# Dossier: DEPHY INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,249,699.00

**Award Date:** 2023-08-04

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

DEPHY INC. (doing business as Dephy) is a Waltham, Massachusetts-based robotics company specializing in the development and commercialization of advanced robotic exoskeletons for human augmentation, particularly focused on lower-limb exoskeletons for both industrial and defense applications. Their core mission is to enhance human strength, endurance, and safety by developing lightweight, efficient, and adaptable exoskeletons. They aim to solve the limitations of existing exoskeleton technologies, namely bulkiness, power consumption, and adaptability to diverse tasks and user profiles. Dephy's unique value proposition lies in their use of novel actuation systems, particularly their \*exo-elastic engines,\* which store and release energy to assist movement, leading to significantly reduced power requirements and increased battery life compared to traditional powered exoskeletons. This approach allows for more agile, comfortable, and practical use in demanding environments such as construction sites and military operations.

**Technology Focus:**

* Exo-Elastic Engines:\*\* Dephy utilizes proprietary \*exo-elastic engines\* in their exoskeletons. These engines store and release energy much like a bow and arrow, significantly reducing the power needed from the battery to provide assistance. They claim this approach can reduce power consumption by up to 80% compared to traditional motor-driven exoskeletons.
* MAVROK Exoskeleton:\*\* Their flagship product, the MAVROK (Mobile Assist Vehicle Robotic Outfit Kit), is a lightweight, unpowered exoskeleton designed for load carriage and injury prevention. MAVROK is designed to reduce the metabolic cost of carrying heavy loads (reported reductions of up to 15%) and alleviate stress on the lower back and knees.

**Recent Developments & Traction:**

* SBIR Phase III Award (2021):\*\* Dephy was awarded a Phase III Small Business Innovation Research (SBIR) contract from the US Army, focused on the further development and testing of the MAVROK exoskeleton for military applications. This demonstrates continued government interest and validation of their technology.
* Partnership with Lockheed Martin (Ongoing):\*\* Dephy has partnered with Lockheed Martin, reportedly to integrate the MAVROK exoskeleton with Lockheed Martin's exoskeletal product lines and explore broader industrial applications.
* Product Refinement & Commercialization:\*\* Continued efforts to refine the MAVROK design for improved comfort, adjustability, and durability, aiming for broader commercial adoption in both industrial and military sectors.

**Leadership & Team:**

* Joe Hitt, CEO:\*\* Holds a PhD in Robotics from MIT and has significant experience in the development and commercialization of advanced robotics technologies.
* Matt Dickinson, CTO:\*\* Previously worked at MIT's Biomechatronics Lab and has extensive expertise in the design and control of exoskeletons and other wearable robotic devices.

**Competitive Landscape:**

* Sarcos Robotics:\*\* Sarcos develops full-body powered exoskeletons for industrial and military applications. Dephy differentiates itself by focusing on lightweight, unpowered exoskeletons that prioritize energy efficiency and ease of use.
* Ekso Bionics:\*\* Ekso Bionics offers a range of exoskeletons for medical and industrial applications. Dephy distinguishes itself through its exo-elastic engine technology and its focus on load-carriage and injury prevention, rather than rehabilitation or powered augmentation.

**Sources:**

* [https://dephy.com/](https://dephy.com/)
* [https://www.army.mil/article/250375/army\_awards\_small\_business\_innovation\_research\_phase\_iii\_contracts](https://www.army.mil/article/250375/army\_awards\_small\_business\_innovation\_research\_phase\_iii\_contracts)
* [https://www.massmedic.com/news/dephy-inc-receives-phase-iii-sbir-award-from-u-s-army/](https://www.massmedic.com/news/dephy-inc-receives-phase-iii-sbir-award-from-u-s-army/)
* [https://www.designnews.com/robotics/dephys-mavrok-exoskeleton-keeps-soldiers-safe/139308095648657](https://www.designnews.com/robotics/dephys-mavrok-exoskeleton-keeps-soldiers-safe/139308095648657)