



## **QUESTEK WINS SBIR PHASE II AWARD TO FURTHER DESIGN AND DEVELOP A LOW-COST, CASTABLE TITANIUM ALLOY**

*New Alloy May Have Broad Applications in Defense, Energy,  
Chemical Processing, Marine, Transportation and other Industry Sectors*

EVANSTON, IL, Nov. 30, 2009 - QuesTek Innovations LLC was recently awarded a Phase II Small Business Innovation Research (SBIR) project from the U.S. Army to continue to apply QuesTek's *Materials by Design*® technology to the design and development of a new castable titanium alloy for Army applications.

The aim of the project is to develop new castable titanium alloy compositions, by exploring designs that incorporate lower cost alloying components and processing steps. Alloy design activities will include minimizing sensitivity to elevated impurity levels (e.g. oxygen and iron) encountered in non-aerospace-grade stock materials. The final composition will first be produced (i.e. cast) and characterized using simplified test geometries, and then at final scale into specific Army components. The design property goals will consider cast titanium alloy Ti-6Al-4V (one of the mostly widely used titanium alloys) as one baseline.

A new low-cost titanium alloy with improved castability could see widespread adoption across many Army and Department of Defense platforms, where the exceptional strength-to-weight and corrosion resistance properties of titanium can be combined with the cost savings of near-net-shape processing (i.e. casting). The new alloy has significant potential application in energy, chemical processing, marine, transportation and other commercial and industrial sectors. Benefits of the new alloy will likely include reduced machining costs, less material waste, lower part count, faster speed-to-market, greater equipment durability, and lighter, more efficient equipment.

The 2-year SBIR Phase II contract is valued at up to \$729,964.77, with \$364,505.00 of initial funding authorized for FY2009. Earlier the Army also awarded QuesTek a \$49,998.00, 4-month Option as part of a preceding Phase I SBIR award.

Charlie Kuehmann, President and CEO of QuesTek, commented: "We appreciate this award from the Department of Defense to develop a low-cost castable titanium alloy that can directly address Army needs, and also meet broad commercial and industrial market requirements. This Phase II award builds on our past successes such as *Ferrium S53*®, our ultra-high-strength, corrosion-resistant steel for aircraft landing gear and other applications. *Ferrium S53* was developed in part with Department of Defense funding and is now available for commercial, industrial and governmental use from multiple U.S.-based alloy producers under QuesTek's licenses."

### **ABOUT QUESTEK**

QuesTek Innovations LLC ([www.questek.com](http://www.questek.com)) is a global leader in computational materials design. QuesTek uses its proprietary *Materials by Design*® expertise to quickly develop new materials that reduce capital, processing, operating or maintenance costs, or improve environmental protection, competitive supply or competitive advantage. QuesTek has been highlighted in many leading business and technical publications, and has more than 30 patents awarded or pending worldwide. For more information, contact Rich Kooy at 1-847-425-8213 or [rkooy@questek.com](mailto:rkooy@questek.com).