DASSAULT SYSTÈMES AND AIRBUS APWORKS COLLABORATE TO ADVANCE THE USE OF ADDITIVE MANUFACTURING FOR SERIAL PRODUCTION

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•Additive manufacturing lets aerospace and defense companies do more with less

•Leveraging the 3DEXPERIENCE platform and APWorks' metal 3D printing expertise

•Virtual validation for certified, serial additively manufactured parts

Dassault Systèmes, the 3DEXPERIENCE Company, world leader in 3D design software, 3D Digital Mock Up and Product Lifecycle Management (PLM) solutions, and Airbus APWorks GmbH, a subsidiary of Airbus and specialist in metal 3D printing, today announced that they have entered into a collaborative partnership to advance the use of additive manufacturing for large-scale production in the aerospace and defense industry. The collaboration will leverage Dassault Systèmes' 3DEXPERIENCE platform and APWorks' consulting, engineering and production expertise for new developments in the virtual validation of the additive manufacturing process.

Dassault Systèmes and APWorks will extend the capabilities of the "Co-Design to Target" industry solution experience to develop an integrated process that provides digital continuity for all

engineering parameters across the value chain necessary for the additive manufacturing of a part. This will make the additive manufacturing process, from design optimization up to production, replicable and scalable.

The next generations of aerospace parts are becoming lighter and more reliable thanks to additive manufacturing. As increasingly sophisticated designs, new high-performance materials and faster machines emerge, the use of additive manufacturing is extending beyond creative product design and prototyping to gain traction as one of the key industrial manufacturing processes worldwide.

Virtual technologies can help accelerate this large-scale adoption. Dassault Systèmes' and APWorks' new end-to-end process will deliver a single source of data to address upstream material design and downstream manufacturing processes and testing. The integration of 3D design combined with engineering and simulation optimizes parts for additive manufacturing, enables standardized parameters and therefore allows certification standards. Subsequent steps such as testing, optimization and additive manufacturing of a part can be matched to the identified parameters. Original equipment manufacturers can optimize their conceptual designs by connecting with their supply chains to perform virtual validation during each phase and to detect problems before a part is produced.

"The 3DEXPERIENCE platform is a first important step to replicable and scalable serial production. Simulation can help to predict and avoid part failures," said Joachim Zettler, CEO, APWorks. "The aviation industry is safety-oriented and new product introductions typically take time. With the virtual validation of the additive manufacturing process, we can expect certified serial additively manufactured parts."

"Virtual technologies and additive manufacturing are enabling the industrial world to do more with less waste, weight and costs, as well as freeing designers to explore complex shapes that could not be manufactured using traditional processes," said Michel Tellier, Vice President Aerospace & Defense Industry, Dassault Systèmes. "Only by reducing the distance between real and virtual to zero can industry build and experience the future. Dassault Systèmes is joining efforts with leading-edge innovators in this field like APWorks to accelerate technology adoption in the industry."

In addition to aerospace and defense, the collaboration will target potential applications in the automotive and medical industries, as well as in robotics and mechanical engineering.

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