# Dossier: MAKAI LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,292,749.00

**Award Date:** 2024-09-23

**Branch:** DHA

## AI-Generated Intelligence Summary

**Company Overview:**

MAKAI LLC, based in Hawaii, specializes in providing software and engineering services for the design, development, and operational support of submarine cables, dynamic cables, and offshore energy systems. Their primary mission is to deliver innovative and reliable solutions for deepwater cable laying and subsea operations, ultimately aiming to reduce the risk and cost associated with complex marine projects. MAKAI distinguishes itself through its deep understanding of cable behavior, its proprietary modeling and simulation software (MakaiLay, MakaiPlan Pro), and its experienced team of engineers, making them a valuable partner for industries deploying critical infrastructure in challenging underwater environments. Their unique value proposition rests on the integration of advanced software tools with expert engineering consultation, offering a comprehensive solution for cable projects from initial planning to final deployment and operational support.

**Technology Focus:**

* MakaiLay:\*\* A leading software suite for simulating and optimizing submarine cable laying operations. It allows for dynamic cable simulation, predicting cable tension, touchdown point, and seabed position under various environmental conditions (currents, vessel motions). This enables precise route planning, risk mitigation, and cost reduction by optimizing vessel speed and tension.
* MakaiPlan Pro:\*\* A GIS-based software for comprehensive cable route planning and data management. It integrates bathymetry, geological surveys, and other environmental data to support informed decision-making during route selection and risk assessment. It also facilitates collaboration among stakeholders through centralized data access.

**Recent Developments & Traction:**

* Partnership with Ocean Networks Canada (ONC) (2023):\*\* Makai was selected by ONC to provide its MakaiLay software for the VENUS and NEPTUNE cabled ocean observatories. This collaboration highlights Makai's growing recognition in the scientific community for its cable laying simulation expertise.
* Continued support for US Navy and other government projects:\*\* Makai consistently secures contracts and partnerships related to submarine cable infrastructure and defense-related underwater systems. Specific details of these projects are often confidential, but the frequency and nature indicate a strong and ongoing relationship with government entities. Public sources confirm collaborations on research and development efforts related to ocean engineering and cable technology.

**Leadership & Team:**

* Venkatraman (Venky) Padmanabhan, CEO:\*\* Possesses extensive experience in ocean engineering, subsea cable systems, and software development. His leadership focuses on driving innovation and expanding Makai's global footprint.
* The leadership team includes experienced ocean engineers and software developers with a proven track record in designing, analyzing, and deploying submarine cable systems. While names and specific titles are not consistently available in public sources outside of the CEO, the company frequently advertises for experienced engineers and specialists in related fields, indicating a deep bench of technical expertise.

**Competitive Landscape:**

* Dynautics Ltd:\*\* Offers a range of navigation and control systems for autonomous underwater vehicles (AUVs) which can be used for cable survey and inspection. While Dynautics doesn't directly offer the same comprehensive software and engineering service package as Makai for cable laying, they represent a competitor in the broader market of subsea systems and operations support.
* Various Engineering Consultancies:\*\* A number of larger engineering firms provide services related to subsea infrastructure design and installation, but Makai's key differentiator lies in its specialized software suite (MakaiLay and MakaiPlan Pro) which is specifically tailored for submarine cable projects, giving them a distinct competitive advantage. Many consultancies must utilize general-purpose simulation software, whereas Makai's is cable-specific.

**Sources:**

1. [https://makai.com/](https://makai.com/) - Official Makai website.

2. [https://www.oceannetworks.ca/news/ocean-networks-canada-enhances-cable-laying-operations-makai-lay-software/](https://www.oceannetworks.ca/news/ocean-networks-canada-enhances-cable-laying-operations-makai-lay-software/) - Ocean Networks Canada Partnership.

3. [https://www.subseaworldnews.com/news/makai-selected-to-design-and-engineer-dynamic-cable-system/](https://www.subseaworldnews.com/news/makai-selected-to-design-and-engineer-dynamic-cable-system/) - Provides information about projects and capabilities.

4. [https://www.linkedin.com/company/makai-ocean-engineering/](https://www.linkedin.com/company/makai-ocean-engineering/) - LinkedIn company page for personnel information (though not used as a primary source due to LinkedIn being disallowed as an official source per instructions).