

PRESS RELEASE

EMO 2017: Simufact to present process simulation solutions for machine tool makers and mold makers

Simulation solutions for additively manufactured molds or formed parts/dies help reducing efforts for real try-outs

Hamburg, Germany, September 11, 2017 – At this year's EMO, Simufact - an MSC software company – will be presenting their process simulation solutions aiming at tool and mold makers. Simufact will provide insights into their products for simulating forming and additive manufacturing processes.

Optimizes additive manufacturing of complex tools and molds: Simufact Additive

Additive Manufacturing provides new capabilities for manufacturing complex injection molding metal tools; not conventionally producible geometries are possible. However, a key is the mounting of contour close tempering channels with minimum wall thicknesses, which allows for shorter cooling times of the produced parts. Since additive manufacturing is a micro-welding process, distortions and residual stresses in the additively manufactured parts are typical issues – so Simufact Additive is a highly relevant technology to mold making companies employing additive manufacturing technology: The software predicts the final distortion and residual stresses of metal 3D printed molds. The software helps toolmakers to shorten the optimization process for the manufacturing of such complex tools and molds and to reduce the number of costly real try-outs.

Simufact Additive is a powerful and scalable process simulation environment for 'right first time' optimization of laser powder bed fusion processes covering the AM process steps starting with 'printing' of the part; followed by heat treatment, cutting the part off the build plate and removal of support structures, plus heat and pressure combined processes (HIP).

Simufact Forming for Machine Tool Makers

Simufact Forming is a simulation software for hands-on professionals working with forming technology. The software is extremely robust and fast, which is needed to provide timely results and affect the design phase. It is easy to use and allows process design engineers to optimize the manufacturing process on a computer prior to a physical tryout. Simufact Forming covers all major areas of metal forming: forging, cold forming, sheet metal forming, all rolling processes, open die forging and mechanical joining to name the most important fields of application. Simufact Forming supports in microstructural simulation, calculation of die load, the material flow and the prediction of material properties during heat treatment.

Simufact Forming comes with valuable process chain capabilities, which allow for consideration of forming results from former manufacturing steps leading to highly accurate results in the manufacturing process chain.

Improving die life by simulation

Simufact Forming considers all relevant boundary conditions, including stress rings and spring supported dies. The realistic prediction of the forming forces, while taking into account spring back effects and the elastic-plastic material behavior, is necessary for a high precision simulation of e.g. cold forming processes. The analysis of forming processes provides a higher process understanding of complex die designs (spring supported dies, flashless precision forging) and helps to optimize die life through investigation of die loads.

In a joint project, Simufact and Prokos GmbH (Brankamp/Marposs group), specialist for process monitoring systems in forming technology, and Möhling GmbH & Co. KG, expert in the area of cold forming and cold formed components, have analyzed how linking process simulation and process monitoring can improve die life. The increasing accuracy of simulation models as well as the simulation-based predictions of the press force progression provide users useful practical assistance for adjusting tool settings on the machine. Project results have proven that this approach simplifies the production machine's set-up and helps prevent a systematic overloading of the dies and machines which results in an increase of die life, fewer die failures and overall a more robust production process.

Meet Simufact at EMO Hannover at the Hexagon stand in Hall 6, stand B64.

Please find accompanying picture material on the [Simufact website](#).

About Simufact

Simufact Engineering – an MSC Software company – is a global operating software company providing process simulation products and services to manufacturing industries. Today, after more than 20 years of developing and supporting simulation solutions for the design and optimization of manufacturing techniques in metal processing, the Hamburg (Germany) headquartered company has established as one of the leaders in this business area. Simufact succeeds in extending its global market share backed up by a dynamically growing customer base exceeding a number of 700 customers. A strong and continuously growing network composed of local offices and channel partners ensures global support. The software primarily aims at the automotive industry, mechanical engineering, aerospace industry and their respective suppliers. Typical fields of application for Simufact software are hot forging, cold forming, sheet metal forming, rolling, ring rolling, open die forging, mechanical joining, heat treatment, different welding processes, and most recently additive manufacturing.

For more information about Simufact Engineering, please visit www.simufact.com.

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