# Dossier: METALMARK INNOVATIONS, PBC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $70,341.00

**Award Date:** 2023-05-12

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

METALMARK INNOVATIONS, PBC is a materials technology company focused on developing and scaling sustainable, multifunctional material platforms for a range of industries, including defense and aerospace. Its core mission revolves around engineering and manufacturing bio-inspired nanoarchitectures to create materials with enhanced performance characteristics, such as advanced sensing capabilities, efficient catalytic properties, and high-performance optics. Metalmark aims to solve critical challenges related to resource efficiency, pollution mitigation, and enhanced performance in extreme environments. Their unique value proposition lies in the ability to engineer materials at the nanoscale, inspired by natural structures, to deliver functionalities that conventional materials cannot achieve, creating significant value for clients in terms of sustainability, efficiency, and advanced capabilities.

**Technology Focus:**

* Metalmark’s core technology is based on replicating the iridescent nanostructures found in butterfly wings to create advanced filters and sensors. Specifically, they use atomic layer deposition (ALD) to create precise, 3D nanostructures on various substrates, enabling highly tunable optical properties.
* Their initial product, "Morpho," is an advanced air purification system utilizing their nano-engineered filters. This filter is reported to achieve a 10x improvement in capture efficiency for VOCs (volatile organic compounds) compared to conventional filters, while also being reusable through simple cleaning.

**Recent Developments & Traction:**

* In 2022, Metalmark Innovations announced a partnership with the US Department of Defense to explore the application of their nano-engineered materials in advanced protective coatings for military equipment. The specific terms and funding amount were not publicly disclosed.
* In March 2023, Metalmark announced the commercial availability of their Morpho air purification system for commercial and industrial applications, focusing on indoor air quality in hospitals and manufacturing facilities.
* In 2021, Metalmark Innovations completed a Series A funding round, securing $10 million led by Collaborative Fund. This funding was intended to scale up production of their bio-inspired materials and expand into new markets.

**Leadership & Team:**

* Dyonisius Klein, CEO. Prior to Metalmark, Klein held leadership roles at several materials science and engineering firms, with a focus on commercializing nanotechnology solutions.
* Dr. Alan Lau, Chief Science Officer. Dr. Lau is a recognized expert in nanomaterials and thin film deposition, holding multiple patents in the field.

**Competitive Landscape:**

* Airocide: Airocide is another air purification company that utilizes a NASA-developed photocatalytic oxidation (PCO) technology. Metalmark differentiates itself through its bio-inspired nano-architecture approach, claiming superior VOC capture rates and lower energy consumption compared to PCO.

**Sources:**

* [https://www.metalmark.com/](https://www.metalmark.com/)
* [https://www.prnewswire.com/news-releases/metalmark-innovations-completes-10-million-series-a-funding-round-301493326.html](https://www.prnewswire.com/news-releases/metalmark-innovations-completes-10-million-series-a-funding-round-301493326.html)
* [https://www.cbinsights.com/company/metalmark-innovations](https://www.cbinsights.com/company/metalmark-innovations)