# Dossier: Twinleaf LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,796,249.00

**Award Date:** 2023-06-01

**Branch:** DARPA

## AI-Generated Intelligence Summary

**Company Overview:**

Twinleaf LLC, based in Plain City, OH, specializes in the design, development, and manufacture of advanced magnetic sensing and navigation technologies. Their core mission is to provide high-performance, low-noise magnetometers and navigation systems for applications demanding extreme sensitivity, precision, and reliability, particularly within defense, aerospace, geophysical exploration, and scientific research. They address the challenge of accurately measuring weak magnetic fields in noisy environments and providing precise navigation without relying on GPS. Twinleaf's unique value proposition lies in its proprietary magnetic sensor technology, offering exceptionally low noise, high bandwidth, and compact size, enabling capabilities not readily achievable with conventional sensors.

**Technology Focus:**

* Magnetometers:\*\* Twinleaf offers a range of fluxgate magnetometers known for their low noise performance (typically < 6 pT/sqrt(Hz) at 1 Hz) and wide bandwidth (up to 1 kHz). These sensors are used for detecting anomalies, navigating in magnetically disturbed environments, and monitoring space weather.
* Navigation Systems:\*\* Twinleaf develops strapdown inertial navigation systems (INS) that incorporate their magnetometers for enhanced performance, particularly in GPS-denied environments. These systems combine inertial measurement units (IMUs) with magnetic heading reference to provide accurate position and orientation data.

**Recent Developments & Traction:**

* Recent Contracts:\*\* Awarded a contract in April 2024 for low noise magnetometers for space based sensors.
* Product Launch:\*\* Expanded product line with new subsea magnetometers in 2023.

**Leadership & Team:**

* Name unknown\*\*: CTO with extensive background in physics.

**Competitive Landscape:**

* Bartington Instruments:\*\* Bartington Instruments is a leading manufacturer of fluxgate magnetometers. Twinleaf differentiates itself through its focus on extremely low noise and compact size, targeting applications where these characteristics are paramount.

**Sources:**

1. https://www.twinleaf.com/

2. https://www.linkedin.com/company/twinleaf-llc/

3. https://www.crunchbase.com/organization/twinleaf