



HYPERION RESEARCH

5th Annual Global QC Market Survey: Continued Progress But Changes in the Air



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QC Market Executive Summary/Highlights

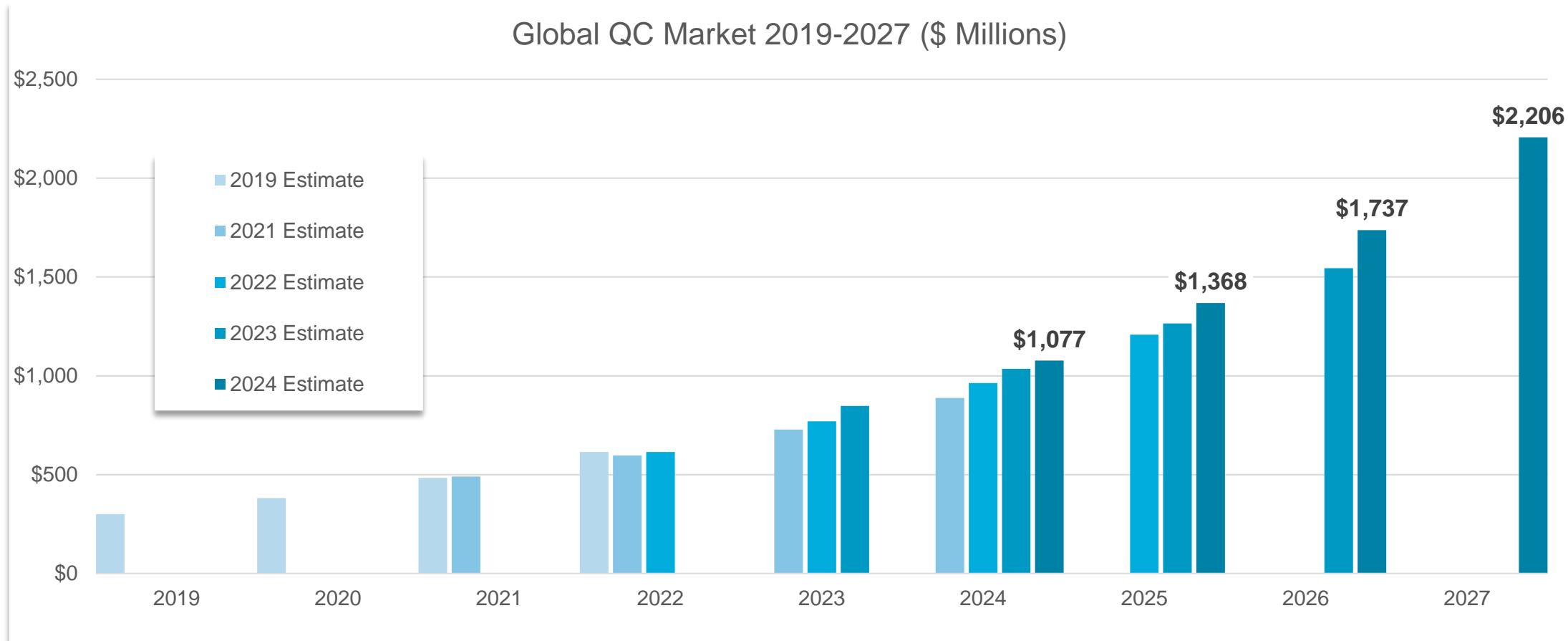
- The global quantum computing (QC) market is estimated to have been worth \$1.07 billion in 2024, with a projected average annual growth rate of 27%, driving the global market to \$2.2 billion on 2027
- Based on a survey of 115 respondents representing 82 QC companies:
 - 41% estimate their organization's revenues will increase by more than 25% in 2025, up from 36.6% in 2024
 - 18% are looking to 2025 gains to be on the order of 11-25%, almost double last year's percentage of 9.8%
 - The number of firms that see flat or nearly the same revenues dropped from 25.6% in 2024 to 9.8% in 2025
- Partnerships have become a fundamental activity within QC supplier sector
 - 83% had partnerships with other QC supplier(s)
 - 74% had partnerships with at least one government research organization
 - 71% had partnerships with at least one QC end user
- Anticipated cloud and on-premises revenues will be nearing parity in 2027
 - Total on-prem activities projected to account for 46% of QC market in 2027
 - Up from 31% in last year's market study
- Modeling/simulation anticipated to remain the #1 algorithm by revenue in 2027
 - Significant appearance of mixed QC algorithms follows refinement of *Other* option from previous years
 - Optimization and AI remain major algorithms

QC Market Executive Summary/Highlights (cont.)

- Aspiring QC end users are looking for new algorithms and ways to address concerns with future classical performance
 - But many are still exploring for the sake of exploration
 - One in four are looking at real-time compute opportunities
 - Interest in lowering total compute costs is gaining traction
 - 2023 Survey: 9.0%
 - 2025 Survey: 23.5%
 - Not so with reducing power/cooling costs
 - 2023 Survey: 17.3%
 - 2025 Survey: 14.8%
- About half of the respondents (52%) expect the availability of utility class QC in the next 2-5 years
 - About one in three say five years or more
 - About 8% say they are already here or will be in the next year
- Almost half of the respondents see a chance for a quantum winter
 - Significant jump from last year in 'very high' from 14% to 24%
 - Combined with drop in 'somewhat unlikely' from 33% to 25%
- LLMs – and likely generative AI in general – are seen as near-term competitor for QC end user interest by 47% of respondents, up from 42% last year

QC Market Estimate: \$1.07 billion in 2024

27% annual growth rate drives global QC market to \$2.2 billion in 2027



- Exponential curve begins to dominate growth
- Consistently underestimating growth?

QC Market Projection Considerations

Key factors contributing to growing QC market complexity

- Increased interest/orders/installations for on-premises systems will drive significant revenues for some
 - D-Wave FY 2024 bookings exceeded \$23 million, a 120% increase over FY 2023, due in large part to a single system purchase by Davidson Technologies
 - QuEra was awarded a \$42 million contract in 2024 by Japan's AIST to deliver an on-premises QC
- Losses generally, and sometimes significantly, outweigh revenues
 - Company A posted revenues of \$10.8 million with a net loss of \$201.0 million for 2024
 - Company B recognized revenue of \$43.1 million with a net loss of \$331.6 million for 2024
- Most QC companies are private, and most intend to stay that way for at least the next few years
 - Limited financial reporting requirements
 - The bulk of funding inputs are not revenue based but instead come from VC or government sources
- External funding numbers are growing substantially and will likely skew markets
 - PsiQuantum will deliver QC in 2027 funded by the Australian government for \$620 million
 - Honeywell announced the competition of a \$300 million equity fundraise for Quantinuum
 - Quantum computing startups have already raised \$1.5 billion in venture funding in 50 deals (\$30 million/deal average) compared of nearly \$963 million in 77 deals in 2022 (\$12 million/deal average)

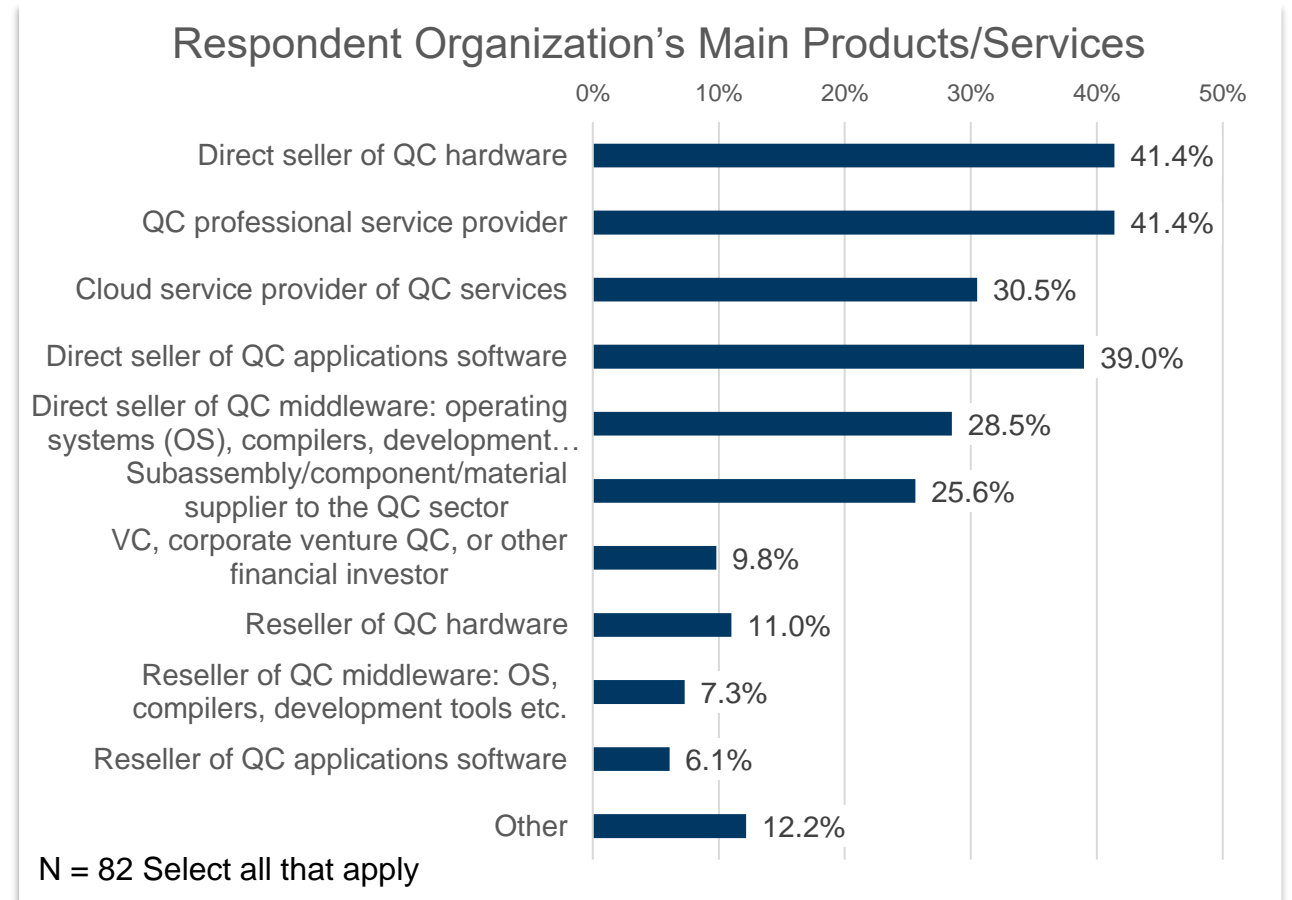
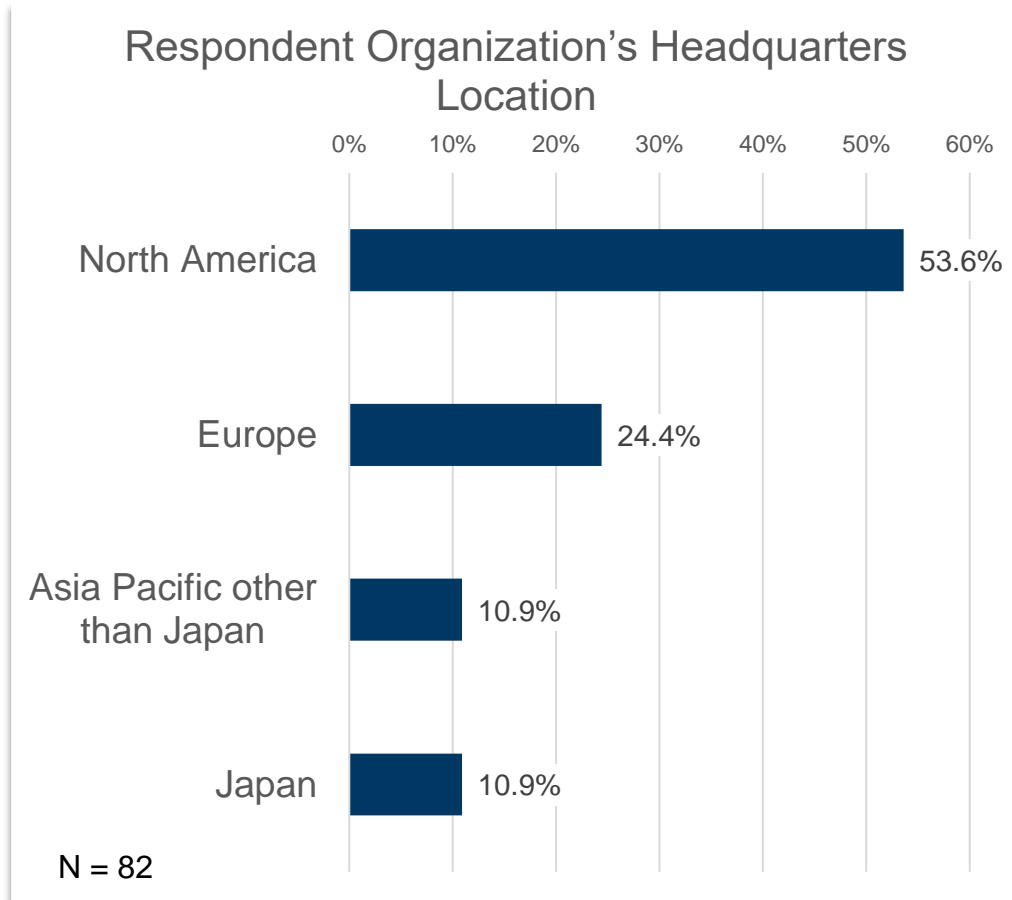
2024 QC Market Dynamics Study Roadmap

Formulate global status and prospects from a data-driven perspective

- Conducted QC supplier survey to gather data and insights on QC market dynamics
- Many thanks for assistance from various QC consortia in reaching out to their respective membership base to encourage participation in this effort:
 - Quantum Economic Development Consortium (QED-C)
 - European Quantum Industry Consortium (QuIC)
 - Quantum Industry Canada
 - Japan Quantum Strategic Industry Alliance for Revolution (Q-STAR)
 - Australian Quantum Alliance
 - UKQuantum
 - Korea Quantum Industry Association
- Gathered results to span:
 - Geographic variety, company size (total and QC-related revenues), market concentration, QC industry sentiment, and impressions on general trends in the sector
- Analyzed results from 115 respondents representing 82 different companies
 - Individual responses for industry-wide questions
 - Combined single response for multiple inputs from single organizations

QC Supplier Demographics: Location and Activity

Casting a wide regional and functional net



50% of respondent organizations had either R&D or manufacturing facilities outside their organization's headquarters country

QC Partnerships: With QC End Users

Most respondent organizations have a range of partnerships with QC end users

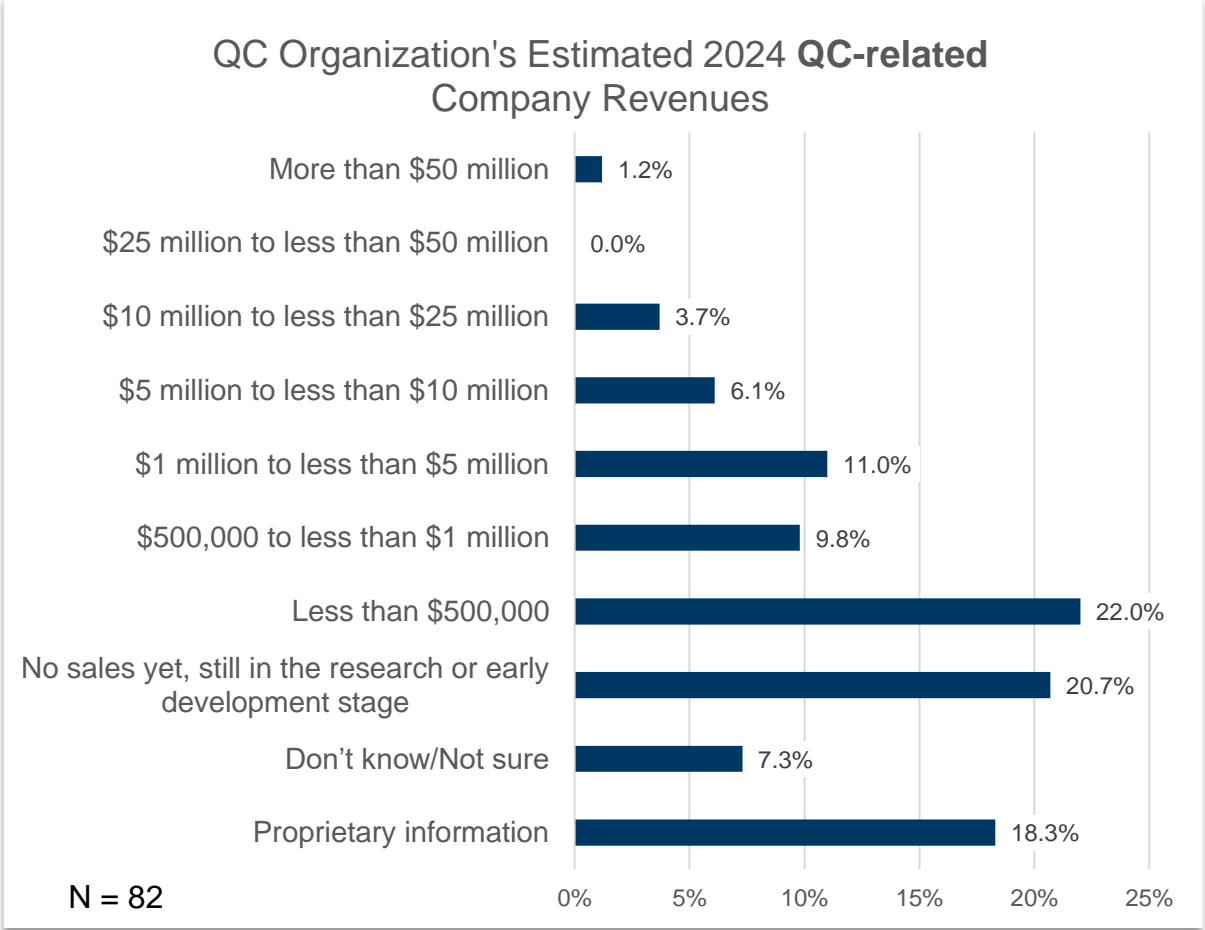
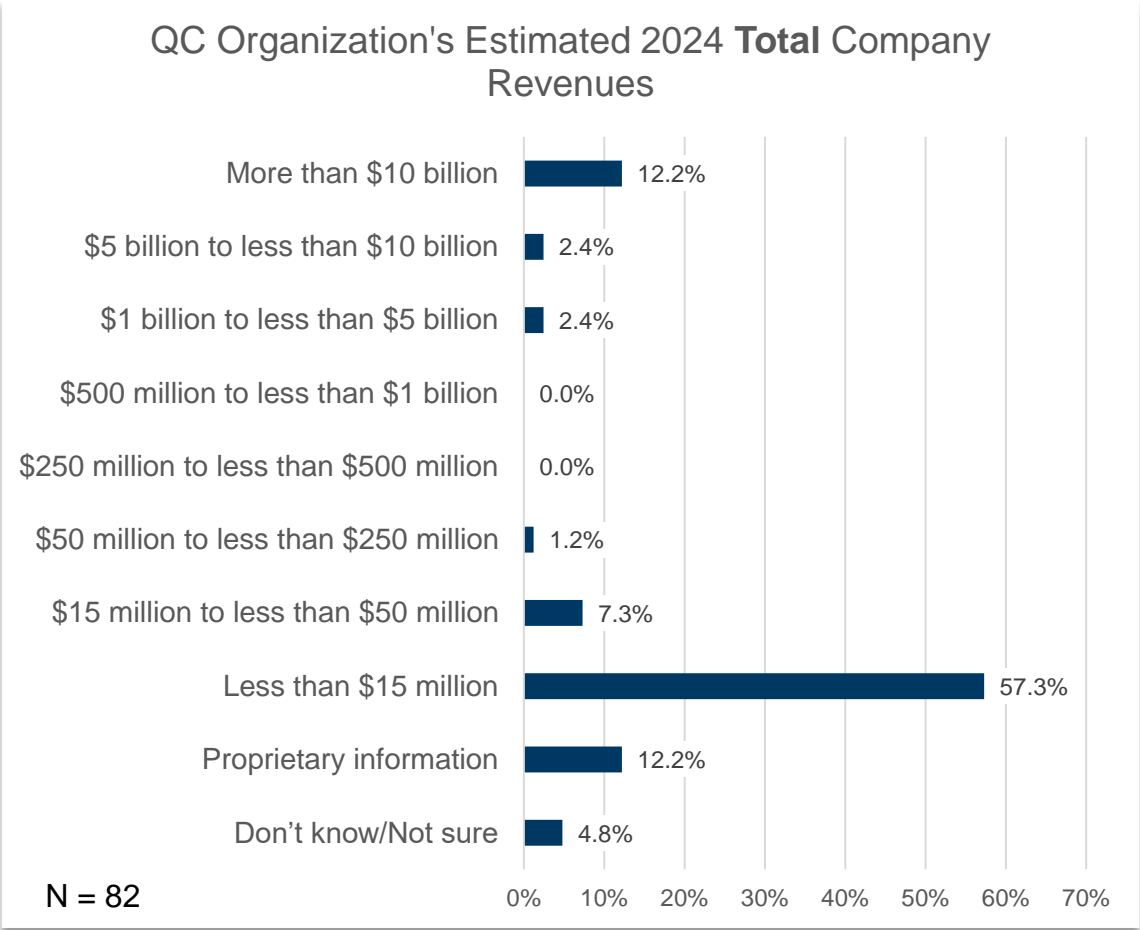
Option	% Selected
Explore new QC sector/vertical-specific QC-related opportunities	74.1%
Field test/evaluate new QC hardware	44.8%
Field test/evaluate new QC software	44.8%
Explore key performance gains over classical counterpart	43.1%
Establish sector-specific capabilities	41.4%
Foster public attention	39.7%
Encourage follow-on sales	36.2%
Explore QC/classical integration issues	31.0%
Access QC end user QC expertise	29.3%
Explorer QC sector/vertical-specific performance opportunities on existing classical workloads	27.6%
Access QC end user classical IT expertise	8.6%
Other	5.2%

N = 58, Select all that apply

- 71% of respondent organizations have a partnership with at least one QC end user
- Average respondent selected 4.2 options
- Field testing QC hardware and software both selected 44.8%
- Exploring sector-specific opportunities was overwhelming justification (74.1%)
- Building sector-specific skills (41.4%) and exploring QC performance advantages (43.1%) also key drivers

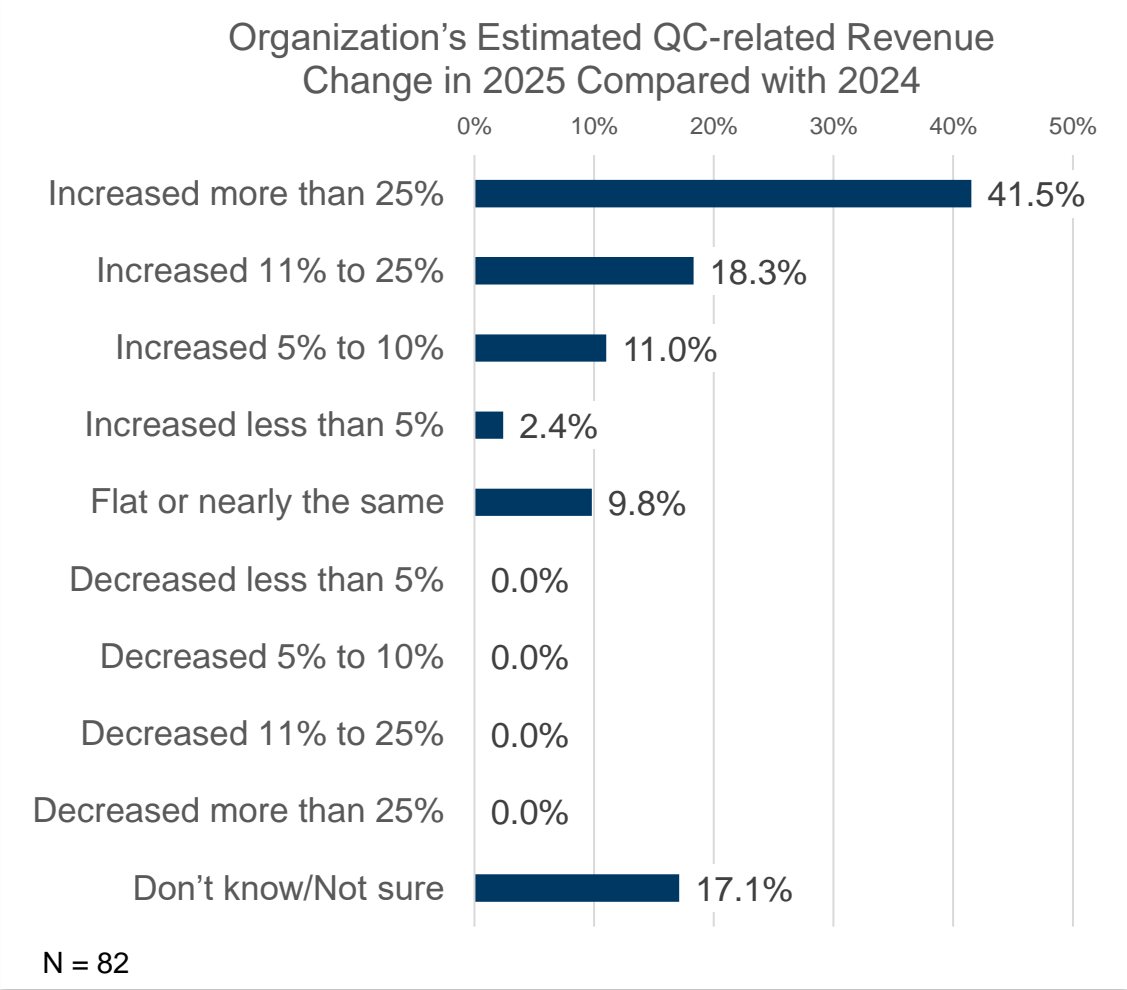
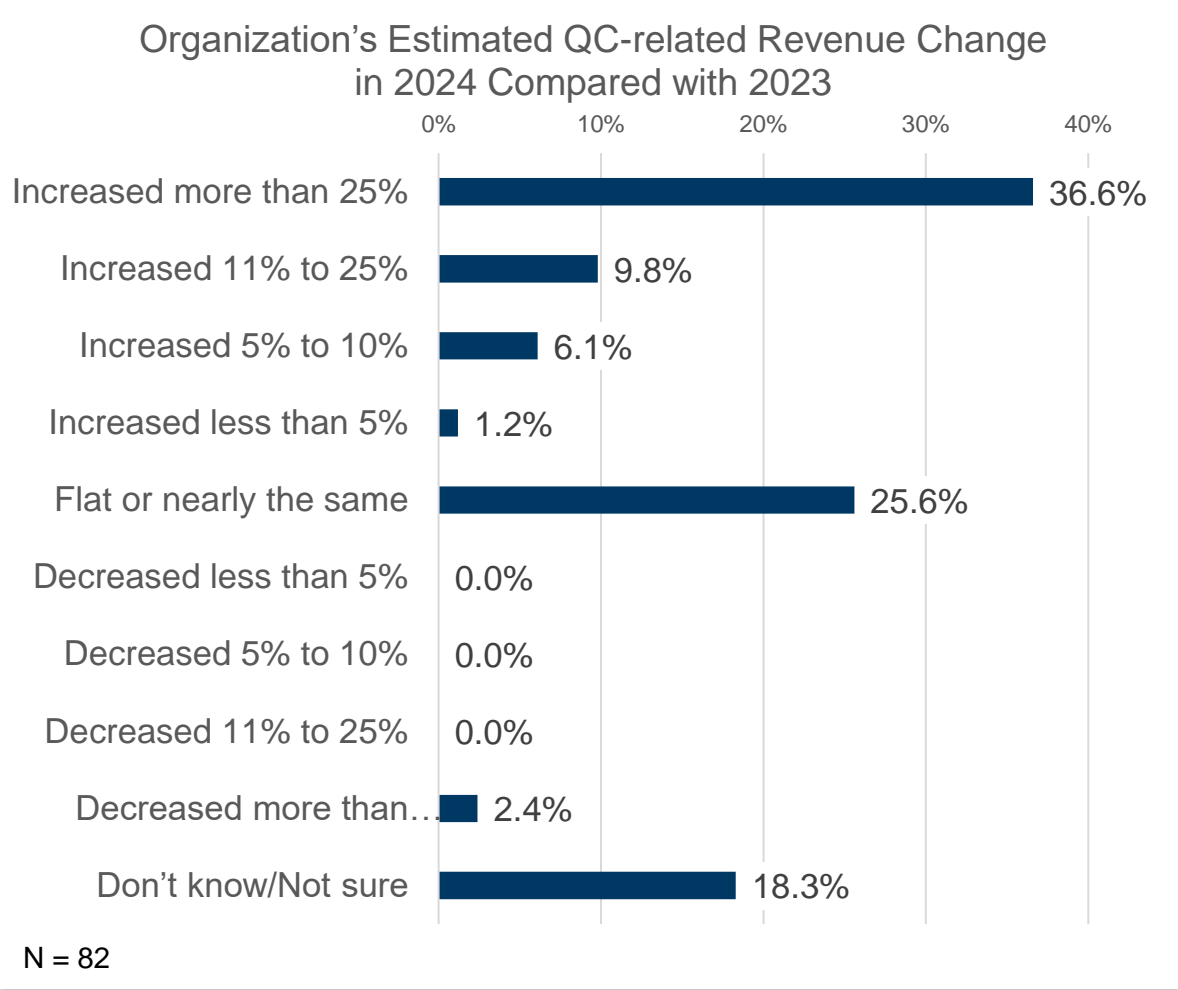
QC Suppliers: 2024 Total and QC Revenues

QC revenues: 42% < \$500K, 22% > \$1 million, 4 companies above \$10 million



QC Suppliers: Accelerating Revenue

42% expect more than 25% growth in 2025, no expected decreases



QC Suppliers: 2024 QC Financial Resource Inputs

Government-provided R&D major financial resource, followed by VCs

Option	% Responses
Government-provided R&D funding	52.4%
Venture capital funding	45.1%
Internal organization R&D budgets	35.4%
Commercial user payments for on-premises QC products and services	24.4%
Commercial user payments for cloud access models	18.3%
Government end user payments for on-premises QC products and services	17.1%
Academic user payments for on-premises QC products and services	14.6%
Government end user payments for cloud access models	9.8%
Academic end user payments for cloud access models	8.5%
Private loans	3.7%
Commercial loans	3.7%
Stock offerings	2.4%

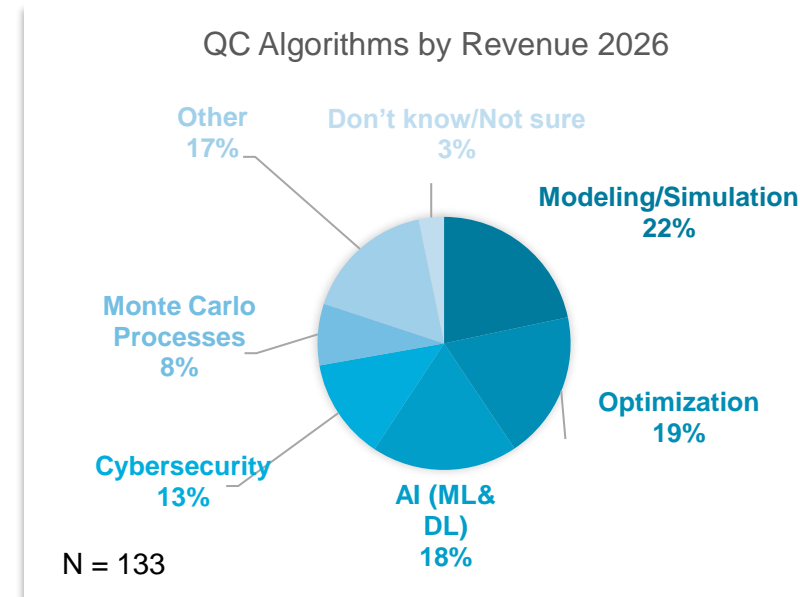
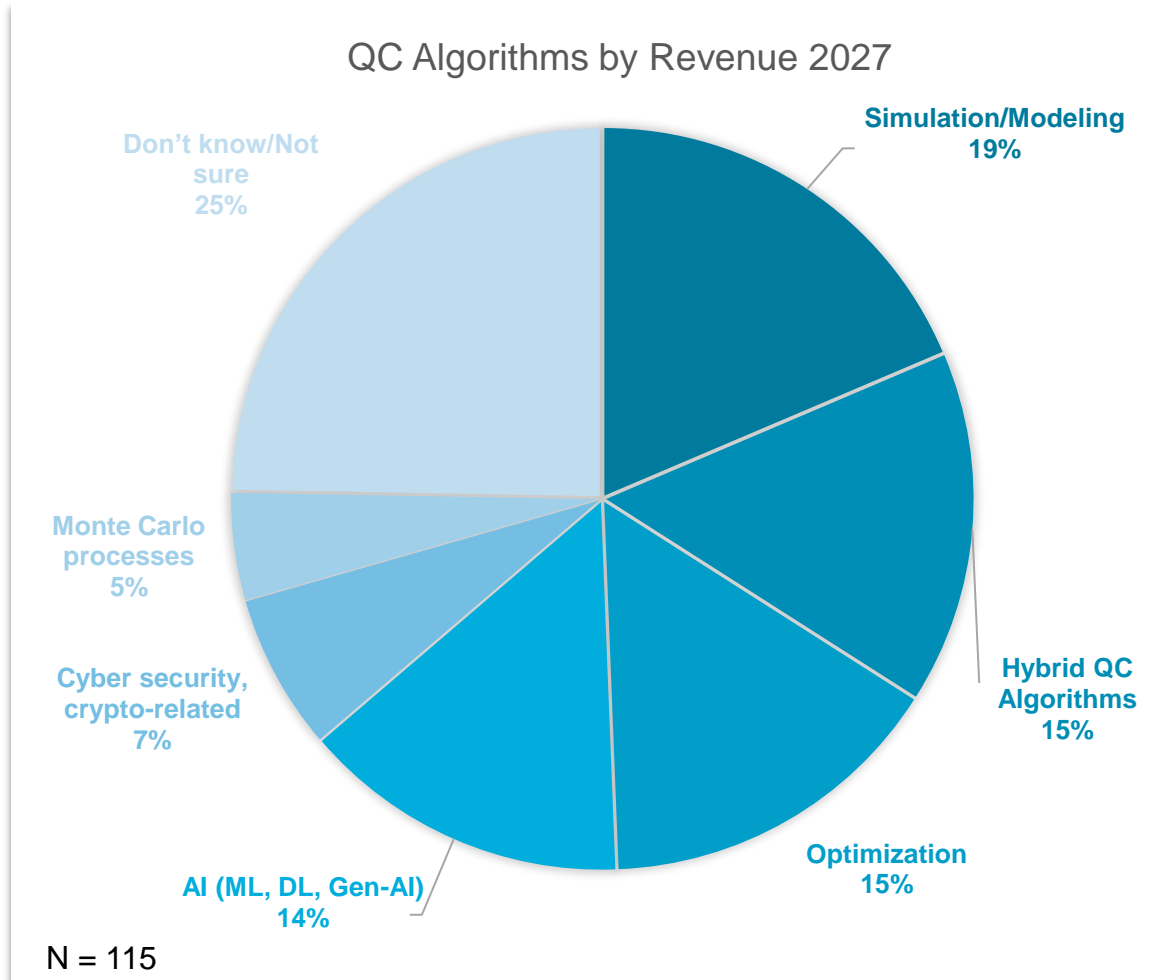
- QC suppliers rely on a mixture of income/funding inputs to support their operations
- About half of organizations surveyed received funding from government organizations or VCs
- One third from internal R&D budgets
- 24% received payments from commercial end users for direct products and services
 - 17% from government
 - 15% from academia
- More traditional financial instruments (stocks and loans) not widely used

N = 82

QC Market 2027: Major Algorithms by Revenue

Mod/sim #1 algorithm, but hybrid comes to the fore

- Modeling/simulation remains at #1
- Appearance of hybrid QC algorithms follows refinement of Others option from previous years
- Don't know/Not Sure dominates responses
 - Is this a problem for the QC supplier base?

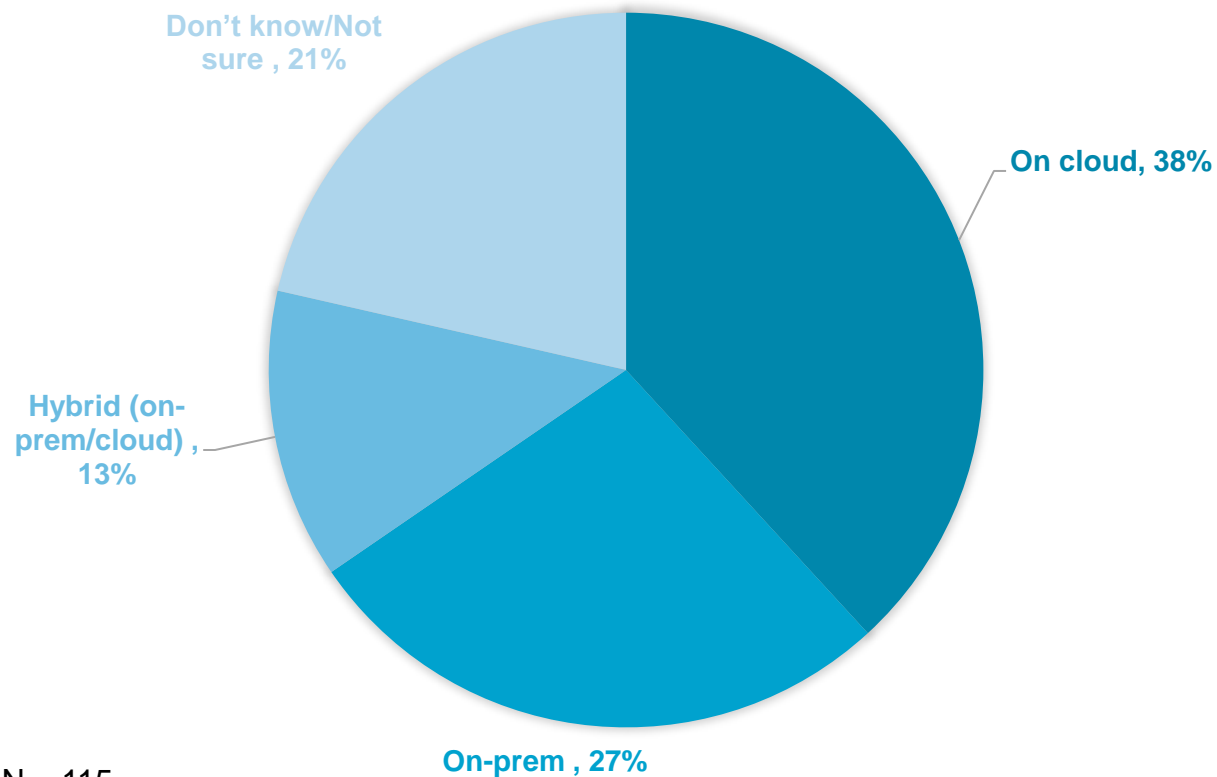


QC Market 2027: Access to QC Hardware

Cloud continues to dominate but on-prem moving up

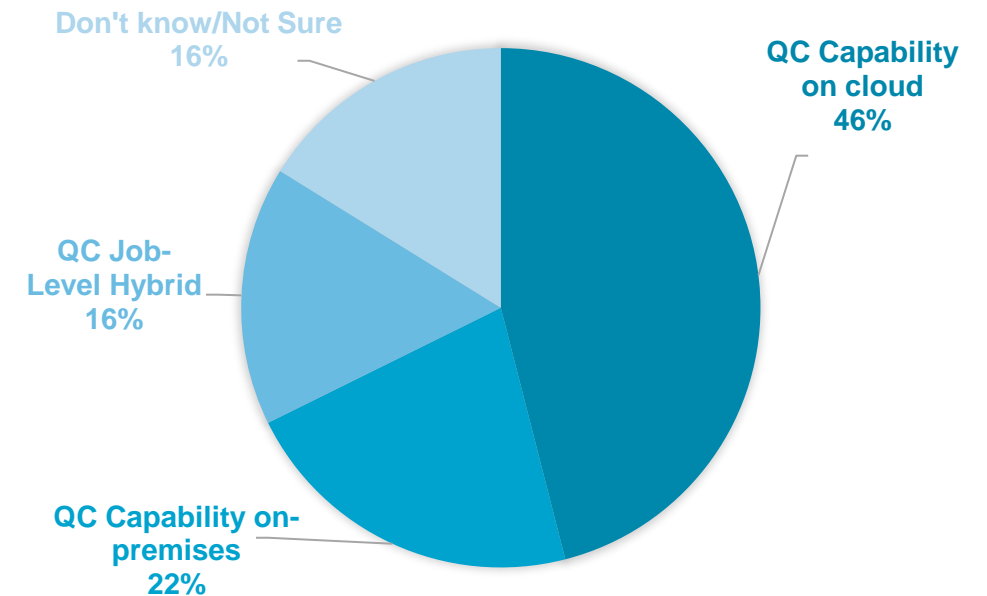
- Cloud revenues move from 46% to 38%
- Biggest move since tracking this number
- More Don't know/Not sure: more fence sitting?

Accessing QC Hardware by Revenue 2027



N = 115

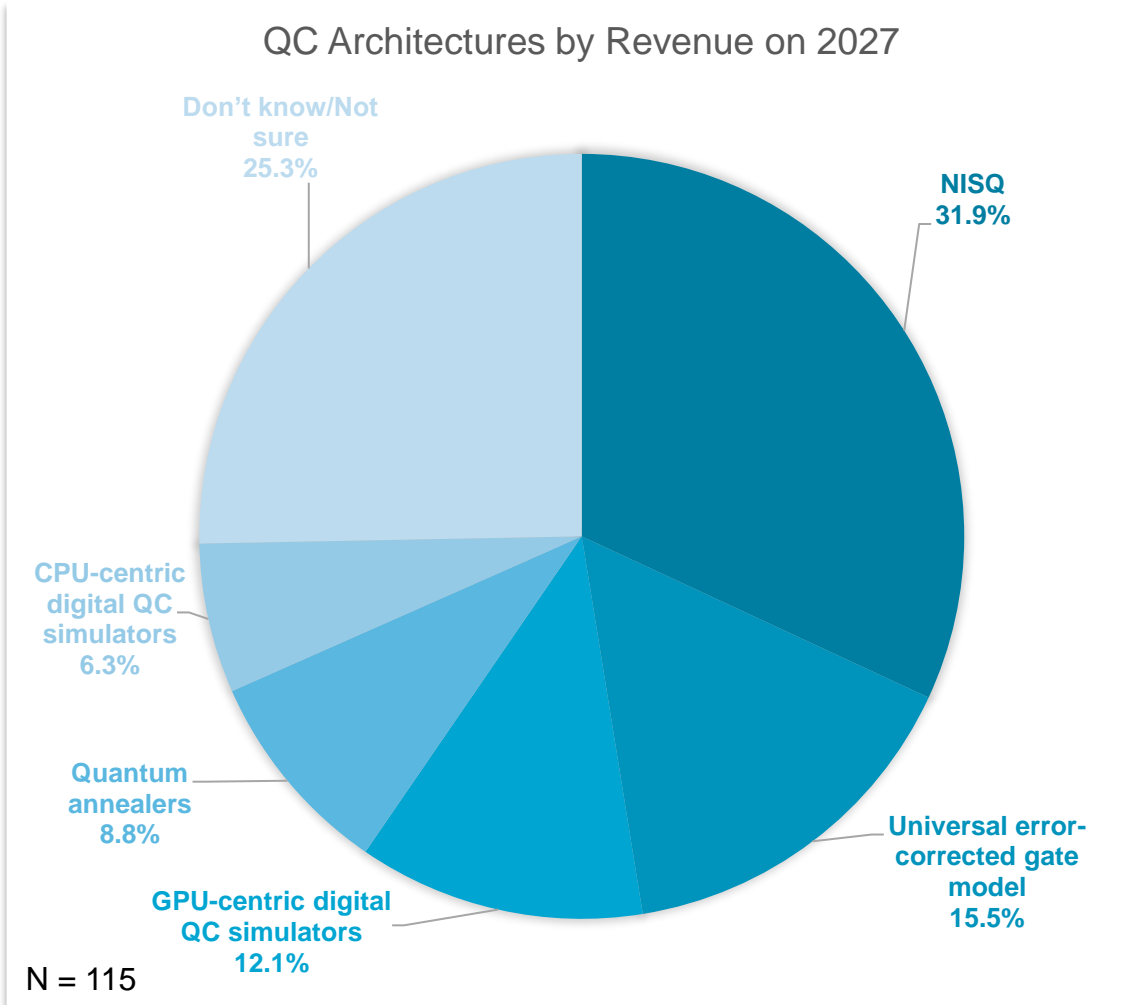
Accessing QC Hardware by Revenue 2026



N = 133

QC Market 2027: QC Architectures

NISQ maintains lead, QC simulators still major element of QC architecture

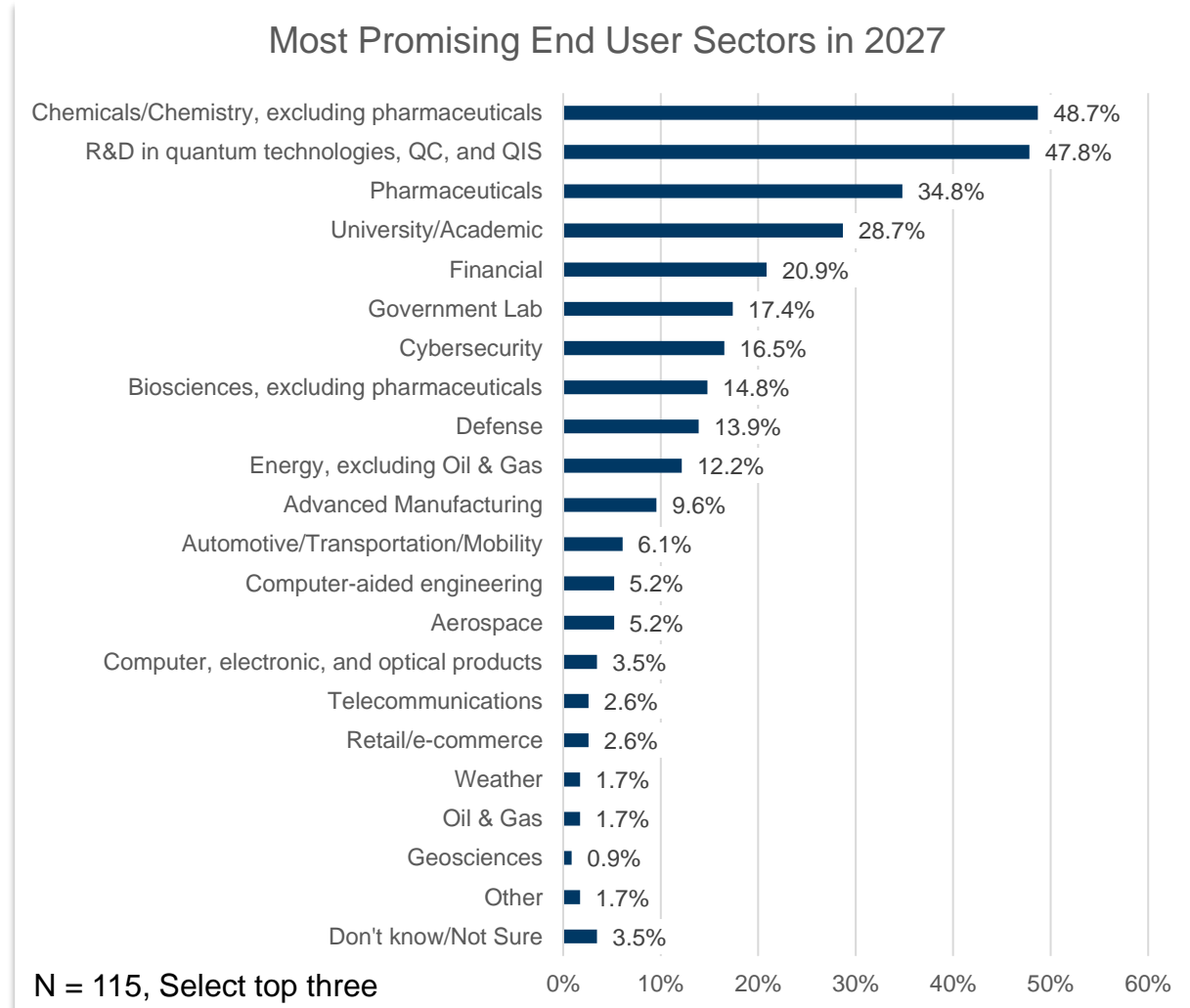


- NISQ dominates QC architecture in 2027
 - 2X universal error corrected gate model alternative
- Digital simulators (CPU and GPU based) combine for almost 19% of hardware market
 - But GPUs are preferred at 2x CPU rate
 - Room for options here
- Many Don't Knows/Not Sures
 - More fence sitting or lack of information?

N = 133

QC Market 2027: Top End User Sectors

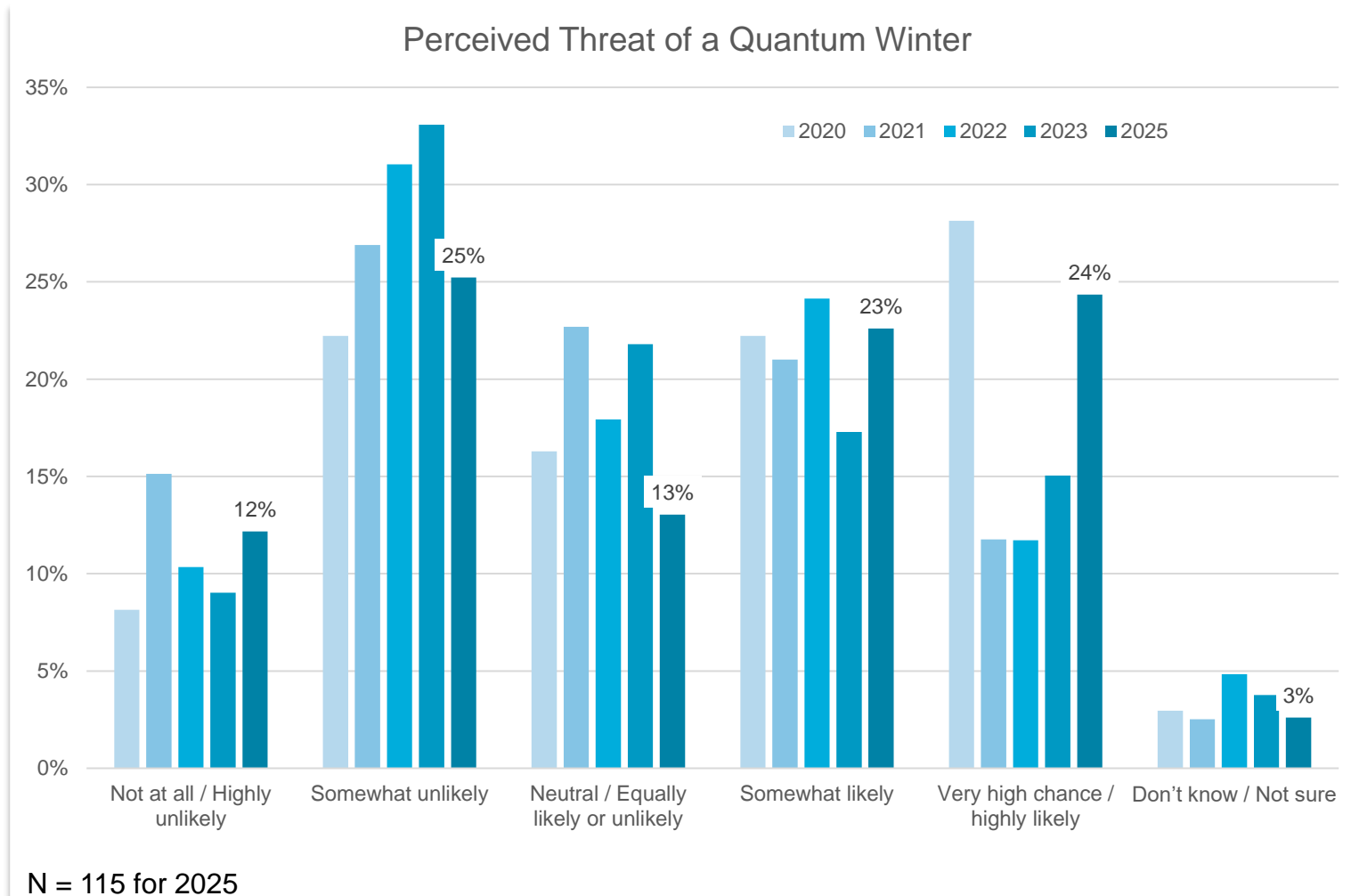
Chemicals and QC R&D on top, but broad applicability envisioned



- Chemical/Chemistry sector hits number 1
 - Up from #2 last year, #4 year before that
 - Reinforces early emphasis on mod/sim, especially computational chemistry, as major algorithm
- Likewise, pharmaceuticals continues its upward climb
 - 21% last year, 35% this year
- Applicability spans academic, commercial, and government spaces
- Finance drops from 30% to 21%
 - Optimization issues, saturation or contrived lack of visibility?
- Government labs hold steady, for now
- Although nearly every sector choice deemed important by some, there are clear concentrations in key areas

Whither Quantum Winter?

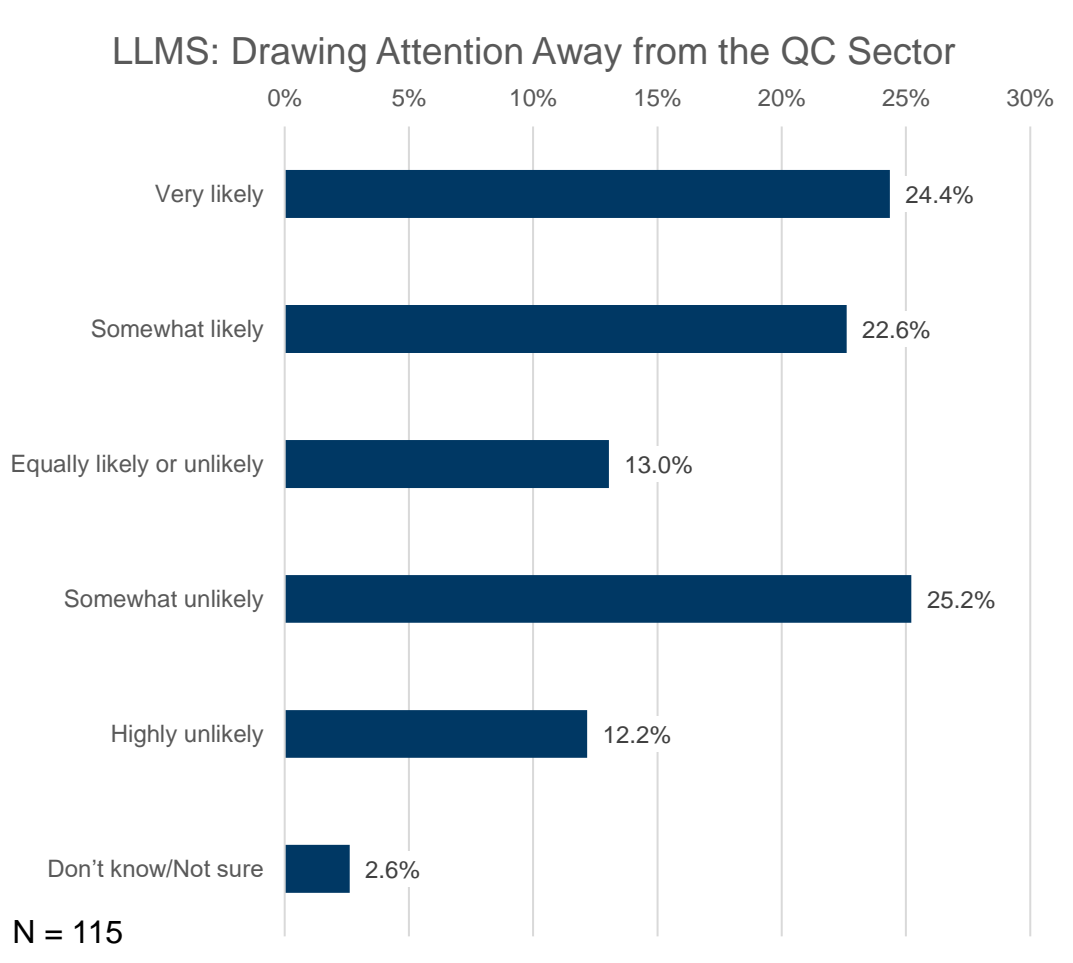
Rising concerns with many suspects



- Almost half of respondents see a chance for a quantum winter
 - Significant jump in very high chance from 14% to 24%
 - Combined with drop in somewhat unlikely chance from 33% to 25%
- More revenues are coming in, but losses are high
- Budget shifts from focused R&D to broader production
- Costly transition from cloud to on-premises
- Gen- AI distractions
- N.b. Respondents optimistic about their own survival
- *Quantum winter defined here as a greater than 25% decline in investment in QC R&D that lasts more than three years - in the next ten years*

QC Distractions and LLMs

How likely is it that the emergence of large language models like ChatGPT and BERT will draw attention away from end user interest in quantum computing?



- LLMs - and likely generative AI in general - seen as near-term competitor for end user interest in QC by 47% of respondents
 - Up from 42% last year
- 37% not overly concerned
 - Down from 42% last year
- Demonstrates need for QC to continue to deliver on technology/performance gains
- Highlights perceived end user interest in performance gains no matter how it is delivered

QUESTIONS?



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Float to the top or sink to the bottom. Everything in the middle is the churn.

- Amos Burton, Engineer *The Expanse*