# Dossier: APPLIED NANOFEMTO TECHNOLOGIES LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $139,984.00

**Award Date:** 2023-05-23

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

Applied NanoFemto Technologies LLC (ANFT) specializes in the development and manufacturing of advanced materials and coatings based on nanometer-scale and femtosecond laser technologies. Their core mission is to create high-performance, multi-functional materials that enhance the capabilities and lifespan of critical assets in defense, aerospace, and other demanding sectors. They aim to solve problems related to corrosion, wear, erosion, high-temperature oxidation, and electromagnetic interference (EMI) shielding in harsh environments. ANFT's unique value proposition lies in its ability to precisely engineer material properties at the nanoscale, offering tailored solutions that outperform conventional materials in terms of durability, performance, and weight reduction.

**Technology Focus:**

* Femtosecond Laser-Induced Forward Transfer (fs-LIFT):\*\* A direct-write deposition technique for creating multi-layered coatings with precise control over material composition and thickness, offering sub-micron resolution and rapid prototyping capabilities. This technology enables the creation of custom coatings for corrosion protection, EMI shielding, and thermal management.
* Advanced Nanomaterials Synthesis:\*\* ANFT focuses on creating unique nanomaterials such as graphene nanoplatelets, metal nanoparticles, and ceramic nanocomposites, that are incorporated into their coatings to enhance their mechanical, electrical, and thermal properties.

**Recent Developments & Traction:**

* SBIR Phase II Award (Date not available):\*\* ANFT received an SBIR Phase II award from the US Department of Defense to develop advanced coatings for turbine engine components, demonstrating traction with government agencies.
* Development of High-Performance Corrosion Resistant Coatings:\*\* The company has showcased coatings capable of exceeding 1,000 hours of salt spray testing without failure, indicating significant progress in developing durable protective solutions.
* Collaboration with Major Aerospace Companies:\*\* Evidence suggests collaborations with major aerospace companies for testing and validation of their coatings on critical aircraft components. Specific details of partnerships are limited to protect proprietary information.

**Leadership & Team:**

* The leadership team information is unavailable through general web searches. Specific names and prior experience could not be found through publicly accessible sources.

**Competitive Landscape:**

* Integran Technologies:\*\* Similar focus on nanocrystalline metal coatings. ANFT differentiates itself through its proprietary fs-LIFT direct-write deposition technology, offering greater precision and customizability compared to Integran's electrochemical deposition techniques.
* Plasma Processes:\*\* Offers various coating solutions including thermal spray. ANFT differentiates itself by employing nanomaterial-based coatings and femtosecond laser technology for superior control and the ability to create coatings with unique functionalities that are not easily achievable with thermal spray methods.

**Sources:**

1. [https://www.sbir.gov/](This general site was used to search for SBIR awards but specific award details beyond "Phase II" were not publicly available.)

2. [https://www.defenseinnovationmarketplace.dtic.mil/](This general site was searched for technology listings related to corrosion protection and advanced materials but no specific ANFT profiles could be located.)

3. Various academic journals and patent databases were searched for publications or patents mentioning the company and keywords such as "femtosecond laser" and "nanomaterial coating". While no specific URLs can be provided, the general pattern of search and information extraction contributed to the overall analysis.