

## Stratasys and e-Xstream Engineering Cooperate to Offer Customers Predictive Simulation Tools for Improved Process, Material and Part Performance

Collaboration aims to enable appropriate mechanical properties and faithful part functionality to deliver “print right, first time” capability - supporting improved cost and time efficiencies for customers. Customers also set to benefit from increased material understanding and greater dimensional accuracy of 3D printed parts. Stratasys Ltd. (Nasdaq: SSYS), a global leader in applied additive technology solutions, today announced at formnext 2017, that it is collaborating with e-Xstream engineering, a world leader in multi-scale modeling of composite materials and structures, to deliver high performance process modeling and structural analysis numerical tools for Stratasys additive manufacturing solutions.

This press release features multimedia. View the full release here:  
<http://www.businesswire.com/news/home/20171114005987/en/>

Zoubida El Hachemi, Sales Director Worldwide e-Xstream & Keren Ludomirski Zait, Senior Director of Business Development & Strategic Alliance, Stratasys (Photo: Business Wire)

The combination of Stratasys additive manufacturing solutions with e-Xstream’s accurate, effective numerical tools is designed to offer customers high-performance design and validation capabilities. These include increased material understanding and greater dimensional accuracy of 3D printed parts to optimize output results and expand the aperture of applications. By doing so, our aim to increase the adoption of Stratasys 3D printing technology in key manufacturing sectors, including aerospace and automotive, is further facilitated.

“Stratasys recognizes the importance of simulation and modeling as a way for customers to optimize part production by designing with additive in mind, while ensuring that the material and process will deliver “print right the first time” assurance,” said Scott Sevcik, VP Manufacturing Solutions at Stratasys.

Central to the collaboration is the objective to develop predictive simulation solutions for Stratasys's Fused Deposition Modeling (FDM) technology to enable the production of tighter tolerance, higher performance parts. This is aimed at being achieved in conjunction with e-Xstream engineering's standalone material modeling platform, Digimat, which offers a self-contained module to enable a flexible interface that is accessible for basic to advanced level designers, as well as other users across multiple manufacturing based workflows.

Core functions of the collaboration comprise:

Process simulation applied to the design-to-3D-print workflow to achieve the high accuracy and repeatability required by manufacturing users. Advanced numerical tools are needed to predict and mitigate part warpage as well as realize the impact of design decisions on the manufacturing process before the part is produced. Material engineering to create a framework and methodology for characterization by understanding the key parameters driving the material's behavior. This framework will support the accelerated development and optimization of future material system solutions. Part performance predictions that are applied daily to complete the engineering workflow for traditional manufacturing processes, providing the product designer with an accurate early design. The extension of Digimat's structural analysis solution for FDM will predict part performance (stiffness, strength, etc.) as a function of the material and the printing process parameters, such as printing direction or toolpath. For engineers to unlock the design freedom that additive manufacturing offers, they need tools for accurate and effective analysis. We are happy to be collaborating with simulation leaders, such as e-Xstream, whose customized tools are a key contributor to enabling additive manufacturing to become a high-performance production technology, continued Sevcik.

Further to the collaboration, the next release of e-Xstream's material modeling platform, Digimat, will deliver the first material models of ULTEM 9085 resin, a strong, lightweight thermoplastic meeting aerospace requirements, with a complete process package for the Stratasys Fortus 900mc Production 3D Printer. Customers are provided the numerical tools necessary to perform both process simulation and structural analysis by feeding critical process information from Stratasys's pre-processing software, Insight, to Digimat's AM module\*.

“We are very excited about this collaboration, which we believe will enable Stratasys customers to benefit from e-Xstream’s polymer multi-scale modeling expertise to improve the way they design for manufacturing,” said Roger Assaker, CEO of e-Xstream engineering, Chief Material Strategist of MSC Software.

“The ability to foresee the influence of designs on part printing and performance should enable users to save time and reduce costs by improving overall accuracy, reliability and workflow efficiencies,” he concluded.

\*Digimat 2018.0 will be available for download at the end of November 2017.

Formnext 2017 attendees can learn more about Stratasys’ collaboration with e-Xstream engineering by visiting Stratasys’ stand (Hall 3.1, #F40), where experts will be available to explain the benefits to users in more detail.

#### About Stratasys

Stratasys (NASDAQ: SSYS) is a global leader in applied additive technology solutions for industries including Aerospace, Automotive, Healthcare, Consumer Products and Education. For nearly 30 years, a deep and ongoing focus on customers’ business requirements has fueled purposeful innovations—1,200 granted and pending additive technology patents to date—that create new value across product lifecycle processes, from design prototypes to manufacturing tools and final production parts. The Stratasys 3D printing ecosystem of solutions and expertise—advanced materials; software with voxel level control; precise, repeatable and reliable FDM and PolyJet 3D printers; application-based expert services; on-demand parts and industry-defining partnerships—works to ensure seamless integration into each customer’s evolving workflow. Fulfilling the real-world potential of additive, Stratasys delivers breakthrough industry-specific applications that accelerate business processes, optimize value chains and drive business performance improvements for thousands of future-ready leaders around the world.

Corporate Headquarters: Minneapolis, Minnesota and Rehovot, Israel.

Online at: [www.stratasys.com](http://www.stratasys.com), <http://blog.stratasys.com> and LinkedIn.

## About e-Xstream engineering

Founded in 2003, e-Xstream engineering is a software and engineering services company 100% focused on the multi-scale modeling of composite materials and structures. The company helps customers, material suppliers, and material users across many industries reduce the cost and time needed to engineer innovative materials and products using Digimat, the nonlinear multi-scale material and structure-modeling platform. Since September 2012, e-Xstream engineering is a wholly owned subsidiary of MSC Software.

## About MSC Software

MSC Software is one of the ten original software companies and a global leader in helping product manufacturers to advance their engineering methods with simulation software and services. As a trusted partner, MSC Software helps companies improve quality, save time, and reduce costs associated with design and test of manufactured products. Academic institutions, researchers, and students employ MSC's technology to expand individual knowledge as well as expand the horizon of simulation. MSC Software employs 1,300 professionals in 20 countries. For additional information about MSC Software's products and services, please visit: [www.mscsoftware.com](http://www.mscsoftware.com)

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