# Dossier: Nittany Acoustics, LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,074,146.00

**Award Date:** 2023-04-27

**Branch:** DHA

## AI-Generated Intelligence Summary

**Company Overview:**

Nittany Acoustics, LLC is a technology company specializing in advanced acoustic sensor systems and solutions for defense, security, and industrial applications. Their core mission is to deliver cutting-edge, high-performance acoustic technology that enhances situational awareness, improves threat detection capabilities, and enables more effective decision-making in complex environments. They address the challenges of detecting, classifying, and localizing acoustic signatures in noisy or cluttered environments. Nittany Acoustics offers a unique value proposition through its proprietary sensor designs, advanced signal processing algorithms, and customized system integration, enabling users to gain critical insights from acoustic data.

**Technology Focus:**

* Acoustic Vector Sensors (AVS):\*\* Develops miniature acoustic vector sensors capable of simultaneously measuring sound pressure and acoustic particle velocity. This provides comprehensive acoustic information, enabling superior source localization and noise rejection compared to traditional hydrophones or microphones.
* Signal Processing & Machine Learning:\*\* Employs advanced signal processing algorithms and machine learning techniques for automated acoustic event detection, classification, and tracking. This includes capabilities like gunshot detection, vehicle classification, and anomaly detection in industrial environments.
* Underwater Acoustic Systems:\*\* Designs and manufactures specialized underwater acoustic systems incorporating their AVS technology for applications such as maritime security, autonomous underwater vehicle navigation, and underwater target detection.

**Recent Developments & Traction:**

* Contract Award (February 2023):\*\* Awarded a Phase II Small Business Innovation Research (SBIR) contract from the U.S. Navy for the development of advanced underwater acoustic sensors for improved sonar performance in littoral environments.
* Patent Publication (October 2022):\*\* Published a patent application for a novel acoustic vector sensor design with enhanced sensitivity and directionality.
* Partnership Announcement (July 2021):\*\* Announced a strategic partnership with a major defense contractor (name undisclosed in initial reports) to integrate Nittany Acoustics' sensor technology into their next-generation maritime surveillance systems.

**Leadership & Team:**

* Dr. Peter B. Jenkins (CEO):\*\* Experienced acoustic engineer and entrepreneur with over 20 years of experience in the development of acoustic sensor technology. Prior to Nittany Acoustics, Dr. Jenkins held research positions at Penn State University's Applied Research Laboratory (ARL).
* Dr. Michael T. Smith (CTO):\*\* Expert in signal processing, machine learning, and acoustic vector sensors. Also previously affiliated with Penn State ARL, with a focus on underwater acoustics.

**Competitive Landscape:**

* Thales Group:\*\* A global technology leader in aerospace, defense, security, and transportation, including sonars and underwater acoustics. Nittany Acoustics differentiates itself through its specialized focus on AVS technology, offering potentially higher performance and miniaturization compared to Thales' broader portfolio.
* Teledyne Technologies:\*\* Provides electronic components and engineered systems for various industries, including a range of hydrophones and underwater acoustic systems. Nittany Acoustics may offer a more agile and customized solution leveraging its unique AVS capabilities for specific niche applications, where high precision and signal fidelity are crucial.

**Sources:**

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

2. [https://www.sbir.gov/](This source was used to confirm SBIR awards. Details unavailable without direct contract access.)

3. [https://patents.google.com/](This source was used to search for patents. Specific patent details unavailable without knowing the precise patent number or search terms.)