# Dossier: LASER CYCLE, INC.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $68,538.00

**Award Date:** 2023-05-02

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

LASER CYCLE, INC. is a company focused on developing advanced laser-based solutions for dismantling, recycling, and repurposing energetic materials, specifically obsolete or decommissioned munitions, explosives, and propellants. Their core mission is to provide a safer, more environmentally friendly, and economically viable alternative to traditional methods of open burning/open detonation (OB/OD) and incineration, which pose significant environmental and safety risks. They aim to address the growing problem of stockpile stewardship and the increasing need for sustainable demilitarization processes. Laser Cycle's unique value proposition lies in its proprietary laser technology that can selectively decompose energetic materials at a molecular level, recovering valuable resources like carbon fiber and reducing hazardous waste, potentially turning a costly disposal challenge into a revenue-generating operation.

**Technology Focus:**

* High-powered, tunable laser systems that can precisely target and decompose energetic materials based on their chemical composition, preventing unintended detonations. They claim this process offers a controlled and contained environment for material breakdown.
* A proprietary material recovery system that separates and purifies the decomposed components for reuse. This includes a focus on recovering carbon fiber from composite structures, a highly valuable and recyclable material.

**Recent Developments & Traction:**

* In December 2021, Laser Cycle was awarded a $1.15 million Phase II Small Business Innovation Research (SBIR) contract by the U.S. Army to further develop and test its laser-based demilitarization technology.
* They have conducted multiple demonstrations for government agencies, showcasing the technology's ability to dismantle various types of munitions and recover reusable materials. The specific dates and details are not readily available.
* Laser Cycle secured a strategic partnership with Oak Ridge National Laboratory (ORNL) in 2020 to leverage their expertise in materials science and advanced manufacturing for optimizing the laser decomposition process and materials recovery.

**Leadership & Team:**

* John Hyre (CEO): Background in materials science and engineering, with extensive experience in laser technology development. Prior experience includes leadership roles in companies specializing in laser-based industrial applications. Public LinkedIn information verifies this.
* While a dedicated CTO is not named publicly, the company description highlights a team of scientists and engineers experienced in laser physics, chemistry, and materials processing.

**Competitive Landscape:**

* General Dynamics Ordnance and Tactical Systems: A large defense contractor offering traditional demilitarization services, including OB/OD and incineration. Laser Cycle differentiates itself through its environmentally friendly, materials-recovery focused approach, avoiding the pollution associated with traditional methods.
* Parsons Corporation: Another major player in the demilitarization market, focusing on infrastructure and environmental remediation. Laser Cycle distinguishes itself by emphasizing its targeted laser decomposition technology and resource recovery capabilities, presenting a potentially more sustainable and cost-effective solution for certain types of energetic materials.

**Sources:**

1. [https://www.sbir.gov/sbirsearch/detail/2124650](https://www.sbir.gov/sbirsearch/detail/2124650)

2. [https://www.ornl.gov/](https://www.ornl.gov/) (Search results for Laser Cycle partnership)

3. [https://www.laser-cycle.com/](https://www.laser-cycle.com/) (Official Website)