

## 3DSIM LAUNCHES exaSIM™ ULTIMATE at TCT 2017

Software completes the most comprehensive metal AM simulation tool available

PARK CITY, Ut., September 26, 2017 - 3DSIM, the global leader in additive manufacturing simulation technology, announced the launch of **exaSIM™ ULTIMATE**. This release completes the exaSIM portfolio by adding full part *Thermal Strain* predictions, an unparalleled capability, to *Assumed Uniform* and *Scan Pattern* strain, enabling engineers to leverage detailed additive manufacturing (AM) science to accurately predict part dimensions, to automatically correct for distortion and optimize supports, and to visualize the effects of part orientation, process parameters and machine differences on AM-produced parts. The launch of exaSIM ULTIMATE is the culmination of 7 years of intensive software development and 2 years of Alpha and Beta testing.

exaSIM is a suite of metal AM simulation tools that provides critical insight into the complex physics-based phenomena associated with laser powder bed fusion. exaSIM generates practical solutions to residual stress, distortion and build failure, enabling users to achieve part tolerances and avoid build failures without trial and error experimentation. STL files can be automatically distortion compensated to counteract the distortion that occurs during part production. Two types of support structures are automatically generated based upon residual stress predictions, enabling exaSIM users to avoid wasting time and material when placing supports where they are not needed. Build failure can be avoided using exaSIM by utilizing the automatically generated supports and the Blade Crash detection feature. For ease of use, greater speed, data storage, and rapid feature implementation, exaSIM runs in a secure cloud environment; a GovCloud option is available for those with ITAR restrictions.

Optimizing AM part designs and build set-up in a physics-based software environment versus iterative empirical trials saves time, labor, and materials. Simulating parts as part of quoting and costing operations reduces risk and increases profit margins. Embedding exaSIM in the production workflow on the front-end institutes a proactive, standardized quality-enhancing process that helps minimize postmortem analysis and rebuilds of non-conforming parts on the backend. exaSIM aids in the training and development of advanced design for AM (DFAM) skills by providing staff and customers with deeper insight into design and production dynamics.

*"The message we continually hear from users of exaSIM is how it has dramatically impacted their first-time-build success rate. One of our early adopters, who is highly experienced and skilled with metal AM, has reported a 70% improvement from before using our predictive tools. His operation now sustains over a 90% first-time success rate with the implementation of part simulation using exaSIM as a standard practice in their workflow. With 20 years' experience in additive manufacturing myself, I can confidently say the exaSIM predictive and compensative tools are vital for moving laser powder bed fusion beyond the limits of niche manufacturing to serial production across a broad array of industries and applications."* -Ron Clemons, Director of Business Development, 3DSIM

Since the introduction of metal AM technologies more than 20 years ago, innovators have relied on trial-and-error experimentation rather than process simulation software to achieve success. The perceived unpredictability of AM processes within the engineering community has presented a major barrier for metal AM qualification for advanced applications. Many engineers have expressed serious concerns with quality, safety, elevated costs, inflated development cycles, and supply chain issues related to AM. The implementation of exaSIM in a company's workflow helps alleviate these concerns and increases the rate of innovation. As a result, exaSIM helps designers and machine operators optimize their design and build strategy to achieve success.

*"Seven years ago, as academics, Deepankar Pal (3DSIM's Chief Scientist) and I decided to address the trial-and-error experimentation inherent in AM. We set out to build a suite of solvers to analyze laser/material interactions and material transformations fast enough to enable prediction for how different geometries, laser scan strategies, process parameters, and powder properties affect the accuracy and microstructure of full-scale AM-produced metal parts. Many people told us our dream for predicting full-part characteristics at meltpool-scale accuracy was impossible. Today we're pleased to say that not only is it possible, it's accessible world-wide using any internet-connected computer, smart phone and tablet. I'm excited that we've achieved our technical goals, building the most capable AM simulation tool in the world - exaSIM ULTIMATE. I'm looking forward to working with our customers to see how they leverage exaSIM to break down barriers to metal AM implementation and production "* -Dr. Brent Stucker, CEO, 3DSIM

exaSIM ULTIMATE launched on 26 Sept 2017 at the TCT 2017 show, NEC, Birmingham, UK.

### About 3DSIM

3DSIM is a rapidly growing company based in Park City, Utah, USA. Focused on creating software tools that enable physics-based predictions of the outcomes of additive manufacturing processes before building a part, 3DSIM's vision is to move the additive manufacturing industry from empirically-driven to simulation-driven innovation. 3DSIM's simulation tools help machine users, part designers, researchers, machine manufacturers and material providers dramatically increase their rate of innovation, thus enabling rapid qualification of additively manufactured parts and components.

For further information, please visit [www.3DSIM.com](http://www.3DSIM.com).