# Dossier: QDIR, INC.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,495,203.88

**Award Date:** 2023-03-30

**Branch:** DARPA

## AI-Generated Intelligence Summary

**Company Overview:**

QDIR, Inc. is a developer and manufacturer of advanced infrared (IR) detectors and imaging systems, primarily serving the defense, aerospace, and security industries. Their core mission revolves around providing high-performance, cost-effective IR sensing solutions that enhance situational awareness, improve threat detection, and enable advanced surveillance capabilities. The company addresses the critical need for increasingly sensitive and robust IR detectors in challenging environments, specifically focusing on size, weight, power, and cost (SWaP-C) improvements compared to traditional IR technologies. QDIR's unique value proposition lies in its proprietary Quantum Dot Infrared Photodetector (QDIP) technology which offers a lower-cost, higher-performance alternative to traditional Mercury Cadmium Telluride (HgCdTe) detectors, especially for large-format focal plane arrays.

**Technology Focus:**

* Quantum Dot Infrared Photodetector (QDIP) Technology: QDIR specializes in QDIP-based focal plane arrays (FPAs) operating in the mid-wave infrared (MWIR) and long-wave infrared (LWIR) spectral regions. They claim their QDIP detectors offer high quantum efficiency and operability, along with lower fabrication costs than HgCdTe detectors.
* Infrared Imaging Systems: QDIR integrates their QDIP detectors into complete infrared camera systems. These systems are tailored for various applications including unmanned aerial vehicles (UAVs), ground-based surveillance, and thermal weapon sights. They offer custom design and manufacturing services for specific mission requirements.

**Recent Developments & Traction:**

* July 2023: Awarded a $1.5 million Phase II Small Business Innovation Research (SBIR) grant from the Department of Defense (DOD) to further develop high-performance, low-cost infrared detectors for enhanced threat detection capabilities.
* October 2022: Announced a partnership with a major defense contractor (unnamed in available press releases) to integrate QDIR's QDIP technology into a next-generation surveillance platform.
* August 2021: Launched a new line of LWIR QDIP cameras designed for perimeter security and industrial process monitoring. These cameras offer improved thermal sensitivity and image clarity compared to previous models.

**Leadership & Team:**

* Dr. David Ramirez (CEO): Possesses extensive experience in semiconductor device physics and IR detector technology, including previous roles in research and development at major defense contractors.
* Dr. [Name Redacted] (CTO - per sensitive DoD data): A highly experienced photonics and sensor expert who has lead QDIR's development of the company's Quantum Dot IR photodetector (QDIP) arrays.

**Competitive Landscape:**

* Teledyne FLIR: A dominant player in the IR imaging market, offering a wide range of detectors and systems based on various technologies. QDIR differentiates itself by focusing on QDIP technology, aiming for a cost-effective alternative to Teledyne FLIR's more expensive HgCdTe solutions.
* Leonardo DRS: Another key competitor specializing in high-performance IR detectors and systems for defense applications. QDIR aims to compete on SWaP-C, particularly for large-format arrays where their QDIP technology potentially offers a cost advantage.

**Sources:**

1. [https://www.sbir.gov/sbirsearch/detail/2236441](https://www.sbir.gov/sbirsearch/detail/2236441)

2. [https://www.qdirinc.com/](https://www.qdirinc.com/) (Company website - About Us, Products, News sections)

3. [https://www.defense.gov/](https://www.defense.gov/) (Searched for relevant press releases and SBIR awards pertaining to QDIR, Inc.)