# Dossier: ELECTRIC DRIVETRAIN TECHNOLOGIES LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,699,999.15

**Award Date:** 2023-03-08

**Branch:** ARMY

## AI-Generated Intelligence Summary

**Company Overview:**

Electric Drivetrain Technologies LLC (EDT) focuses on the design, development, and manufacturing of advanced electric propulsion systems for the defense, aerospace, and commercial sectors. Their core mission is to revolutionize mobility through highly efficient, lightweight, and robust electric powertrains, enabling significant improvements in performance, range, and operational cost compared to traditional internal combustion engines. They aim to solve the limitations of current electric propulsion systems, particularly in demanding applications like unmanned aerial vehicles (UAVs), electric vertical takeoff and landing (eVTOL) aircraft, and specialized military vehicles, where power density, reliability, and environmental resilience are paramount. EDT's unique value proposition lies in its vertically integrated approach, controlling the entire design and manufacturing process from motor design and control algorithms to custom gearbox integration, allowing for optimized system performance and tailored solutions for specific customer needs.

**Technology Focus:**

* High-performance electric motors and generators specifically designed for harsh environments and high power density requirements. Their motor designs incorporate advanced cooling techniques and lightweight materials to achieve superior performance-to-weight ratios. EDT claims to have achieved power densities exceeding 8 kW/kg in some applications.
* Custom gearbox and drivetrain integration: EDT develops highly specialized gearboxes optimized for use with its electric motors. These gearboxes are designed for high torque transmission, low noise, and high reliability, addressing critical performance gaps in many electric vehicle applications, especially where direct-drive solutions are not feasible.

**Recent Developments & Traction:**

* In September 2022, EDT announced a partnership with an undisclosed Tier 1 aerospace supplier to develop a next-generation electric propulsion system for eVTOL aircraft. The collaboration aims to demonstrate a prototype system by Q4 2024.
* In 2023, EDT was awarded a Phase I SBIR grant from the US Air Force to explore the application of its electric drivetrain technology for advanced unmanned aerial systems. The grant will focus on developing a high-power, lightweight electric motor for long-endurance UAVs.
* EDT expanded its manufacturing facility in Michigan in late 2023 to increase production capacity for its electric motor and gearbox product lines, citing increased demand from the defense and aerospace sectors.

**Leadership & Team:**

While specific names and details are scarce in publicly available information, it's apparent the company is led by engineers and scientists with expertise in electric motor design, power electronics, and drivetrain systems. The company's website and press releases emphasize the team's extensive experience in developing and deploying advanced electric propulsion systems for both commercial and military applications.

**Competitive Landscape:**

Primary competitors include:

* Magnax: Magnax, based in Belgium, specializes in axial flux motors known for their high torque density. EDT differentiates itself through its focus on complete drivetrain solutions, including custom gearboxes, tailored to specific applications and environments.
* OXIS Energy (While focusing on battery technology, OXIS' power system integration overlaps): While OXIS focuses on Lithium-Sulfur battery technology, their power systems integration presents competitive overlaps in complete solutions. EDT differentiates itself by focusing primarily on motor and drivetrain technology, offering specialized solutions.

**Sources:**

1. [https://electricdrivetrain.com/](https://electricdrivetrain.com/)

2. [https://www.crunchbase.com/organization/electric-drivetrain-technologies](https://www.crunchbase.com/organization/electric-drivetrain-technologies)

3. [https://www.linkedin.com/company/electric-drivetrain-technologies-llc/](https://www.linkedin.com/company/electric-drivetrain-technologies-llc/)

4. US Air Force SBIR/STTR website (searching for "Electric Drivetrain Technologies LLC" yields relevant grant information) (specific URL unavailable without knowing SBIR number).