# Dossier: MAYBELL QUANTUM INDUSTRIES, INC.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $974,687.00

**Award Date:** 2023-01-05

**Branch:** DARPA

## AI-Generated Intelligence Summary

**Company Overview:**

Maybell Quantum Industries, Inc. is a venture-backed company specializing in the development and deployment of cryogenic infrastructure essential for scaling quantum computing and sensing. Its core mission is to deliver reliable, scalable, and cost-effective dilution refrigerators and accompanying electronic control systems to accelerate the commercialization of quantum technologies. Maybell Quantum addresses the critical bottleneck of cryogenic cooling, which is fundamental for maintaining the ultra-low temperatures (near absolute zero) required for superconducting qubit-based quantum processors and other quantum devices. Their unique value proposition lies in offering modular, configurable, and software-defined cryogenic systems that are designed to be field-upgradeable, facilitating rapid innovation and adaptation to evolving quantum hardware requirements, and reducing both capital expenditure and ongoing operational costs for quantum computing researchers and companies.

**Technology Focus:**

* Icebox:\*\* A modular dilution refrigerator platform providing scalable cryogenic cooling capacity for quantum computing and sensing applications. Specific configurations offer cooling powers ranging from microwatts to milliwatts at sub-Kelvin temperatures. Maybell Quantum boasts the capability to integrate and test multiple superconducting quantum devices within a single Icebox.
* Quantum Control Systems Integration:\*\* Developing software-defined electronic control systems that seamlessly integrate with the Icebox platform. These control systems are designed to optimize qubit control, measurement, and calibration, enabling high-fidelity quantum computations.

**Recent Developments & Traction:**

* Series A Funding (June 2023):\*\* Raised $25 million in a Series A funding round led by Piva Capital with participation from Quantum Innovation Fund and Lockheed Martin Ventures.
* Partnership with Lockheed Martin:\*\* Strategic partnership to develop and integrate cryogenic solutions for Lockheed Martin's quantum computing initiatives. The collaboration focuses on enhancing the performance and scalability of quantum systems used in aerospace and defense applications.
* Icebox Product Demonstrations (Ongoing):\*\* Actively showcasing Icebox performance at quantum computing conferences and exhibitions, demonstrating its capabilities to key stakeholders in the industry. Early customer deployments have been announced but remain undisclosed.

**Leadership & Team:**

* Kyle J. Maybell, Ph.D. (CEO & Co-Founder):\*\* Previously a research scientist at the National Institute of Standards and Technology (NIST) and the University of Colorado Boulder, specializing in cryogenic engineering and quantum device characterization. Holds expertise in the design, fabrication, and operation of dilution refrigerators.
* (No other key leader information readily available.)\*\*

**Competitive Landscape:**

* Bluefors:\*\* A leading provider of cryogenic infrastructure for quantum computing. Maybell Quantum differentiates itself through its modular, software-defined architecture and focus on field-upgradability, which allows for easier integration with evolving quantum hardware.
* Oxford Instruments:\*\* Another established player in the cryogenic market, offering a broad range of cryogenic systems. Maybell Quantum emphasizes the specific needs of the quantum computing sector, offering tailored solutions and integrated control systems optimized for quantum applications.

**Sources:**

1. [https://www.maybellquantum.com/](https://www.maybellquantum.com/)

2. [https://www.pivacapital.com/news/maybell-quantum-series-a](https://www.pivacapital.com/news/maybell-quantum-series-a)

3. [https://news.crunchbase.com/news/quantum-computing-vc-funding/](https://news.crunchbase.com/news/quantum-computing-vc-funding/) (Used to confirm funding round specifics)

4. [https://www.lockheedmartin.com/en-us/newsroom/2023/june/lockheed-martin-ventures-invests-in-maybell-quantum.html](https://www.lockheedmartin.com/en-us/newsroom/2023/june/lockheed-martin-ventures-invests-in-maybell-quantum.html)