



PRESS RELEASE

GENOA 3D Printing Simulation Software wins 2015 R&D 100 Award

LONG BEACH, CALIFORNIA (November 20, 2015) – AlphaSTAR Corporation (www.alphastarcorp.com) is pleased to announce that its GENOA 3D Printing Simulation software was selected as a winner of the 2015 R&D 100 Award. AlphaSTAR collaborated with Oak Ridge National Laboratory in developing GENOA's Large Scale Additive Manufacturing (3D Printing) simulation capabilities. This award demonstrates AlphaSTAR's commitment to developing leading edge, innovative and advanced composite software to support additive manufacturers in building large scale 3D-printed products with higher confidence while reducing testing costs and time to market.

The competition was sponsored by R&D Magazine which recognizes advances in the most impactful technologies worldwide and acknowledges the scientists and engineers who have led these efforts. It is with pleasure that AlphaSTAR accepts this award for the 2nd time, with the first being for the core GENOA Multi-Scale Technologies as developed with NASA Glenn Research Center and Clarkson University in the year 2000.

The GENOA 3D Printing Simulation capability is able to accurately predict deflection, residual stress, damage initiation and crack growth formation observed by various 3D printing machines. GENOA's advanced Multi-Scale Progressive Failure Analysis (MS-PFA) methods are used to determine the entire 3D printing process at the material characterization level using quick & accurate analysis without the use of FEM as well as the Structural MS-PFA that simulates the entire 3D printing process using FEM. With the ability to print directly from the printers G-Code file, engineers can simulate the entire printing process considering material uncertainties and production defects which can help eliminate unnecessary tests hence dramatically reducing costs & time to market.

In addition to the prediction of damage initiation and crack growth formation observed by 3D printing machines, AlphaSTAR's GENOA software can visualize damages in the printed structure i.e. damages in the fiber & matrix with specific delamination types such as transverse shear, fiber crushing, fiber micro-buckling, relative rotation & out of plane shear stress. Damages can be traced directly to 3D printing variables (deposition speed, bead width, overall path, and bottom plate temperature & convection conditions).

For further information on the topic of GENOA 3D Printing Simulation capabilities, you may access our article featured in SAMPE here: http://www.alphastarcorp.com/sections/Knowledge_Center/Books_Journals_Articles/SAMPE_Journal_AlphaSTAR_Feature_Article.pdf

About AlphaSTAR Corporation: AlphaSTAR Corporation is a leading engineering services and software company that provides innovative physics-based simulation technologies for structural modeling and analysis of advanced composite structures in the aerospace, automotive, defense, and energy industries worldwide. As a solution provider, AlphaSTAR partners with Altair, ANSYS, MSC Software, DS Simulia, and LSTC. AlphaSTAR is headquartered in Long Beach, California and is the recipient of esteemed industry and technology awards for R&D and software development.

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