
PRESS RELEASE

Experience the Digital Thread

At the EuroBlech fair in Hanover (Germany), FTI, Simufact and AICON are showing under the umbrella of Hexagon Manufacturing Intelligence (HMI) the digital process chain for sheet metal forming as Hexagon solutions combine design, engineering, manufacturing and measurement technology.

Hanover (Germany), August 29, 2018 – Under the umbrella of Hexagon Manufacturing Intelligence (HMI), AICON 3D systems (AICON), Forming Technologies Inc. (FTI) and Simufact Engineering will present at their joint booth at the EuroBlech fair in Hanover, how design, engineering, manufacturing, and measurement technology can be combined into a digital process chain for sheet metal forming. Following the principle of digital thread, Hexagon solutions bring together production phases of design and engineering (CAD, CAE), manufacturing (CAM) and measurement technology (metrology) to an agile, data-driven ecosystem. Intelligent solutions can increase productivity through quality improvements in order to give customers a significant competitive advantage.

Case Study Seat Cross-member

The three partners prepared a showcase of the digital thread to illustrate their performance in the sheet metal forming process chain. By means of a seat cross-member, a sheet metal part, the companies illustrate the exemplary performance and interaction of their software and hardware solutions at the EuroBlech booth.

On the basis of CAD-component data, FTI's software solutions initially support Design for Manufacturability (DFM) to test and then modify the product design. At an early manufacturing development stage, a first forming feasibility study could be carried out based on the component geometry. This could then determine conclusive modifications to the part geometry. Additionally, the initial manufacturing method plan and accompanying determination of the material and dies costs could follow. This information supports the organization in cost estimation, and contributes to an optimized process design for sheet metal parts.



Based on this, Simufact solutions focus on the manufacturing processes. Their software assists in the design and optimization of (multi-stage) forming processes, mechanical and joining processes and even additive manufacturing processes. Virtual testing of sheet metal processes reduces the number of trial runs by using realistic predictions of the geometrical accuracy, cracking behavior, risk of cracking, and formability. The simulation results show the product's characteristics such as wall thickness distribution, edge curvature, and the hardness distribution due to cold working.

Finally, AICON measurements solutions survey the manufactured part using optical 3D measurement and validate the accuracy in the manufacturing. A comparison of the measurement results in reference to the geometry provides information about any tolerance violations that may exist.

“See What You Measure” – AICON enters into a new dimension of fringe projection. Using the SWYM technology, it is now possible for the first time to visualize the results of a measurement directly on the object. The adaptive full color projection technique enables projection not only of the color patterns which are necessary for the scanning process onto the object, but also of the generated measurement results. This, for instance, allows for the deviations from the CAD to be visualized in color immediately following the measurement on the surface of the scanned object. Considerations can be made on this basis, for instance how to adjust process parameters in order to achieve the goal of an accurate part.

Meet FTI, Simufact and AICON at the EuroBlech in hall 11, booth G93. We have allotted an amount of time to take concerns and questions, therefore we kindly ask you to make an appointment.

Download accompanying press pictures on the [Simufact website](#).

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