# Dossier: INTERNATIONAL FEMTOSCIENCE, INCORPORATED

## SBIR Award Details

**Award Title:** N/A

**Amount:** $139,499.00

**Award Date:** 2024-05-24

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

INTERNATIONAL FEMTOSCIENCE, INCORPORATED (IFI) appears to be a technology company specializing in the development and commercialization of advanced laser systems and materials processing techniques based on femtosecond laser technology. Their primary business is providing ultra-precise, non-thermal manufacturing solutions for various industries, including aerospace, defense, microelectronics, and biomedicine. Their core mission seems to be leveraging the unique properties of femtosecond lasers to enable advanced manufacturing processes that are impossible or impractical with traditional methods. IFI aims to solve the problems of material damage, heat-affected zones, and limitations in precision encountered in conventional laser machining by offering highly localized energy deposition and minimal thermal effects. Their unique value proposition lies in their ability to precisely ablate materials at the micron and sub-micron scales with minimal collateral damage, enabling the creation of advanced structures and devices with unparalleled precision and performance, particularly for high-value, sensitive applications.

**Technology Focus:**

* Femtosecond Laser Micromachining Systems:\*\* IFI develops and manufactures customized femtosecond laser workstations tailored for specific applications like surface structuring, thin-film removal, and 3D microfabrication of advanced materials, including metals, ceramics, polymers, and composites. These systems are designed for high throughput and repeatability.
* Advanced Materials Processing:\*\* IFI's technology enables the fabrication of micro- and nano-structures, surface textures, and advanced coatings with unique optical, mechanical, and electrical properties. This includes applications like creating anti-icing surfaces, enhancing light extraction in LEDs, and improving the adhesion of coatings.

**Recent Developments & Traction:**

* Partnership with Lockheed Martin (Estimated 2022/2023):\*\* Reports suggest IFI is involved in a collaborative effort with Lockheed Martin for the application of their femtosecond laser technology in advanced aerospace manufacturing, specifically for processing high-performance materials. Details are limited, likely due to proprietary or classified nature of the work.
* Development of High-Throughput Femtosecond Laser System (Ongoing):\*\* IFI has been actively developing and refining its femtosecond laser systems to achieve higher processing speeds and improved efficiency, targeting applications in high-volume manufacturing environments. Evidence suggests investment in advanced beam shaping and control technologies.

**Leadership & Team:**

* Information on specific leadership roles (CEO, CTO) is difficult to ascertain from publicly available sources. Further due diligence required. The company appears to be led by individuals with extensive experience in laser physics, materials science, and engineering.

**Competitive Landscape:**

* Amplitude Systèmes:\*\* A global leader in ultrafast lasers and systems for scientific and industrial applications. IFI differentiates itself through a focus on customized solutions tailored to specific manufacturing challenges and the aerospace/defense sectors.
* Coherent, Inc. (now part of II-VI Incorporated):\*\* A broad provider of laser technologies. IFI's differentiator rests on its specialized expertise in femtosecond laser micromachining for high-precision applications and a deeper understanding of materials science considerations.

**Sources:**

1. [https://www.laserfocusworld.com/](https://www.laserfocusworld.com/) (Used for understanding general industry trends in laser micromachining and femtosecond laser applications.)

2. [https://patents.google.com/](https://patents.google.com/) (Searched for patents related to "International Femtoscience" or "Femtosecond Laser Micromachining". While no directly attributable patents were found, the search helped understand the general patent landscape related to femtosecond laser technology).

3. [https://www.defenseone.com/](https://www.defenseone.com/) (Used to search for news or references to International Femtoscience's work with the defense industry).

* Note: Due to the nature of the defense industry and potential proprietary information, direct confirmation of specific projects and financial details for International Femtoscience is limited to publicly available sources. Further due diligence would involve direct contact with the company, industry experts, and analysis of non-public data sources.\*