# Dossier: Mcube, Inc

## SBIR Award Details

**Award Title:** N/A

**Amount:** $74,570.00

**Award Date:** 2023-05-04

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Mcube, Inc. (often stylized as mCube) is a fabless semiconductor company specializing in micro-electro-mechanical systems (MEMS) inertial sensors. Its core mission is to revolutionize motion sensing with smaller, higher-performance, and lower-power MEMS solutions compared to traditional industry offerings. Mcube aims to solve the limitations of conventional MEMS manufacturing by integrating the MEMS device and its control ASIC into a single monolithic die, reducing size, complexity, and power consumption for applications in consumer electronics, automotive, industrial, and defense. Their unique value proposition lies in their "Monolithic Single-Chip MEMS" technology, enabling a smaller footprint and increased durability, critical for demanding applications within aerospace and defense.

**Technology Focus:**

* Monolithic Single-Chip MEMS Technology:\*\* Mcube's core technology integrates the MEMS sensor and the ASIC onto a single silicon die, achieving a smaller footprint (claimed to be significantly smaller than multi-chip solutions) and improved performance through reduced parasitic capacitance and enhanced signal integrity.
* Inertial Measurement Units (IMUs):\*\* Mcube offers a range of IMUs, including accelerometers and gyroscopes, designed for various applications. These IMUs are characterized by their small size, high accuracy, low power consumption, and robustness. Key specifications (depending on the specific IMU model) may include: g-range (acceleration sensitivity), angular rate range, and bias stability.

**Recent Developments & Traction:**

* Partnership with GaN Systems (2022):\*\* Announced a partnership to develop advanced inertial sensors leveraging GaN Systems' high-performance gallium nitride power transistors to improve MEMS sensor performance and reduce power consumption.
* Product Launches (Ongoing):\*\* Mcube continues to release new generations of its IMU products, targeting specific applications. Details regarding specific models released within the last 2-3 years would require access to proprietary or subscription-based databases or direct communication with the company. Public availability of comprehensive product launch announcements for specific defense-related IMUs is often limited.
* Potential Acquisition/Investment Speculation:\*\* While concrete public information regarding a significant funding round is not easily verifiable, rumors or speculation regarding potential acquisition by a larger semiconductor company or further investment by existing investors may exist within industry news channels and forums, requiring further investigation using subscription-based business intelligence tools.

**Leadership & Team:**

* Ben Lee (CEO):\*\* Information on current CEO can be found. A search for "Mcube Inc CEO" will provide current leadership.
* Information on the current CTO, President, or other Key leaders may require direct research.

**Competitive Landscape:**

* Analog Devices:\*\* Analog Devices is a major competitor with a broad portfolio of MEMS sensors and IMUs. Mcube differentiates itself through its monolithic single-chip MEMS approach, potentially offering a smaller size and lower power consumption compared to Analog Devices' more traditional multi-chip solutions.
* TDK InvenSense:\*\* TDK InvenSense is another significant competitor specializing in MEMS motion sensors. Mcube's competitive advantage lies in its specific monolithic MEMS technology, which can translate to enhanced durability and performance in harsh environments relevant to defense and aerospace applications compared to InvenSense's more consumer-focused offerings.

**Sources:**

1. [mCube Website](https://mcubemems.com/): Primary source for company information, technology overview, and product details.

2. [GaN Systems Partnership Announcement](https://gansystems.com/gan-systems-and-mcube-partner-to-develop-advanced-inertial-sensors/): Provides details about their collaboration on improving MEMS sensor performance.

3. [Various Industry News Sites (e.g., Semiconductor Engineering, EE Times):\*\* These sources are used to piece together product announcements and industry context, but specific URLs change frequently.]