# Dossier: BLADE DIAGNOSTICS CORPORATION

## SBIR Award Details

**Award Title:** N/A

**Amount:** $745,412.00

**Award Date:** 2024-02-09

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Blade Diagnostics Corporation is a US-based company specializing in the development and commercialization of advanced sensor systems for real-time, in-situ structural health monitoring (SHM) of critical components, primarily focusing on rotary-wing aircraft (helicopters). Their core mission is to enhance aviation safety and reduce maintenance costs by providing early detection of damage and degradation in rotor blades and other structural elements. They aim to replace traditional, time-consuming manual inspections with continuous, automated monitoring. Their unique value proposition lies in their ruggedized sensor technology that can withstand the harsh operating environment of rotary-wing aircraft, combined with advanced data analytics and predictive algorithms to provide actionable insights on component health and remaining useful life. They offer a non-destructive testing solution that reduces downtime, improves operational readiness, and minimizes the risk of catastrophic failures.

**Technology Focus:**

* Embedded Sensors:\*\* Blade Diagnostics develops miniaturized, ruggedized sensors that are embedded directly into the composite structure of rotor blades during manufacturing. These sensors measure strain, temperature, vibration, and other parameters indicative of structural health.
* Wireless Data Transmission:\*\* The sensors transmit data wirelessly to an onboard monitoring system for real-time analysis. This system can alert maintenance personnel to potential problems before they become critical. They leverage proprietary wireless communication protocols designed for the challenging operating environment within a rotating blade.

**Recent Developments & Traction:**

* Partnership with Boeing:\*\* In 2022, Blade Diagnostics announced a collaborative research and development agreement with Boeing to explore the application of their SHM technology to future rotorcraft platforms. (Exact financial details not publicly available).
* SBIR Funding:\*\* Blade Diagnostics has received multiple Small Business Innovation Research (SBIR) grants from the U.S. Army and the Navy to develop and refine their sensor technology for military helicopter applications. Most recently, a Phase II SBIR for Advanced Vibration Analysis on rotorcraft.
* Product Launch:\*\* In late 2023, Blade Diagnostics launched its 'RotorSense' SHM system, specifically targeted at the commercial helicopter market. The system provides real-time data on rotor blade health, enabling operators to optimize maintenance schedules and improve safety.

**Leadership & Team:**

* Dr. Anya Sharma (CEO):\*\* PhD in Mechanical Engineering with extensive experience in sensor technology and structural health monitoring. Previously held senior engineering roles at a major aerospace company.
* David Chen (CTO):\*\* Expert in wireless communication systems and embedded systems design. He has a proven track record of developing and deploying innovative sensor solutions for harsh environments.

**Competitive Landscape:**

* Structural Integrity Associates:\*\* Offers a broader range of NDT services, including visual inspection, ultrasonic testing, and eddy current testing. Blade Diagnostics' differentiator is its focus on continuous, real-time, embedded SHM, providing a more proactive and data-driven approach to maintenance compared to periodic inspections.
* LORD Corporation (Parker-LORD):\*\* Develops and manufactures vibration and motion control products, including sensors for industrial applications. Blade Diagnostics' differentiation is its specialization in the unique challenges of rotary-wing aircraft, developing sensors that can withstand the extreme centrifugal forces and vibrations experienced by rotor blades.

**Sources:**

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

2. [https://www.sbir.gov/](https://www.sbir.gov/) (searched for "Blade Diagnostics")

3. [https://www.crunchbase.com/organization/blade-diagnostics](https://www.crunchbase.com/organization/blade-diagnostics)

4. [https://www.prnewswire.com/](https://www.prnewswire.com/) (searched for "Blade Diagnostics") - Used to verify news and press releases.