The Next Big Theme: Positioning for Early Growth in Quantum Computing

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Key Takeaways

- Quantum computing is nearing an inflection point as recent breakthroughs in qubit stability, error correction and hardware innovation draw significant attention from tech leaders, governments and investors.
- Despite macroeconomic headwinds, the launch of the WisdomTree Quantum Computing Fund (WQTM) offers exposure to a fast-evolving ecosystem poised to disrupt industries from AI to cyber-security.
- Through its partnership with quantum software leader Classiq, WQTM combines purity and relevancy in a strategy that targets both specialized quantum pioneers and global tech giants shaping the field's future.

Quantum computing is rapidly emerging as one of the next big themes in technology, capturing attention for its potential to redefine the limits of computation. As research breakthroughs accelerate and commercial applications move closer to reality, pure players in the space and major tech companies are drawing increased investor interest.

At the same time, WisdomTree has launched the WisdomTree Quantum Computing Fund (WQTM), designed in collaboration with Classiq to capture this inflection point. WQTM provides investors with exposure to the companies advancing quantum hardware, software and ecosystem innovation. The momentum is undeniable—but what does this breakthrough technology truly promise, what drives academia, corporate and investor enthusiasm, and how can investors position themselves to capture the growth opportunities it offers?

The Promise of Quantum Computing

Quantum computing represents a revolutionary leap in computational power due to a fundamentally new approach to information processing. By harnessing the principles of quantum mechanics and leveraging qubits (quantum bits), quantum computers can analyze vast amounts of data simultaneously and enable problem-solving at speeds and scales unimaginable for classical machines. Qubits are the basic units of information in quantum computing, similar to bits in regular computers but with a twist—they can represent both 0 and 1 at the same time. This ability, called superposition, lets quantum computers explore many

possibilities at once instead of one by one. When combined with another property called entanglement, qubits can work together in ways that allow quantum computers to solve certain problems much faster than classical ones.

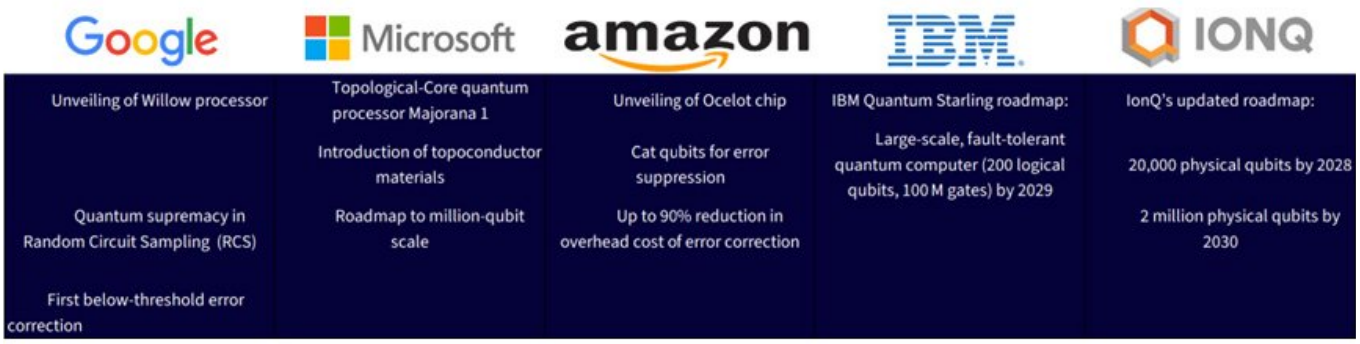
This paradigm shift opens the door to breakthroughs far beyond the reach of traditional computing, with the potential to reshape entire fields—accelerating drug discovery, advancing artificial intelligence, redefining cybersecurity and modeling complex systems such as climate patterns, molecular structures and financial markets with unprecedented precision.

Quantum Computing on the Way to Inflection Point

What makes quantum computing especially compelling today is the growing sense that the field is nearing an inflection point—with NVIDIA CEO Jensen Huang among the latest tech leaders to endorse this view[1]. Advances in qubit stability and error correction are improving reliability, while cloud-based platforms and high-performance computing centers are broadening access and enabling hybrid approaches[2]. Increasing government funding and strategic partnerships between technology leaders, startups and research institutions are accelerating the path to commercial viability and underscore the strategic importance of the field[3].

Recent milestones—such as Google's Willow processor, a demonstration of quantum supremacy and a milestone in quantum error correction; Microsoft's groundbreaking research on topological qubits and Majorana 1 chip; Amazon's work on cat qubits and the Ocelot chip; IBM's unveiling of the Quantum Starling roadmap; and IonQ's accelerated roadmap to two million physical qubits—have strengthened investor optimism and underscored how quickly the field is advancing[4]. At the same time, anticipation of "Q Day"—a moment when current encryption systems could be broken—has become a catalyst for global awareness, prompting companies to familiarize themselves with the technology and begin preparing now. Combined with advances in artificial intelligence, these forces are pushing quantum computing from theoretical promise toward tangible impact, making it an increasingly urgent theme for governments, businesses and investors, in our opinion.

Figure 1: Recent Breakthroughs and Milestones in Quantum Computing



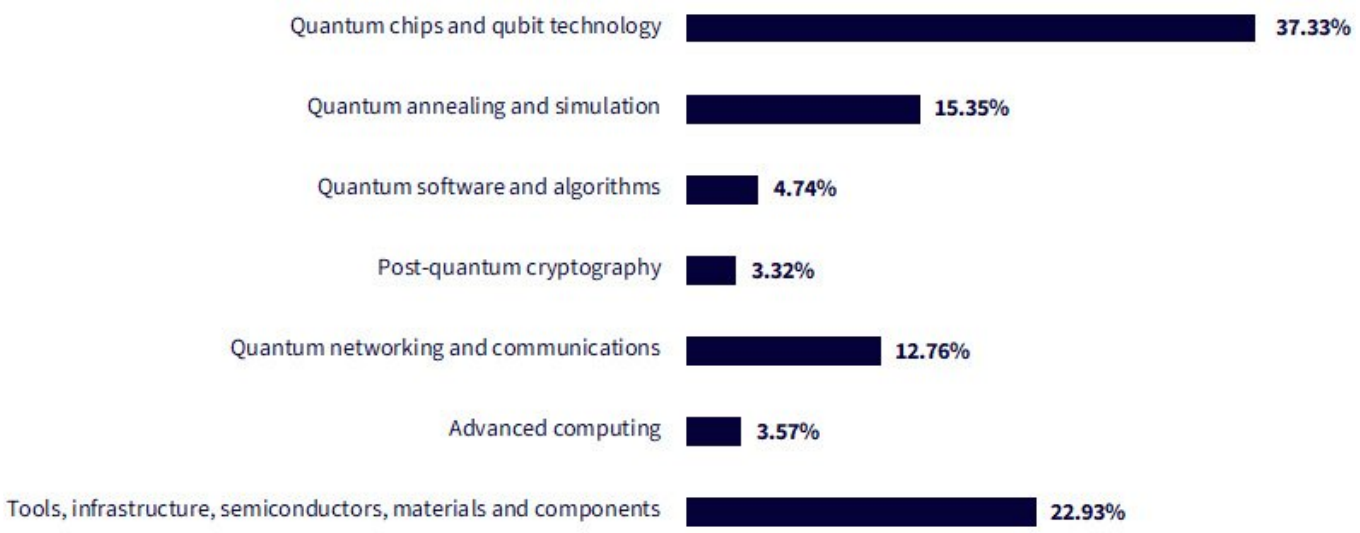
Sources: respective company websites.

Capturing the Investment Potential of Quantum Computing

For investors, the significance of quantum computing extends far beyond technological novelty. It is poised to become a foundational platform for innovation, like semiconductors in the 1960s, the internet in the 1990s and cloud computing and artificial intelligence today. Its impact is expected to ripple across industries, with the potential to transform existing markets while creating entirely new ones. The companies building this ecosystem are not merely developing a technology; they are potentially laying the groundwork for decades of innovation and sustained economic growth.

At WisdomTree, we recognize the immense potential of this field and have launched the WisdomTree Quantum Computing Fund (WQTM) to provide investors with compelling exposure to quantum innovation—positioning them to benefit from the next wave of transformative value creation. Our strategy is designed to capture the potential of the space through exposure to leading pure players and diversified innovators across the quantum computing ecosystem domains, offeringgrowth opportunities associated with the progress in the space.

Figure 2: WisdomTree's Quantum Computing Ecosystem



Source: WisdomTree. The represented exposure is for the WisdomTree Classiq Quantum Computing Index based on the target weights set for the Index rebalance on August 15, 2025. Subject to change. **You cannot invest directly in an index. Historical performance is not an indication of future performance, and any investments may go down in value.**

This includes the development of chips and qubit technologies, specialized systems such as annealers[5] and simulators[6] and the full software stack—from user-facing platforms and algorithms to compilers[7], error correction and control systems[8]. We also consider cloud-based Quantum-as-a-Service models, emerging fields like post-quantum cryptography[9] and quantum networking[10], as well as advanced and hybrid computing architectures. Finally, we recognize the role of enabling infrastructure—tools, semiconductors, materials and components—that provide foundational support for quantum research, development and eventual commercialization. Taken together, these domains are expected to capture value creation as the

space advances through various stages of maturity, offering a robust and dynamic way to participate in the associated growth opportunities.

Collaboration with Classiq, a Leader in Quantum Software

To deepen our investment insight and offer a truly differentiated exposure to quantum innovation, WisdomTree has partnered with leading quantum software company Classiq to bring the WisdomTree Quantum Computing Fund to the U.S. ETF market. It's powerful in such a specific area of technology to be able to note that we co-developed the strategy with a pure player in quantum computing, providing investors with an unprecedented connection to the forefront of quantum innovation. Given that Classiq is new to many of our readers, we wanted to note that they have built a full quantum software stack—spanning high-level modeling, automated circuit synthesis, optimization, and hardware-agnostic deployment—that significantly lowers the barrier between algorithm design and quantum execution. The company has secured $110 million in a single Series C round, the largest-ever for a quantum software firm, which underscores strong investor confidence in its technology and growth trajectory. In addition, Classiq integrates with all major quantum cloud platforms, including AWS Braket, Azure Quantum, and Google Cloud, while collaborating with leading enterprises across diverse sectors, demonstrating both technical credibility and commercial traction[11].

Classiq stands out as a leader in quantum software by providing a full-stack development platform that enables the design, optimization and deployment of complex quantum algorithms. Its approach abstracts away from low-level gate programming, allowing developers to work at a higher functional level while ensuring algorithms run efficiently across different quantum hardware. Through strategic partnerships with leading cloud providers, hardware developers and academic institutions, Classiq is deeply integrated into the ecosystem and well-positioned to serve as the "operating system" for quantum computing.

By collaborating with Classiq, WisdomTree gains unique insights into the developments shaping the quantum landscape—from algorithmic breakthroughs and hardware roadmaps to adoption trends across industries. This perspective seeks to enhance our ability to identify pure-play leaders, the most promising innovators and enablers in the field.

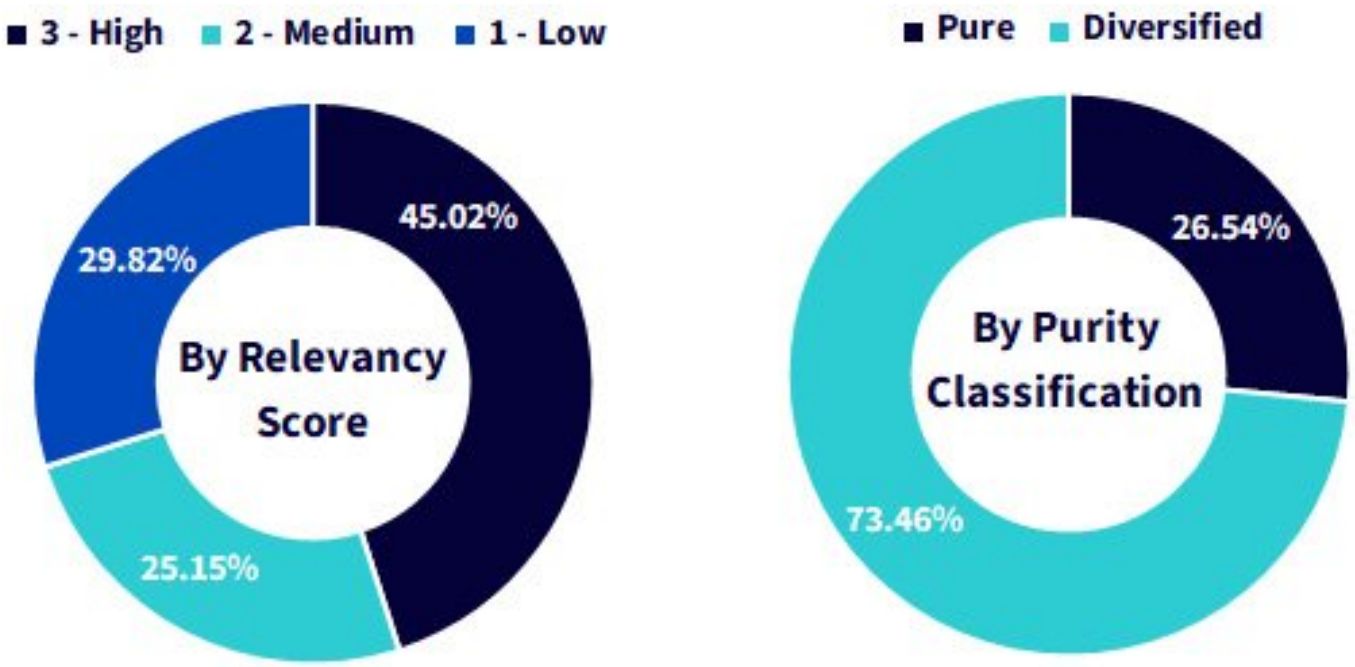
Focus on Purity and Relevancy

To ensure that the strategy delivers meaningful exposure to quantum computing, WisdomTree and Classiq leverage a structured framework that is designed for both purity and relevancy (figure 3). Each eligible company is assessed using two complementary measures: a Relevancy Score and a Purity Classification.

The Relevancy Score is assigned as 3, 2 or 1, reflecting whether a company's quantum computing business activities are of high, medium or low relevance and the significance of those activities to the progress of the field.

The Purity Classification distinguishes between pure players—firms primarily focused on quantum computing—and diversified leaders and innovators, where quantum represents only part of their business and revenue mix.

Figure 3: Strategy Breakdown by Relevancy Score and Purity Classification



Source: WisdomTree. The represented exposure is for the WisdomTree Classiq Quantum Computing Index based on the target weights set for the Index rebalance on August 15, 2025. **Subject to change. You cannot invest directly in an index. Historical performance is not an indication of future performance, and any investments may go down in value.**

In terms of weighting, each company starts with an equal weight. Adjustments are then applied in a two-step process (figure 4), where higher relevancy and purity tilt the strategy more strongly toward the companies most central to quantum innovation. This approach maintains a clear focus on the players driving the field forward and who we believe are expected to benefit the most from further progress in quantum computing.

Figure 4: Two-Stage Weighting Process

Stage 1: Relevancy

	Relevancy Score 3	Relevancy Score 2	Relevancy Score 1
Starting weights	Equal weights		
Weight adjustment	30% upweight	Same weight	30% downweight

Stage 2: Purity

	Pure	Diversified
Starting weights	Weights from Stage 1	
Weight adjustment	30% upweight	30% downweight

Source: WisdomTree.

The resulting top 10 holdings, showcasing our purity and relevancy framework (figure 5), represent a mix of pure players with the highest weights, such as D-Wave, IonQ, Rigetti and Quantum Computing Inc, and diversified leaders and innovators like Alphabet, Amazon, Microsoft and IBM, all of which are at the forefront of hardware development and ecosystem innovation. This blend reflects both sides of the opportunity: the high-growth potential of specialized quantum pioneers and the scale, resources and credibility of global technology leaders.

Figure 5: Strategy's Top 10 Holdings

Company name	Weight	Purity	Relevancy
D-Wave Quantum Inc	6.16%	Pure	High
IonQ Inc	6.16%	Pure	High
Rigetti Computing Inc	6.16%	Pure	High
Quantum Computing Inc	4.74%	Pure	Medium
Alphabet Inc	3.32%	Diversified	High
Amazon.com Inc	3.32%	Diversified	High
Fujitsu Ltd	3.32%	Diversified	High
Intel Corp	3.32%	Diversified	High
International Business Machines Corp	3.32%	Diversified	High
Microsoft Corp	3.32%	Diversified	High
Total	**43.13%**		

Source: WisdomTree. The top 10 holdings are for the WisdomTree Classiq Quantum Computing Index based on the target weights set for the Index rebalance on August 15, 2025. **Holdings are subject to change. For a list of current holdings, click here. You cannot invest directly in an index. Historical performance is not an indication of future performance, and any investments may go down in value.**

Conclusion

Quantum computing represents far more than the next step in technology; it is the dawn of a new era of discovery and innovation. As breakthroughs accelerate and the ecosystem matures, quantum has the potential to reshape industries, redefine problem-solving and unlock solutions to challenges once thought intractable. By providing investors with highly relevant exposure, our strategy seeks to participate in this historic transformation—capturing not just growth but a front-row seat to one of the most profound technological revolutions of our time.

[1] PYMNTS. (2025, June 11). *Nvidia CEO sees quantum computing reaching 'inflection point'*. PYMNTS.

[2] Sources: Microsoft. (2025). *What is Azure Quantum?;*Amazon Web Services. (2025). *Running your quantum tasks with Amazon Braket;* Google Quantum AI. (2025). *Quantum Engine API.*

[3] Source: McKinsey & Company. (2025). *Quantum Technology Monitor 2025: The year of quantum — from concept to reality* (p. 2). McKinsey.

[4] Sources: Google. (2024, December 9). *Meet Willow, our state-of-the-art quantum chip*. Google Blog; Newman, M., & Satzinger, K. (2024, December 9). Making quantum error correction work. *Google*

Research Blog; Microsoft. (2025, February 19). *Microsoft unveils Majorana 1, the world's first quantum processor powered by topological qubits*. Azure Quantum Blog; IonQ Staff. (2025, June 13). *IonQ's accelerated roadmap: turning quantum ambition into reality*. IonQ Blog; PostQuantum. (2025, June 19). *IonQ's 2025 roadmap: toward a cryptographically relevant quantum computer by 2028*. PostQuantum; NextBigFuture. (2025, June). *IONQ Plans 2 Million Qubits by 2030 and 80,000 Error Corrected Logical Qubits*. NextBigFuture; Quantum Computing Report. (2025). *IonQ announces regulatory approval for Oxford Ionics acquisition and provides a roadmap update at its 2025 analyst day meeting*. Quantum Computing Report.

[5] A quantum annealer is a special kind of quantum computer built to solve optimization problems—like finding the best route, lowest cost, or most efficient arrangement—by exploring many possibilities at once. Instead of running general programs, it uses quantum physics to "settle" into the best possible solution much faster than traditional trial-and-error methods.

[6] A quantum simulator is a system—often built using quantum hardware—that imitates the behavior of real quantum particles and materials. It helps scientists study complex phenomena in physics and chemistry that are too difficult for regular computers to calculate.

[7] A quantum compiler is software that translates human-written quantum programs into the precise instructions a quantum computer's hardware can understand. It makes sure the program runs efficiently on the specific type of quantum machine being used.

[8] A quantum controller is the hardware and software system that sends finely tuned signals to operate and stabilize qubits. It acts like the "nervous system" of a quantum computer, keeping qubits in the right states so computations can happen reliably.

[9] Post-quantum cryptography is a new kind of encryption designed to stay secure even against powerful future quantum computers. It replaces today's vulnerable methods with mathematical problems that quantum machines can't easily solve.

[10] Quantum networking is the use of quantum particles, like photons, to share information securely between different quantum devices. It enables things like unhackable communication and the linking together of quantum computers into larger, more powerful systems.

[11] Classiq Technologies. (2025, May 12). *Classiq raises $110M in largest-ever quantum software funding round* [Press release].

Important Risks Related to this Article

For current holdings of WQTM, please click here. Holdings are subject to risk and change.

There are risks associated with investing, including potential loss of principal. To the extent the Fund invests a significant portion of its assets in the securities of companies of a single country or region, it is more likely to be impacted by events or conditions affecting that country or region. The economic, political, regulatory, and other events and conditions that affect issuers and investments in the United States differ significantly from those associated with other countries and regions. U.S. financial markets have become increasingly globalized becoming more integrated with financial markets around the world and as a result, U.S. financial markets are increasingly vulnerable to the risks that may affect non-U.S. financial markets. The Fund's investments in the U.S. are particularly subject to the risk that they, and the U.S. economy more generally, will be adversely affected by a decrease in imports or exports, changes in trade regulations, inflation, and/or an economic recession in the U.S. The Fund invests primarily in the securities of quantum computing companies. Companies engaged in the development of quantum computing or machine learning technology may be significantly impacted by rapid technological advancements, product obsolescence, intense competition, consumer demand, and government regulation. Such companies are also heavily dependent upon patent and intellectual property rights. Tariffs placed on specialized components and/or raw materials used by such companies may increase costs and delay progress associated with research and developments in quantum computing and machine learning. The Fund invests in the securities included in, or representative of, its Index regardless of their investment merit and the Fund does not attempt to outperform its Index or take defensive positions in declining markets. The composition of the Index is heavily dependent on quantitative and qualitative information and data from one or more third parties, and the Index may not perform as intended. Please read the Fund's prospectus for specific details regarding the Fund's risk profile.