error-correction overhead.

Key partnerships: Quantinuum (joint logical-qubit demonstration achieving 800x lower error rates); reseller relationships across the ecosystem.

Funding: Microsoft balance sheet.

Why the score: The marketplace strategy is commercially shrewd — Microsoft captures cloud revenue regardless of which hardware modality wins — but the proprietary topological bet is a genuine long-shot; the score reflects the strength of the marketplace position more than confidence in Majorana specifically.

A Few Cross-Cutting Observations

- **The "hardware + cloud" combination is now the norm, not IQM's exclusive differentiator.** Nearly every company in the top 12 offers both. IQM's real differentiator is specifically the *on-premises, customer-owned* delivery model — IBM, Google, and most others remain cloud-primary even when the hardware technically exists.
- **2026 has been a consolidation and public-listing year.** D-Wave (QCI acquisition), IonQ (SkyWater acquisition), IQM (SPAC/Nasdaq), Xanadu (SPAC/Nasdaq), and Pasqal (planned listing) all reflect a market moving from pure R&D funding toward capital-markets-scale commitments — a sign of both maturing confidence and rising capital intensity.
- **NVIDIA is functionally a kingmaker across the entire list**, with NVentures investments or CUDA-Q/NVQLink technical partnerships touching Quantinuum, PsiQuantum, QuEra, IQM, and others simultaneously — reinforcing the earlier point that NVIDIA's ecosystem leverage in this market is currently unmatched by any single hardware vendor's.
- **"Qubit count" is not a reliable cross-company ranking metric.** QuEra's 96 *logical* qubits (heavily error-corrected) and D-Wave's 4,400+ annealing qubits are not comparable numbers, and neither is directly comparable to IonQ's 256-

qubit Tempo system. Logical-qubit counts and independently validated fidelity/error-correction results (Quantinuum, QuEra, Google) are better signals of real technical progress than raw physical-qubit counts.

- **Qubit counts mix physical and logical qubits across genuinely different architectures** (superconducting, trapped-ion, neutral-atom, photonic, annealing), so treat cross-row comparisons as directional, not apples-to-apples. See "How the Ranking Was Built" at the end for how the 1–10 scores were derived.*
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How the Ranking Was Built

The score is based on the following categories below, and based with them in mind on Claude's qualitative judgment, not a formula applied to hard data — there's no audited, standardized dataset across these companies that would support a precise numerical model, and anyone claiming otherwise in a market this young is overstating their certainty. That said, four factors consistently drove where each company landed, roughly in this order of weight:

- **Capital position and runway.**

Whether a company can fund its roadmap through the multi-year gap before commercial revenue arrives, without a forced down-round or distressed sale. This is why IBM and Google sit at the top despite neither having the most exciting recent technical headline in isolation — a company backed by a trillion-dollar balance sheet simply cannot be starved out, and that changes the risk calculus for every partner or customer evaluating them. It's also why PsiQuantum, despite having no shipping product, still scores respectably: a \$10.5B valuation and heavy government backing buy real time.

- **Technical credibility, independently validated.**

Peer-reviewed results (Nature publications, verified logical-qubit counts, below-threshold error correction) were weighted more heavily than press-release qubit counts or roadmap promises, because roadmaps in this sector are notoriously optimistic and physical-qubit counts alone don't predict which architecture actually scales. This is why Quantinuum (logical-qubit record) and Google (below-threshold

result) rank above companies with larger raw qubit counts but less independent validation.

- **Commercial traction.**

Real revenue, real customer deployments, and real contracts — as opposed to research collaborations or pilots. This is the dimension where IonQ scores unusually well relative to its technical differentiation: no other pure-play has comparable revenue growth or backlog. It's also the dimension that holds several technically strong companies (QuEra, Xanadu, Pasqal) lower in the ranking — they're earlier in converting technical results into paying commercial relationships.

- **Partnership depth and ecosystem position.**

Specifically, how embedded a company is in the infrastructure that already has budget and momentum — chiefly the NVIDIA/AI-infrastructure ecosystem, but also government programs (CHIPS Act), hyperscaler marketplaces, and named enterprise relationships like BMW/Quantinuum or the JPMorgan/OQC/AMD collaboration. A company can be technically excellent and well-funded but still rank lower here if it hasn't built the surrounding relationships that translate technology into distribution.

What this ranking deliberately does not weight heavily: raw physical-qubit count on its own (a poor predictor across architectures, as noted above), employee headcount (smaller teams like Rigetti's 140 people aren't penalized if their technical and commercial results hold up), and how recently a company went public (Pasqal's brand-new listing didn't inflate or deflect its score relative to more established public peers).

The honest caveat: this ranking reflects a synthesis of public information as of August 2026, weighted by judgment of what matters most for long-term viability in this specific market. Reasonable people — especially people closer to the technical details of each architecture — could weight these four factors differently and land on a different order, particularly in the 5–10 range where the gaps between companies are genuinely narrow. Therefore treat the ranking, the score less as a precise ranking and more as a rough read on where each company is as of August 2026.