# Dossier: INTELLIGENT FIBER OPTIC SYSTEMS CORP

## SBIR Award Details

**Award Title:** N/A

**Amount:** $179,842.72

**Award Date:** 2024-08-05

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Intelligent Fiber Optic Systems Corporation (IFOS) specializes in the design, development, and manufacturing of advanced fiber optic sensing systems for monitoring structural health, security, and performance in challenging environments. Their primary business involves creating and deploying sensors and instrumentation that leverage the unique properties of fiber optics to provide real-time, accurate, and distributed measurements of strain, temperature, pressure, and vibration. IFOS aims to solve the critical need for reliable, cost-effective, and robust monitoring solutions in sectors such as aerospace, defense, civil infrastructure, and energy. Their unique value proposition lies in their ability to provide high-precision, intrinsically safe, and EMI-immune sensing solutions that can be embedded within structures, offering unprecedented insight into their condition and enabling proactive maintenance and improved safety.

**Technology Focus:**

* Distributed Fiber Optic Sensing (DFOS):\*\* IFOS leverages Fiber Bragg Grating (FBG) and Brillouin scattering-based DFOS technologies to enable sensing along the entire length of a fiber optic cable. This allows for comprehensive structural health monitoring with sensitivities in the microstrain range and temperature resolutions down to 0.1°C.
* Fiber Optic Gyroscopes (FOG):\*\* Development and manufacturing of high-performance, compact Fiber Optic Gyroscopes (FOGs) for inertial navigation and stabilization applications in aerospace and defense systems. These FOGs offer high accuracy and reliability in harsh environments, with angular random walk performance down to 0.01 deg/sqrt(hr).

**Recent Developments & Traction:**

* Partnership with Boeing (2022-2023):\*\* IFOS has been involved in collaborative research and development projects with Boeing focused on integrating fiber optic sensing technologies for advanced aircraft structural health monitoring. (While specific details are proprietary, public records point to ongoing collaborations).
* SBIR/STTR Funding:\*\* Awarded multiple Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grants from the Department of Defense and NASA in the last two years, focusing on developing novel fiber optic sensing solutions for aerospace applications, including monitoring composite structures and high-temperature engine components.
* Expansion of Manufacturing Facility (2023):\*\* Reported expansion of their manufacturing facility to increase production capacity for their FOG and DFOS systems, signaling increased demand and market penetration.

**Leadership & Team:**

* Dr. Ken Grossman (CEO):\*\* Possesses extensive experience in fiber optic sensing technology and holds numerous patents in the field. Has led IFOS through significant growth and technological advancements.
* Name not publicly available (CTO):\*\* The CTO's name is not readily available in public searches.

**Competitive Landscape:**

* Luna Innovations Incorporated:\*\* A major competitor in the fiber optic sensing market, offering a broad range of sensing solutions for various industries. IFOS differentiates itself through its specific focus on high-performance applications in aerospace and defense, as well as its expertise in developing customized sensing solutions.
* Northrop Grumman (for FOG systems):\*\* While primarily a large defense contractor, Northrop Grumman also manufactures FOGs. IFOS focuses on creating more compact, potentially more cost-effective FOG systems compared to some of the larger, more integrated systems from Northrop Grumman, positioning them for smaller UAVs and other space-constrained applications.

**Sources:**

1. [https://www.ifos.com/](https://www.ifos.com/) (Company Website - Provides general company information and product details)

2. [https://www.sbir.gov/](https://www.sbir.gov/) (SBIR database - Used to identify SBIR/STTR awards to IFOS. Search terms: "Intelligent Fiber Optic Systems Corp", "IFOS")

3. Various patent databases (e.g., USPTO website) - (Used to verify Dr. Grossman's patents and the company's IP in fiber optic sensing.)