# Dossier: Organic Robotics Corporation

## SBIR Award Details

**Award Title:** N/A

**Amount:** $979,986.06

**Award Date:** 2024-06-26

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Organic Robotics Corporation (ORC) is a company specializing in the development and manufacturing of advanced sensing skins and fabrics for a wide range of applications, including defense, aerospace, agriculture, and healthcare. ORC's core mission is to revolutionize human-machine interaction and environmental monitoring through its bio-inspired, flexible sensors. The company aims to solve the limitations of traditional rigid sensors by providing highly sensitive, conformable, and scalable sensing solutions that can be integrated into complex shapes and environments. Their unique value proposition lies in creating robotic "skin" that mimics biological sensory capabilities, enabling more intuitive control, enhanced situational awareness, and improved safety in demanding operational environments.

**Technology Focus:**

* Lightweight Conformable Tactile Sensors:\*\* ORC’s primary technology is a highly sensitive, flexible sensor skin made from organic materials. These sensors can detect pressure, strain, temperature, and other environmental parameters. They are designed to conform to curved surfaces and complex geometries. The sensitivity of their sensors can detect pressures below 1 Pa, making them suitable for highly sensitive touch applications.
* Bio-Inspired Design:\*\* ORC leverages principles of bio-mimicry, drawing inspiration from the human skin's sensory system, to design its sensor architectures and materials. This approach allows for highly efficient and reliable sensing with minimal power consumption. They are researching optical fibers for embedded sensing, potentially enabling real-time distributed data acquisition.

**Recent Developments & Traction:**

* $3.7 Million Seed Funding Round (October 2021):\*\* ORC secured a seed funding round led by SOSV and Lockheed Martin Ventures. The funding is aimed at scaling production and expanding the development of its sensing skin technology.
* SBIR Phase I & II Awards:\*\* ORC has received multiple Small Business Innovation Research (SBIR) grants from the U.S. government, specifically from the Department of Defense (DoD), for the development of advanced sensing capabilities for applications such as structural health monitoring and robotic systems. While specific award dates and values are not readily available, these awards indicate DoD interest and validation of ORC's technology.
* Partnership with Lockheed Martin:\*\* The investment from Lockheed Martin Ventures signals a strategic partnership to explore integrating ORC’s sensor technology into aerospace and defense applications, including robotic systems, wearable technologies, and structural health monitoring.

**Leadership & Team:**

* Rob Shepherd (Co-Founder & CEO):\*\* Professor of Mechanical and Aerospace Engineering at Cornell University, expertise in soft robotics, additive manufacturing, and bio-inspired design.
* (Inferred - No Official Information Available):\*\* Due to limited publicly available information on other key personnel, specific titles and experience beyond the CEO are difficult to verify definitively. The company's team likely includes expertise in materials science, electrical engineering, and sensor development, drawn from Cornell University's research ecosystem.

**Competitive Landscape:**

* Tactile Robotics:\*\* Tactile Robotics focuses on developing tactile sensing solutions for robotic manipulation and automation.
* Pressure Profile Systems:\*\* Pressure Profile Systems provides pressure mapping sensors for a variety of applications, including medical and industrial uses.

ORC's key differentiator is its focus on highly sensitive, conformable organic sensors inspired by the human skin, allowing for greater flexibility and integration compared to traditional rigid sensors offered by some competitors. The Lockheed Martin investment and DoD interest sets them apart.

**Sources:**

1. [https://www.organicrobotics.com/](https://www.organicrobotics.com/)

2. [https://news.cornell.edu/stories/2021/10/organic-robotics-secures-37m-funding-sensors-skin](https://news.cornell.edu/stories/2021/10/organic-robotics-secures-37m-funding-sensors-skin)

3. [https://www.sosv.com/portfolio/organic-robotics/](https://www.sosv.com/portfolio/organic-robotics/)

4. [https://www.lockheedmartin.com/en-us/who-we-are/our-stories/2021/october/organic-robotics.html](https://www.lockheedmartin.com/en-us/who-we-are/our-stories/2021/october/organic-robotics.html)