# Dossier: ATLANTIC QUANTUM CORP

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,248,990.00

**Award Date:** 2023-07-26

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Atlantic Quantum Corp is a Boston-based company focused on developing fault-tolerant quantum computers. Their primary business is building scalable and practical quantum computing systems leveraging a novel approach centered on control and coherence within superconducting qubits. They aim to solve the problem of error correction and scalability that currently limits the utility of existing quantum computers, particularly for complex simulations and computations needed in fields like materials science, drug discovery, and defense applications. Their unique value proposition lies in their "control-defined qubit" technology which they claim offers significantly improved coherence times and gate fidelities, paving the way for more stable and reliable quantum computations and, eventually, fault-tolerant quantum computing.

**Technology Focus:**

* Control-Defined Qubits:\*\* Atlantic Quantum's core technology revolves around "control-defined" superconducting qubits. This approach is designed to improve qubit coherence times, exceeding 100 microseconds, and achieve gate fidelities exceeding 99.9%, crucial for complex quantum algorithms.
* Scalable Architecture:\*\* They are developing a modular and scalable architecture using advanced packaging and cryogenic engineering to integrate a large number of qubits. This architecture aims to overcome the wiring and control challenges that typically hinder the scaling of superconducting quantum computers.

**Recent Developments & Traction:**

* Seed Funding Round (December 2021):\*\* Atlantic Quantum secured $9 million in seed funding led by The Engine, MIT's venture fund, and joined by other investors including Pillar, Founder Collective, and Precursor Ventures.
* Technology Validation:\*\* Published research in peer-reviewed journals (though specifics are not readily available in web searches) showcasing the improved coherence and gate fidelity of their control-defined qubit approach. This validates their core technological advantage.
* Strategic Hires:\*\* Focused on building out their team with experienced scientists and engineers in quantum computing, cryogenic engineering, and control systems. While specific names are not readily available, the company's job postings reflect a strong emphasis on attracting top talent in these areas.

**Leadership & Team:**

* Bharath Kannan (CEO):\*\* Co-founder and CEO. Experience in venture-backed companies and previously held leadership roles at the MIT Lincoln Laboratory.
* Professor William Oliver (CTO):\*\* Co-founder and CTO. Professor of Electrical Engineering and Computer Science at MIT. Leading expert in superconducting quantum computing and quantum materials.
* Professor Danielle Braje (CSO):\*\* Co-founder and CSO. Previously at MIT Lincoln Laboratory and significant experience with superconducting qubits.

**Competitive Landscape:**

* Rigetti Computing:\*\* Similar focus on superconducting qubits. Atlantic Quantum differentiates itself with its control-defined qubit technology, aiming for longer coherence times and higher gate fidelities than Rigetti's more traditional superconducting qubit designs.
* IonQ:\*\* Utilizes trapped ion technology, which currently exhibits high coherence but faces scaling challenges. Atlantic Quantum's focus on a scalable superconducting architecture provides a different approach to achieving large-scale quantum computation.

**Sources:**

1. [https://news.mit.edu/2021/atlantic-quantum-bharath-kannan-1216](https://news.mit.edu/2021/atlantic-quantum-bharath-kannan-1216)

2. [https://www.theengine.mit.edu/portfolio/atlantic-quantum](https://www.theengine.mit.edu/portfolio/atlantic-quantum)

3. [https://www.crunchbase.com/organization/atlantic-quantum](https://www.crunchbase.com/organization/atlantic-quantum)

4. (LinkedIn was searched to verify leadership team information, although it is not included as a URL source based on the prompt guidelines)