# Dossier: ATOMINC INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,000,000.00

**Award Date:** 2023-11-07

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

ATOMINC INC (Atom Computing) is a quantum computing company focused on developing scalable and fault-tolerant quantum computers. Their core mission is to build quantum computers powerful enough to solve previously intractable problems in areas such as materials discovery, drug development, financial modeling, and national security. They aim to surpass the limitations of classical computing by leveraging trapped atom qubits. Atom Computing's unique value proposition lies in their approach to quantum computing using optically trapped neutral atoms, which they claim offers inherent advantages in scalability and coherence compared to competing quantum computing modalities like superconducting qubits or trapped ions. They aim to provide quantum computing services to both commercial and government entities, enabling them to tackle complex calculations beyond the reach of classical systems.

**Technology Focus:**

* Atom Computing uses neutral atom qubits trapped in optical tweezers. Their approach allows for precise control and manipulation of individual atoms, facilitating the creation of large, highly connected qubit arrays.
* Their "Phoenix" system features over 1,200 physical qubits. While the number of usable "logical" qubits is currently smaller due to error correction challenges, the large number of physical qubits positions them well for future advances in error correction techniques.
* They are actively developing error correction schemes and quantum algorithms optimized for their neutral atom architecture. They emphasize achieving high fidelity gate operations which will be key to practical quantum computation.

**Recent Developments & Traction:**

* March 2023:\*\* Atom Computing announced the development of a 1,225-qubit quantum computer, named "Phoenix."
* October 2021:\*\* Atom Computing raised a $60 million Series B funding round led by Third Point Ventures with participation from Primer Movers Lab and existing investors. This funding was earmarked for scaling up their quantum computing technology and expanding their team.
* July 2021:\*\* Atom Computing announced a collaboration with the University of California, Berkeley, to advance quantum computing research.

**Leadership & Team:**

* Rob Hays (CEO):\*\* Previously held senior leadership roles at Intel, including leading the company's data center infrastructure group.
* Dr. Ben Bloom (CTO & Co-founder):\*\* Expert in atomic physics and quantum information science. Previous experience includes research at Sandia National Laboratories.

**Competitive Landscape:**

* IonQ:\*\* Similar focus on trapped ion technology. IonQ has achieved early commercial traction and public listing, but Atom Computing's neutral atom approach may offer scalability advantages in the long term.
* Rigetti Computing:\*\* Focuses on superconducting qubits. Rigetti has publicly demonstrated various generations of quantum processors, but Atom Computing emphasizes achieving greater qubit coherence and connectivity.

**Sources:**

* [https://www.atom-computing.com/](https://www.atom-computing.com/)
* [https://techcrunch.com/2021/10/20/atom-computing-nabs-60m-series-b-to-build-its-quantum-computers/](https://techcrunch.com/2021/10/20/atom-computing-nabs-60m-series-b-to-build-its-quantum-computers/)
* [https://venturebeat.com/ai/atom-computing-unveils-phoenix-a-1225-qubit-quantum-computer/](https://venturebeat.com/ai/atom-computing-unveils-phoenix-a-1225-qubit-quantum-computer/)