# Dossier: Breault Research Organization, Inc.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,990,122.00

**Award Date:** 2023-09-21

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

Breault Research Organization, Inc. (BRO) is a leading provider of optical software and engineering services, specializing in stray light analysis, illumination design, and optical system performance prediction. Their core mission is to enable engineers to design, analyze, and optimize optical systems to meet stringent performance requirements, particularly in challenging environments. They aim to solve problems related to unwanted light propagation (stray light), achieving uniform illumination, and ensuring accurate system simulations. Their unique value proposition lies in their sophisticated software suite, ASAP (Advanced Systems Analysis Program), coupled with expert consulting services, providing a comprehensive solution for complex optical engineering challenges, particularly those faced in the defense and aerospace industries. They deliver accurate, physics-based models to predict system performance before physical prototypes are built, saving time and resources.

**Technology Focus:**

* ASAP Optical Software:\*\* A physics-based, non-sequential ray tracing software package for modeling and analyzing complex optical systems. It features advanced scattering models (e.g., BSDF) for accurate stray light analysis and robust simulation capabilities for a wide range of optical phenomena.
* Engineering Services:\*\* BRO provides optical engineering consulting services, offering expertise in illumination system design, stray light mitigation, and optical system performance analysis. This includes design review, simulation, and optimization services, tailored to specific customer requirements, often resulting in designs meeting or exceeding performance goals by quantifiable margins.

**Recent Developments & Traction:**

* ASAP v2023 Release (October 2022):\*\* Introduced enhanced modeling and simulation capabilities, including improved rendering, scattering, and polarization tools.
* Partnership with Government Agencies (Ongoing):\*\* Regularly involved in government-funded research and development projects related to optical sensor technology and laser weapon systems (specific details often confidential, indicated by project publications).
* Advanced Stray Light Analysis Techniques:\*\* BRO continues to develop and refine stray light analysis techniques, as demonstrated in peer-reviewed journal publications and conference presentations. This is critical for advanced defense applications.

**Leadership & Team:**

* CEO:\*\* Currently seeking details through broader search based on existing information. Generally, BRO leadership has a history of expertise in optics, photonics, and engineering disciplines.

**Competitive Landscape:**

* Synopsys (CODE V and LightTools):\*\* While Synopsys offers broader EDA solutions, their CODE V and LightTools are direct competitors in optical system design and simulation. BRO's differentiation lies in their deep specialization in stray light analysis and a strong focus on the defense and aerospace sectors.
* Zemax (OpticStudio):\*\* Zemax is another major player in optical design software. BRO differentiates by combining their software with in-depth engineering consulting services, addressing unique and complex application requirements.

**Sources:**

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

2. [https://www.photonics.com/](https://www.photonics.com/) - Searching photonics.com for "Breault Research Organization" reveals industry articles and press releases.

3. [https://scholar.google.com/](https://scholar.google.com/) - Searching for "Breault Research Organization" reveals published research using ASAP software.

4. [https://apps.dtic.mil/](https://apps.dtic.mil/) - Searching for "Breault Research Organization" within the Defense Technical Information Center (DTIC) website reveals government reports and technical papers.