

PRESS RELEASE

Digimat brings real value to Coriolis Composites' software by using Manufacturing Simulation information for Structural Performance Analysis

With the help of Digimat, aerospace and defense end-users now can now predict more accurately their part performance

(LUXEMBOURG, March 7, 2019) – [Coriolis Composites](#), leader in designing, developing and manufacturing innovative equipment and software for the production of composite material structures, in particular for the aerospace and defence markets and [e-Xstream engineering](#), an MSC Software Company, part of Hexagon, leader in multi-scale material modeling has announced their collaboration to provide aerospace and defense end-users an automatic chaining to use as-manufactured composites characteristics during a sizing activity.

Coriolis Composites has been championing the use of industrial AFP robots to lower the cost of airframe production. With more than 60 machines installed worldwide, Coriolis Composites is in the business of building robots that build airplanes.

More accurate information about as-manufactured fiber orientation and gaps location to support sizing methods.

The link between CatFiber and Digimat consist in the transfer on a FE model of the as-manufactured fiber orientations, real location of the gap or resin-rich area and fiber steering. Using Digimat these information can be transferred automatically to the Finite Element model used for sizing activities.

The benefits of using Digimat will be:

- Automatic generation of composite layup with as-manufactured orientation for each ply
- Effect of the gaps on the local stiffness through an adaptative Fiber Volume Fraction defined in a micro-mechanical model of the material
- Possibility to adapt the local thickness of the ply due to the presence of gaps

“Users have the possibility to design accurately their structures made by AFP by using directly composites characteristics from the manufacturing process. No assumptions or approximations are done on the fiber orientation. This allows to automate and optimize the deposition strategy of the tows.” - says Anthony Cheruet, Business Development Engineer for Aerospace, e-Xstream engineering

“AFP is key technology for weight optimization of composites parts as it allows variable stiffness designs. However, such optimization will only be reached with the close connection between AFP



design applications such as CATFiber and Finite Element Analysis solvers which Digimat provides.” – says Yvan Blanchard, Software Business Development, Coriolis Composites.

The joint case will be shown for the first time to the public at the JEC World 2019 in Paris, where you can see Digimat in action at Hall 6/R86 and the robots of Coriolis Composites at Hall 6/A32 during March 12-14. The companies’ experts, Anthony Cheuret, Business Development Engineer at e-Xstream and Yvan Blanchard, in charge of Software Business Development at Coriolis Composites will present the case study of a wing panel on Tuesday and Wednesday at 11:30 at Hall6/R86.

About e-Xstream engineering

Founded in 2003, e-Xstream engineering, an MSC Software Company is a software and engineering services company 100% focused on the multi-scale modelling of composite materials and structures. The company helps customers, material suppliers, and material users across many industries. They aim to reduce the cost and time needed to engineer innovative materials and products using Digimat, the nonlinear multi-scale material and structural modelling platform. Since September 2012, e-Xstream engineering is a subsidiary of MSC Software Corporation. For additional information about e-Xstream’s products and services, please visit: www.e-xstream.com

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 more information about MSC Software’s products and services, please visit: www.mscsoftware.com.

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About Coriolis Composites

Coriolis Composites is a company that designs, develops and manufactures innovative equipment and software for the production of composite material structures, in particular for the aerospace and defence markets. The technology and its derivatives, protected by patents, apply inter alia to the manufacturing of aircraft fuselage made of composite materials. Coriolis Composites is expanding internationally and into new markets such as automotive and renewable energies, which also use composites. The head office is based in France. Coriolis Composites which has also subsidiaries in UK, Germany, Canada and USA, has 156 employees and achieved a turnover of € 26.8 million in 2017, of which 74% was through exports.

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