New Titanium Machining Process Supports Affordability Of Lockheed Martin F-35

FORT WORTH, Texas, Sept. 15, 2011 /PRNewswire/ -- Lockheed Martin (NYSE: LMT) has obtained government approval to use a groundbreaking cryogenic titanium machining process in production of the F-35 Lightning II stealth fighter.

Cryogenic titanium machining improves cutting-tool life by a factor of 10 with appropriate material removal processing speed. The Joint Program Office in coordination with the F-35 Fracture Control Board (FCB) approved the new process for standard roughing operations, impacting the most time-consuming and cost-intensive machining processes associated with manufacturing titanium parts. Broadly applied, this new technology could improve affordability and efficiency in the production of the F-35, which is approximately 25 percent titanium by weight.

The team of Creare Incorporated, H.M. Dunn Company, and MAG IAS has worked with Lockheed Martin, the US Navy Small Business Innovation Research (SBIR) Program Office and the F-35 Joint Program Office (JPO) for several years on the development of the low flow cryogenic machining of titanium, funded through SBIR program awards. The high performance titanium machining process was designed, developed and tested at Creare, Inc., headquartered in Hanover, N.H.

"This is a prime example of an SBIR-developed technology transitioning from the research and development phase to a system that can enhance affordability for near-term military projects, like the F-35," said Mike Packer, vice president of Manufacturing Strategy &Technical Integration at Lockheed Martin Aeronautics.

Creare, a premier engineering research and development firm, led the technology development. H.M. Dunn of Euless, Texas, a Tier I supplier for the F-35 program, completed performance demonstrations in May. MAG IAS, the world's largest U.S. based machine tool builder headquartered in Erlanger, Ky., is commercializing the technology.

The F-35 Lightning II is a 5th Generation fighter, combining advanced stealth with fighter speed and agility, fully fused sensor information, network-enabled operations and advanced sustainment. Lockheed Martin is developing the F-35 with its principal industrial partners, Northrop Grumman, and BAE Systems.

Headquartered in Bethesda, Md., Lockheed Martin is a global security company that employs about 126,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The Corporation's 2010 sales from continuing operations were $45.8 billion.

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