# Dossier: QUESTEK INNOVATIONS LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $146,474.00

**Award Date:** 2022-11-07

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

QUESTEK INNOVATIONS LLC is a materials design company focused on developing and commercializing computationally-designed alloys for demanding applications, primarily within the defense and aerospace sectors. Their core mission is to accelerate the design and deployment of advanced materials that enable superior performance, durability, and weight reduction in critical systems. Questek aims to solve the limitations of traditional alloy development, which is often slow, expensive, and reliant on trial-and-error. Their unique value proposition lies in their ability to use computational thermodynamics, kinetics, and machine learning to predict alloy compositions and properties, drastically reducing the time and cost associated with materials innovation. This approach allows them to tailor alloys to specific performance requirements with greater precision and speed compared to traditional methods.

**Technology Focus:**

* ICME (Integrated Computational Materials Engineering):\*\* Questek leverages its proprietary ICME software and database of thermophysical properties to model alloy behavior under various conditions, predicting performance characteristics such as strength, creep resistance, corrosion resistance, and weldability.
* Custom Alloy Design & Manufacturing:\*\* They offer services including alloy design optimization, prototype development, alloy production for testing, and technology transfer to production partners. They specialize in high-performance alloys based on elements such as iron, nickel, titanium, and aluminum.

**Recent Developments & Traction:**

* DARPA Funding (Ongoing):\*\* Questek continues to secure DARPA funding for various projects focused on developing advanced materials for extreme environments. This includes projects focused on high-temperature alloys and alloys with superior resistance to wear and corrosion. Specific project details are often proprietary.
* Collaboration with Leading Aerospace Companies:\*\* Public records and press releases (often vague due to NDA considerations) indicate ongoing collaborations with major aerospace companies for the development of custom alloys for aircraft engine components, structural elements, and other critical applications.
* Expansion of Alloy Portfolio:\*\* Questek has continued to expand its portfolio of commercially available alloys, including their Ferrium family of high-strength steels, which are used in various industrial and defense applications. Specific alloy names and properties are detailed in their technical data sheets.

**Leadership & Team:**

* Dr. Greg Olson (Co-Founder):\*\* A highly regarded Professor of Materials Science and Engineering at Northwestern University, with extensive experience in computational materials design and alloy development.
* (Further details on other team members are difficult to source publicly but generally include Ph.D.-level materials scientists, engineers, and commercialization specialists.)\*\*

**Competitive Landscape:**

* Carpenter Technology Corporation:\*\* A major specialty alloys producer with a broad portfolio of high-performance materials. Questek differentiates itself through its focus on computationally-driven alloy design, allowing for rapid customization and optimization of materials for specific applications, which gives them an agility advantage over larger, more traditional alloy manufacturers.
* Special Metals Corporation (PCC):\*\* A provider of high-performance alloys and engineered products. Questek again differentiates through its ICME-driven design and optimization, offering a more tailored and accelerated approach to materials solutions.

**Sources:**

1. [https://www.questek.com/](https://www.questek.com/) (Official Website)

2. [https://www.nist.gov/system/files/documents/olesen\_paper\_2012\_08\_01\_FINAL.pdf](https://www.nist.gov/system/files/documents/olesen\_paper\_2012\_08\_01\_FINAL.pdf) (A scientific paper referencing Questek's approach to materials design - helpful for understanding their core technology.)

3. [https://www.researchgate.net/institution/Questek\_Innovations](https://www.researchgate.net/institution/Questek\_Innovations) (Provides access to publications and research associated with Questek.)

4. (Limited but potentially informative through archived search if available): Government Contracts Database (e.g., USA Spending) searching for "QUESTEK INNOVATIONS LLC" to identify potential funding details from the DoD and other government agencies. Note: Results may be limited due to proprietary information.