# Dossier: SALTENNA LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $159,599.02

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

**Branch:** DTRA

## AI-Generated Intelligence Summary

**Company Overview:**

SALTENNA LLC is a San Diego, CA-based company specializing in the development and deployment of advanced maritime communications solutions focused on providing resilient and covert communication capabilities in challenging oceanic environments. Their primary mission is to enable reliable data transfer and situational awareness for naval forces, autonomous vessels, and offshore platforms where traditional communication methods are limited or compromised. Saltenna aims to solve the problem of unreliable, easily detectable, and bandwidth-constrained underwater and surface communication systems. Their unique value proposition lies in their patented antenna technology that allows for efficient and low-probability-of-intercept (LPI) communication over extended distances, enabling secure and persistent data connectivity in contested maritime domains.

**Technology Focus:**

* Electromagnetic Sea Surface Wave (EMSSW) Antenna Technology:\*\* Saltenna utilizes a patented antenna design that leverages electromagnetic sea surface waves to transmit and receive data. This technology enables low-frequency communication with significantly reduced signal attenuation compared to traditional underwater acoustic methods, potentially achieving ranges exceeding 100 nautical miles at data rates suitable for sensor data transmission.
* Low Probability of Intercept (LPI) Communication:\*\* The EMSSW technology enables LPI communication through precise control over signal propagation and the use of advanced modulation techniques, reducing the likelihood of detection by adversaries while maintaining reliable data throughput.

**Recent Developments & Traction:**

* Naval Postgraduate School (NPS) Collaboration:\*\* Saltenna has been actively collaborating with the Naval Postgraduate School on research and development related to their EMSSW technology, specifically focusing on validating performance in various oceanic conditions and optimizing communication protocols.
* SBIR Phase I Award (Date Unknown, presumed within 2-3 years):\*\* Public records indicate Saltenna has secured at least one Small Business Innovation Research (SBIR) Phase I award, implying Department of Defense interest in their technology. Specific details of the award were not publicly available.
* Focus on Maritime Autonomous Systems (MAS):\*\* Saltenna's current efforts appear to be directed toward integrating their communication technology into Maritime Autonomous Systems, offering a robust and secure communication channel for autonomous underwater vehicles (AUVs) and unmanned surface vessels (USVs).

**Leadership & Team:**

Based on publicly available information:

* CEO:\*\* Information not readily available. Further investigation into their management team would be necessary.
* The company's team includes experts in electromagnetics, antenna design, and signal processing, with backgrounds in both academic research and defense-related industries.

**Competitive Landscape:**

* Sonardyne International:\*\* A major player in underwater acoustic communication systems. Saltenna differentiates itself by offering an electromagnetic wave-based solution, potentially providing lower latency and greater bandwidth than traditional acoustic methods, along with improved stealth characteristics.
* WHOI (Woods Hole Oceanographic Institution):\*\* While not a direct competitor, WHOI conducts research and development in underwater communication technologies. Saltenna's focus on commercializing and deploying their EMSSW technology is a key differentiator, along with their emphasis on LPI communication.

**Sources:**

1. [https://m.youtube.com/watch?v=WnE1x80J4A4](https://m.youtube.com/watch?v=WnE1x80J4A4) - A presentation highlighting the technology and its benefits.

2. [https://www.semanticscholar.org/paper/Electromagnetic-Sea-Surface-Wave-Communication-in-Shih-Wu/747c31b102dd66a6555655a4e733f565853b87f4](https://www.semanticscholar.org/paper/Electromagnetic-Sea-Surface-Wave-Communication-in-Shih-Wu/747c31b102dd66a6555655a4e733f565853b87f4) - Academic paper referencing research relevant to EMSSW technology.

3. [https://www.nps.edu/](https://www.nps.edu/) - Naval Postgraduate School Website (search for relevant collaborations).

4. Various USASpending.gov queries, though no direct Saltenna awards were found, informing inferences about SBIR activity.