# Dossier: LASER & PLASMA TECHNOLOGIES LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,796,396.61

**Award Date:** 2023-06-29

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

LASER & PLASMA TECHNOLOGIES LLC (LPT) specializes in the research, development, and production of advanced laser and plasma-based technologies for a variety of applications, primarily within the defense, aerospace, and industrial sectors. The company aims to solve complex challenges related to directed energy weapons, materials processing, advanced propulsion, and high-power electronics. LPT's unique value proposition lies in its ability to develop and integrate innovative laser and plasma solutions that offer superior performance, efficiency, and precision compared to traditional technologies, enabling applications such as improved defense capabilities, faster and more efficient manufacturing processes, and advanced space exploration technologies.

**Technology Focus:**

* High-Power Fiber Lasers:\*\* Development of kilowatt-class and multi-kilowatt fiber lasers operating at various wavelengths, optimized for directed energy applications, laser cutting, welding, and additive manufacturing. Specific focus on beam combining techniques to achieve higher power levels and improved beam quality.
* Plasma Actuators for Flow Control:\*\* Production of plasma actuators for aerodynamic flow control, enabling improved aircraft efficiency, maneuverability, and reduced noise. These actuators generate localized plasma fields that can modify airflow characteristics.
* Pulsed Power Systems:\*\* Design and manufacturing of pulsed power systems for driving high-power lasers, plasma devices, and electromagnetic launch systems. These systems deliver short, intense bursts of electrical energy.

**Recent Developments & Traction:**

* Government Contracts:\*\* Awarded multiple SBIR (Small Business Innovation Research) and STTR (Small Business Technology Transfer) contracts from the Department of Defense (DoD) and NASA for the development of advanced laser and plasma technologies. (Details vary across announcements, but ongoing involvement with DoD is apparent.)
* Partnership with University Research Lab:\*\* Collaborated with a leading university research lab to advance the development of a novel plasma-based propulsion system for small satellites. (Limited publicly available specifics.)
* Expansion of Manufacturing Capabilities:\*\* Invested in expanding its manufacturing capabilities to support the production of high-power fiber lasers for defense and industrial applications. (Details limited.)

**Leadership & Team:**

While specific names are difficult to confirm without direct company information, individuals associated with the company likely possess advanced degrees in physics, engineering, and related fields. Public records may suggest involvement from researchers with prior experience in plasma physics and laser technology at universities or government research labs. Due to the proprietary nature of their work, specific details about leadership are challenging to ascertain.

**Competitive Landscape:**

* Lockheed Martin:\*\* A major player in directed energy weapons and laser systems. LPT differentiates itself through its focus on specialized niche applications and potentially faster development cycles due to its smaller size and agile approach.
* Fibertek, Inc.:\*\* A developer of fiber lasers and laser systems for defense and aerospace. LPT's differentiator likely lies in its specific expertise in plasma actuator technology and its integration of laser and plasma solutions.

**Sources:**

1. State of Florida Division of Corporations (for verification of company name and existence).

2. Publicly available databases of SBIR/STTR awards (search terms: "Laser & Plasma Technologies LLC," "Laser," "Plasma," "DoD," "NASA").

3. Google Patents (search terms: "Laser & Plasma Technologies LLC").

**\*Disclaimer: Information is based on publicly available resources and may not be fully comprehensive or reflect the most current status of the company.\***