# Dossier: Centeye, Inc.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,099,998.76

**Award Date:** 2023-11-30

**Branch:** DTRA

## AI-Generated Intelligence Summary

**Company Overview:**

Centeye, Inc. is a micro-sensor company specializing in bio-inspired vision technology for autonomous navigation and situational awareness, primarily targeting applications in aerospace, defense, and robotics. They aim to solve the challenges of limited size, weight, and power (SWaP) constraints in these environments by developing ultra-compact, low-power vision systems that can replicate the efficiency and robustness of biological vision. Centeye's unique value proposition lies in their patented "foveated" vision sensors, which concentrate high resolution in the center of the field of view and progressively lower resolution towards the periphery, mimicking the human eye and dramatically reducing processing requirements and power consumption while enabling rapid detection of movement and threats.

**Technology Focus:**

* Bio-inspired Foveated Vision Sensors:\*\* Develops custom CMOS image sensors that mimic the vertebrate retina. These sensors provide high-resolution imagery in a central fovea and progressively lower resolution in the periphery, dramatically reducing data processing needs and power consumption compared to traditional uniform-resolution sensors.
* Autonomous Navigation and Tracking Algorithms:\*\* Offers proprietary algorithms for object detection, tracking, and autonomous navigation that are optimized for use with their foveated sensors and suitable for embedded platforms with limited processing power.

**Recent Developments & Traction:**

* SBIR/STTR Awards:\*\* Centeye has secured multiple Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grants from various government agencies, including the Department of Defense (DoD) and NASA, demonstrating ongoing interest in their technology for defense and aerospace applications. This includes Phase I and Phase II awards for enhanced visual situational awareness.
* Miniature Drone Integration:\*\* Centeye has demonstrated its foveated vision technology integrated into small unmanned aerial vehicles (UAVs) for autonomous navigation and obstacle avoidance.
* Product Development:\*\* Continues to refine and miniaturize sensor technologies, focusing on lower SWaP implementations for integration into a wider range of robotic and unmanned systems.

**Leadership & Team:**

* CEO:\*\* David Ahlgren (Extensive experience in microelectronics, sensor design, and technology commercialization)

**Competitive Landscape:**

* OmniVision Technologies:\*\* While OmniVision offers a broad range of image sensors, Centeye distinguishes itself with its highly specialized, bio-inspired foveated vision architecture tailored for ultra-low-power applications and autonomous navigation.
* Prophesee:\*\* Prophesee is another company with bio-inspired sensors, but they focus on event-based vision, detecting changes in the scene rather than continuous images. Centeye's differentiator is the foveated architecture combined with tailored algorithms for autonomous navigation and target tracking.

**Sources:**

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

2. [https://www.sbir.gov/](https://www.sbir.gov/) (Search results for Centeye to access SBIR award details)

3. [https://patents.google.com/](https://patents.google.com/) (Search for patents assigned to Centeye, Inc. to understand their core technologies)