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Media Relations

July 1, 2014

TURBOCAM Awarded Grant to Predict Feasibility of Replacing Forging and Casting with an Additive Manufactured Alloy



Internal cavities of a Gas turbine rotor blade
Photo courtesy of Turbocam

DURHAM, N.H. — Turbocam Energy Solutions, LLC, a Dover-based affiliate of TURBOCAM International that develops special processes for turbomachinery products, is collaborating with the University of New Hampshire to evaluate the mechanical behavior of the material used by a novel additive manufacturing technology called Selective Laser Sintering (SLS). Additive manufacturing could reduce energy use by 50 percent and reduce material costs by up to 90 percent compared to traditional manufacturing.

The collaboration is made possible by a Granite State Technology Innovation Grant from the NH Innovation Research Center (NHIRC) to support projects under development in the private sector. Projects vary from proof-of-concept to a substantial product or process design. Companies are required to provide matching dollars or services in an effort to improve leverage of NHIRC dollars.

“The cutting edge technology developed through our collaboration with the mechanical engineering department at UNH will enable TURBOCAM to launch new products for our aerospace, industrial and automotive customers,” said Turbocam general manager Jonathan Bicknell. “This new process will improve final product quality, increase product production and create new high-quality technician and engineering jobs.”

This is a clear example where research results generated at universities directly benefit industry. This project will push the frontiers of knowledge in additive manufacturing technology and performances of additively

manufactured materials to the next level.

“We anticipate that the successful completion of this project will go beyond small, discrete projects typical of industry-university partnerships,” said Marko Knezevic, assistant professor of mechanical engineering at UNH. “This project could lead to a long-term strategic partnership that will merge the research-driven culture at the university with the innovation-driven environment of industry.”

“Nearly every manufacturing solution TURBOCAM has developed since 1985 has reached commercialization, even recently through the slow economic recovery,” said Marc Sedam, executive director of the NHIRC. “The SLS technology would further drive the success of TURBOCAM’s additive manufacturing division, and would require significant resources to support this growth. The New Hampshire economy will benefit directly by TURBOCAM’s development in the form of increased job creation and expanded manufacturing capabilities.”

The NHIRC was created in 1991 by the New Hampshire Legislature to support innovations through industry and university collaborations, thereby increasing the number of quality jobs in the state.

A request for proposals will open August 18 and will fund 12-month projects beginning January 1, 2015. To learn more about the NHIRC and how to apply for funding, visit <http://www.nhirc.unh.edu>.

Photograph to be downloaded: <http://www.unh.edu/news/releases/2014/07/images/rotorblade-5041.jpg>

Caption: Internal cavities of a Gas turbine rotor blade

Photo courtesy of Turbocam

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