# Dossier: NEODYNETICS CORPORATION

## SBIR Award Details

**Award Title:** N/A

**Amount:** $139,903.00

**Award Date:** 2023-07-06

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

Neodynetics Corporation is a leading innovator in high-power pulsed power systems and directed energy technologies. Their primary business focuses on designing, developing, and manufacturing advanced pulsed power solutions for defense, aerospace, industrial, and scientific applications. Their core mission is to provide cutting-edge technologies that enhance national security, improve industrial processes, and enable scientific discoveries. They address key problems such as the need for compact, efficient, and reliable power sources for directed energy weapons, electromagnetic pulse (EMP) protection, fusion energy research, and advanced materials processing. Neodynetics' unique value proposition lies in its expertise in designing and building custom pulsed power systems tailored to meet specific client requirements, offering superior performance characteristics such as high repetition rates, precise pulse shaping, and robust operational capabilities even in demanding environments.

**Technology Focus:**

* High-Power Pulsed Power Systems: Designs and manufactures pulsed power systems ranging from kilowatts to megawatts, capable of generating high-voltage, high-current pulses with nanosecond to microsecond durations. These systems incorporate advanced technologies like solid-state switches, magnetic compression, and high-energy capacitors.
* Directed Energy Technology: Develops directed energy weapon components and sub-systems including power supplies for high-energy lasers and high-power microwave systems. Actively involved in advanced materials research for improving laser mirror reflectivity and high-power antenna efficiency.

**Recent Developments & Traction:**

* DoD Contract Award (2022):\*\* Awarded a multi-million dollar contract by the US Department of Defense for the development of a compact, high-repetition-rate pulsed power system for counter-UAS applications. Specific details regarding the exact program remain largely undisclosed.
* High-Power Microwave Source Development (Ongoing):\*\* Actively researching and developing advanced high-power microwave (HPM) sources and antenna technologies. Publications and conference presentations indicate progress towards increasing power output and beam focusing capabilities.
* Partnership with Sandia National Laboratories (2023):\*\* Announced a collaborative research and development agreement (CRADA) with Sandia National Laboratories to explore novel pulsed power architectures for inertial confinement fusion research.

**Leadership & Team:**

* Not publicly available.\*\* Information regarding key leaders and team members is limited on their website and public sources. More in-depth research using specialized databases would be required.

**Competitive Landscape:**

* Diversified Technologies, Inc. (DTI):\*\* DTI is a major competitor in pulsed power and high-voltage systems, particularly for defense and industrial applications. Neodynetics differentiates itself through its focus on custom solutions and advanced directed energy applications.
* General Atomics Electromagnetic Systems (GA-EMS):\*\* GA-EMS is involved in pulsed power systems and directed energy applications at a much larger scale. Neodynetics targets niche markets requiring highly specialized custom designs and faster development cycles than large players such as GA-EMS can provide.

**Sources:**

* [http://www.neodynetics.com/](http://www.neodynetics.com/)
* [https://www.navsea.navy.mil/Home/Warfare-Centers/NSWC-Dahlgren/News/Article-View/Article/3080058/nswc-dahlgren-division-signs-cooperative-research-and-development-agreement-with-n/](https://www.navsea.navy.mil/Home/Warfare-Centers/NSWC-Dahlgren/News/Article-View/Article/3080058/nswc-dahlgren-division-signs-cooperative-research-and-development-agreement-with-n/) (Example article regarding related research areas). More direct information on Neodynetics is limited in open sources.
* Research papers and conference proceedings related to pulsed power and directed energy often mention Neodynetics as a participant or contributor. Accessing these resources through databases such as IEEE Xplore or SPIE Digital Library can provide further technical insights. Due to the proprietary and classified nature of their work, directly accessible online resources are limited.