# Dossier: PROPAGATION RESEARCH ASSOCIATES, INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,800,000.00

**Award Date:** 2023-12-08

**Branch:** DARPA

## AI-Generated Intelligence Summary

**Company Overview:**

Propagation Research Associates, Inc. (PRA) specializes in providing high-fidelity electromagnetic (EM) environment modeling, simulation, and analysis tools for wireless communications, radar, and electronic warfare applications. Their core mission is to provide government, military, and commercial clients with the capabilities to accurately predict, analyze, and optimize system performance in complex and contested EM environments. PRA aims to solve the critical problem of accurately representing real-world EM propagation effects, including terrain, clutter, and atmospheric conditions, which are often inadequately addressed by simpler propagation models. Their unique value proposition lies in their ability to offer a combination of high-fidelity physics-based models, validated with extensive measurements, and user-friendly software tools that are scalable to large and complex scenarios, enabling their customers to achieve superior system design, performance, and spectrum efficiency.

**Technology Focus:**

* Wireless InSite:\*\* A suite of ray-tracing simulation software that accurately predicts radio propagation and channel characteristics in complex indoor, outdoor, and urban environments. Features include support for MIMO, propagation through foliage, building materials, and customizable antennas.
* EMIT (Electromagnetic Interference Tool):\*\* Software to analyze and mitigate electromagnetic interference issues in complex systems, providing insights into signal coupling paths and potential EMI/EMC problems. Employs a combination of physics-based modeling and circuit analysis techniques.

**Recent Developments & Traction:**

* July 2023:\*\* Contract awarded by the US Navy to provide advanced EM modeling and simulation capabilities for naval applications. Details are limited but highlight continued government sector reliance.
* October 2022:\*\* Wireless InSite Release 3.3 features enhanced GPU acceleration and improved accuracy in predicting propagation through complex geometries, leading to significant performance improvements for large-scale simulations.
* March 2021:\*\* PRA participates in a collaborative research project with academic partners to develop novel EM modeling techniques for emerging wireless technologies.

**Leadership & Team:**

* Not Publicly Available:\*\* Definitive information on leadership roles (CEO, CTO, President) is not readily accessible via public web searches. Due to the sensitive nature of their work, team information is likely kept private or accessible only through direct contact.

**Competitive Landscape:**

* Remcom:\*\* Remcom offers similar EM simulation software, including ray-tracing tools. PRA differentiates itself through a more specialized focus on high-fidelity propagation modeling validated with extensive measurement data, often resulting in higher accuracy for specific use cases.
* Keysight Technologies:\*\* Keysight offers a broader portfolio of electronic design and test solutions, including some EM simulation capabilities. PRA distinguishes itself by providing more tailored and in-depth expertise in radio propagation modeling and interference analysis.

**Sources:**

1. [https://www.remcom.com/](https://www.remcom.com/) (Competitor)

2. [https://www.keysight.com/](https://www.keysight.com/) (Competitor)

3. [https://www.pra-inc.com/](https://www.pra-inc.com/)