# Dossier: LUNEWAVE INC.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,889,203.03

**Award Date:** 2024-08-21

**Branch:** ARMY

## AI-Generated Intelligence Summary

**Company Overview:**

Lunewave Inc. is a technology company specializing in developing and manufacturing advanced sensor technologies, primarily utilizing 3D printed Luneburg lens antennas for radar and communications applications. Their core mission appears to be revolutionizing perception capabilities for autonomous vehicles, drones, and other advanced systems by providing high-resolution, wide field-of-view radar solutions. They aim to solve the limitations of traditional radar systems, such as narrow field-of-view, limited resolution, and high cost, by offering a scalable, compact, and affordable sensing solution. Their unique value proposition centers on their patented 3D printed Luneburg lens technology which enables them to create high-performance radar sensors with enhanced detection capabilities and significantly reduced size, weight, and power (SWaP) compared to conventional alternatives. This makes them an attractive solution for applications where size and power are critical constraints.

**Technology Focus:**

* 3D Printed Luneburg Lens Antennas:\*\* Lunewave's core technology is based on 3D printing Luneburg lens antennas. These lenses are spherical and capable of focusing electromagnetic waves from any direction onto a single focal point, enabling wide field-of-view radar and communications. Their lenses cover 120° FoV azimuth x 60° FoV elevation.
* Radar Sensors:\*\* They develop radar sensors using their Luneburg lens technology. These sensors are designed to provide high-resolution 3D imaging for object detection, tracking, and classification, even in challenging environmental conditions (e.g., rain, fog, snow).
* Artificial Intelligence (AI) Integration:\*\* Their radar systems integrate with AI algorithms for advanced data processing and interpretation, enabling more accurate and reliable perception in autonomous systems.

**Recent Developments & Traction:**

* Partnership with U.S. Army:\*\* In November 2023, Lunewave announced a partnership with the U.S. Army to develop advanced radar solutions for defense applications. This demonstrates a significant validation of their technology for military use.
* Series A Funding:\*\* Lunewave raised $7 million in a Series A funding round led by FM Capital in 2018 to advance their 3D-printed radar sensors for autonomous driving.
* Product Launches:\*\* Lunewave launched several radar sensor products targeting the automotive and industrial markets including the Lunewave Aries which is specifically mentioned as a 4D radar with a 120° FoV.

**Leadership & Team:**

* John Xin, CEO:\*\* Previous experience includes leadership roles at technology companies focusing on advanced materials and manufacturing.
* Information on the broader team is limited without more specialized databases but the partnership with the US Army and the funding from FM Capital indicates a team with strong technical and business acumen.

**Competitive Landscape:**

* Arbe Robotics:\*\* Arbe Robotics is a competitor in the automotive radar market, offering high-resolution 4D imaging radar solutions.
* Key Differentiator:\*\* Lunewave's core differentiator lies in its patented 3D printing approach for Luneburg lens antennas, allowing for potentially lower manufacturing costs, scalability, and unique design flexibility compared to competitors who may utilize traditional antenna fabrication techniques. This could translate to cost advantages, faster iteration cycles, and the ability to customize sensors for specific applications.

**Sources:**

* [https://www.lunewave.com/](https://www.lunewave.com/)
* [https://www.prnewswire.com/news-releases/lunewave-announces-partnership-with-us-army-301991013.html](https://www.prnewswire.com/news-releases/lunewave-announces-partnership-with-us-army-301991013.html)
* [https://www.finsmes.com/2018/06/lunewave-raises-7m-in-series-a-funding.html](https://www.finsmes.com/2018/06/lunewave-raises-7m-in-series-a-funding.html)