

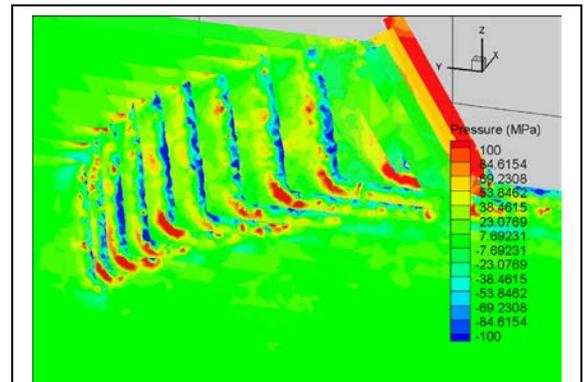
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## **Third Wave Systems Awarded \$500,000 to Develop CAE Technologies for Predicting and Modeling Distortion**

**MINNEAPOLIS, MN.** (10 December 2012) – The Aviation Applied Technology Directorate (AATD) of the U.S. Army has awarded Third Wave Systems an approximately \$500,000 contract to continue efforts to model machining, laser peening, and forming effects on final part stresses and distortions. The twelve-month initiative will focus on developing modeling capabilities for a variety of machining effects, including clamping, fixturing, and toolpath dependencies. Metal Improvement Company will serve as a collaborator on the project, providing expertise on laser peening and forming mechanics that produce engineered stresses. This is the second project at Third Wave to be funded by the AATD with a focus on residual stress and distortion prediction and management.

Over the years, Third Wave Systems has developed a reputation for providing innovative modeling solutions for some of machining's greatest challenges; contracts through the U.S. Department of Defense enable engineers to advance physics-based computer-aided engineering (CAE) tools into new areas. In the past twelve months alone, Third Wave developers have made significant advances in connecting material responses during machining with residual stresses and subsequent distortions, prompting AATD staff to award the company its second contract in as many years. Engineers will now turn their attention from fundamental physics research to applied engineering activities. Dr. Troy Marusich, Chief Technical Officer for Third Wave, is excited to get started.



*Pressure distribution for a conventional milling residual stress simulation run using Third Wave AdvantEdge: negative pressure translates to tensile residual stress, and positive pressure translates to compressive stress. These and other modeling capabilities will be extended and/or developed under the new AATD program awarded to Third Wave Systems.*

“We’re excited to gain continued program support from the Army AATD to address the important challenge of predicting and managing residual stresses and part distortions in machined aerospace components,” said Dr. Marusich, who will be serving as Principal Investigator for the Army program. “The culmination of this project results in a unique, comprehensive modeling tool impacting machined and laser peened components.”

Project activities are expected to commence by the end of 2012.

(more)

**ABOUT THIRD WAVE SYSTEMS, INC.** Third Wave Systems ([www.thirdwavesys.com](http://www.thirdwavesys.com)) is a premier machining computer-aided engineering (CAE) provider. Its modeling products and services are used by progressive companies to dramatically reduce costs of machined components, accelerate design cycles, improve part quality, and get to market faster. This validated material modeling technology gives engineers access to more information than trial-and-error tests, allowing them to make better decisions. Third Wave is headquartered in Minneapolis (USA) with a remote office in Detroit (USA) and distributors throughout Europe and Asia.

**ABOUT METAL IMPROVEMENT COMPANY** Metal Improvement Company, headquartered in Paramus, NJ, is the Metal Treatment business segment of Curtiss-Wright Corporation. This business segment provides precision shot peening, laser peening and protective coating services to the aerospace, automotive, power generation and general industrial markets through a global network of locations. For more information, visit [www.metalimprovement.com](http://www.metalimprovement.com).

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