# Dossier: McQ Inc.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $167,396.51

**Award Date:** 2024-09-24

**Branch:** DTRA

## AI-Generated Intelligence Summary

**Company Overview:**

McQ Inc., headquartered in Fredericksburg, VA, specializes in developing and manufacturing high-precision timing and frequency references, as well as ultra-low power and small form factor sensors for defense, aerospace, and industrial applications. Their core mission revolves around providing advanced synchronization, stabilization, and sensing solutions that enable resilient operations in GPS-denied or contested environments. They aim to solve the critical problem of reliance on GPS for timing and navigation in scenarios where GPS is unreliable, unavailable, or subject to jamming/spoofing. McQ’s unique value proposition lies in its integrated solutions, combining miniaturized atomic clocks, inertial measurement units (IMUs), and other sensor technologies with advanced signal processing to deliver highly accurate and stable timing, positioning, and navigation data, even without GPS.

**Technology Focus:**

* Miniaturized Atomic Clocks (MACs):\*\* McQ develops and produces chip-scale atomic clocks (CSACs) that offer precise frequency and timing stability in a small, low-power package. These clocks provide holdover capability and are used in applications such as navigation systems, electronic warfare, and secure communications. Reported stability levels are in the order of parts per trillion.
* Inertial Measurement Units (IMUs) & Sensor Fusion:\*\* The company integrates IMUs (accelerometers and gyroscopes) with their atomic clocks and other sensors, utilizing advanced sensor fusion algorithms to provide accurate position, velocity, and attitude information. This technology enables GPS-denied navigation and enhances situational awareness.

**Recent Developments & Traction:**

* May 2024: Named one of Virginia's Fantastic 50 companies by the Virginia Chamber of Commerce.\*\* Award recognises McQ's growth and economic contribution.
* Partnerships:\*\* Publicly mentioned partnerships exist with companies such as Mercury Systems, integrating McQ timing solutions into their defense electronics products. Specific partnership details are often proprietary.
* Product Launches:\*\* McQ frequently launches new iterations of its timing and sensor products, typically focused on improving performance (e.g., lower power consumption, smaller size, higher accuracy) or expanding functionality (e.g., new sensor integrations). Precise dates of specific product launches are not readily available.

**Leadership & Team:**

* John W. McQuy, Jr. (President & CEO):\*\* Extensive experience in defense electronics and aerospace. Prior to McQ, held leadership positions in engineering and program management roles within the defense industry.
* It is difficult to ascertain the identities and roles of other executive or technical leaders from open source web research.

**Competitive Landscape:**

* Microchip Technology:\*\* A major player in timing and synchronization solutions, including atomic clocks. McQ differentiates itself through its focus on highly miniaturized, ultra-low power solutions tailored for demanding defense and aerospace applications, rather than broad market applications.
* SAFRAN (through its various subsidiaries):\*\* Another prominent competitor in the field of atomic clocks and inertial navigation systems. McQ's differentiation comes from its focus on integrated, application-specific solutions combining timing, navigation, and sensor technologies in a smaller form factor.

**Sources:**

1. [https://www.mcqinc.com/](https://www.mcqinc.com/) (Company website - primary source for product information and company overview)

2. [https://www.virginiachamber.com/newsroom/news/virginia-chamber-of-commerce-announces-2024-virginias-fantastic-50/](https://www.virginiachamber.com/newsroom/news/virginia-chamber-of-commerce-announces-2024-virginias-fantastic-50/) (News release regarding the Fantastic 50 award)

3. [https://www.linkedin.com/company/mcq-inc/](https://www.linkedin.com/company/mcq-inc/) (LinkedIn Company Page for some insights on employees and activities)