



NEWS RELEASE

FOR IMMEDIATE RELEASE Contact: Charles Kuehmann
847.425.8222, president@questek.com

U.S. Navy Award Nanostructured Structural Stainless Steel

Evanston, IL, December 2, 2002 – QuesTek Innovations LLC announced that it has been awarded a Phase I Small Business Innovative Research (SBIR) grant from the U.S. Navy for a program entitled “Computational Design of High-Strength, High-Toughness Stainless Steel for Carrier-Based Aircraft Components.”

QuesTek will utilize a novel computational materials design approach to demonstrate the feasibility for the development of a nanostructured high-strength, high-toughness stainless steel that meets the stringent mechanical properties for carrier-based aircraft components. Dr. Charles J. Kuehmann, Principal Investigator for this project stated that “alloys which are currently used for critical aerospace components are nonstainless and highly susceptible to corrosion and hydrogen embrittlement. As a result, a number of aircraft components, such as landing gear, require a costly cadmium coating process to protect against corrosion.” Cadmium is a known carcinogen and represents significant environmental risks in both primary manufacture, and at Department of Defense overhaul and repair facilities.

QuesTek *Materials by Design*[®] technology will be used to develop a series of microstructural toughening strategies to devise novel stainless steel compositions that will match or exceed the more rigid mechanical strength and toughness properties of current nonstainless steel utilized by the Navy, thus eliminating the need for cadmium coating. Kuehmann noted that “a new high strength, high toughness stainless alloy would benefit the environment and have dual-use application potential for commercial aircraft and other commercial markets such as marine equipment.”