# Dossier: Carnegie Robotics LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $174,651.00

**Award Date:** 2024-03-04

**Branch:** SOCOM

## AI-Generated Intelligence Summary

**Company Overview:**

Carnegie Robotics LLC (CRL) is a leading developer of advanced robotics solutions for harsh and unstructured environments, primarily serving the defense, agriculture, mining, and infrastructure inspection sectors. Its mission is to create innovative and reliable autonomous systems that enhance safety, efficiency, and productivity in these challenging operational spaces. CRL's unique value proposition lies in its ability to integrate cutting-edge perception, manipulation, and autonomy technologies into robust and field-deployable robotic platforms and software solutions. They solve problems associated with dangerous, repetitive, or high-cost tasks in environments where human intervention is limited or impractical, offering solutions that reduce risk, improve data collection, and optimize operational performance.

**Technology Focus:**

* Autonomous navigation and perception software: CRL specializes in creating perception-driven autonomy solutions leveraging computer vision, LiDAR, and other sensor modalities. Their software enables robots to navigate complex terrains, identify and classify objects, and adapt to changing environmental conditions. They possess significant expertise in Simultaneous Localization and Mapping (SLAM) and related algorithms.
* Ruggedized robotic platforms: CRL designs and manufactures highly durable robotic platforms designed for operation in extreme conditions. These platforms are often customized to meet specific customer requirements and can be equipped with a variety of sensors, actuators, and communication systems. They focus on robust designs that can withstand shock, vibration, temperature extremes, and other environmental hazards.

**Recent Developments & Traction:**

* DARPA Subterranean Challenge:\*\* CRL participated in the DARPA Subterranean Challenge, showcasing their advanced robotics capabilities in navigating and mapping complex underground environments (ongoing until 2021/2022).
* Acquisition by Teledyne Technologies (February 2019):\*\* Teledyne Technologies Incorporated (NYSE:TDY) acquired Carnegie Robotics. This provides CRL with significant resources and access to a broader customer base and technology portfolio.
* Continued focus on autonomy solutions for the agricultural sector:\*\* CRL has continued developing robotic solutions for agricultural applications, including autonomous harvesting and crop monitoring, demonstrating diversification into non-defense sectors.

**Leadership & Team:**

* Steve DiAntonio (CEO):\*\* He has been leading the company through acquisition and continued growth. Details on his prior experience are somewhat limited in publicly available information. Focus remains on the strong technical team already in place prior to the acquisition.
* The company retains a strong team of robotics engineers and scientists, many with roots at Carnegie Mellon University's Robotics Institute, indicating deep expertise in relevant fields.

**Competitive Landscape:**

* Boston Dynamics:\*\* While focusing on more general-purpose robots, Boston Dynamics competes in some aspects of autonomous navigation and platform development. CRL differentiates itself through its specific expertise in ruggedized robots for harsh environments and its focus on serving the defense and niche industrial markets.
* Clearpath Robotics:\*\* Clearpath Robotics provides robotic platforms for research and development. CRL distinguishes itself with more mature, application-specific robotic systems designed for commercial deployment in demanding environments.

**Sources:**

1. [https://www.teledynedefense.com/carnegie-robotics](https://www.teledynedefense.com/carnegie-robotics)

2. [https://www.teledyne.com/news/news-releases/news-details/2019/Teledyne-to-Acquire-Carnegie-Robotics-LLC/default.aspx](https://www.teledyne.com/news/news-releases/news-details/2019/Teledyne-to-Acquire-Carnegie-Robotics-LLC/default.aspx)

3. [https://www.darpa.mil/program/subterranean-challenge](https://www.darpa.mil/program/subterranean-challenge)

4. [https://www.therobotreport.com/company/carnegie-robotics/](https://www.therobotreport.com/company/carnegie-robotics/)