

### Model-based processing of high-quality structural FRPC components in aerospace industries

**Fibre-reinforced polymer composites (FRPC) are increasingly gaining importance in aerospace applications. Especially due to economic aspects out-of-autoclave processes are of high interest. FRPC feature excellent mechanical properties but are also outstanding as the actual material is defined through the manufacturing process. As a result, the management of the manufacturing process is of extraordinary importance.**

Lead by the Austrian Montanuniversität Leoben, the project MoVeTech aims at implementing the concept of model-based processing for manufacturing of high-quality composite components through Advanced Resin Transfer Moulding (ARTM), a particularly promising member of the liquid composite moulding (LCM) techniques.

#### Model-based processing

This concept is based on the idea of actively incorporating phenomenologically based know-how about the driving mechanisms of a specific processing technique on the level of process management. This novel approach for process management will be proven in manufacturing a center hinge fitting (CHF), a structural aerospace FRPC-component acting as load application element in aerospace spoilers.

#### Project consortium

The project consortium working on the publicly funded project since 2015 is composed of Montanuniversität Leoben as leading organization involving the Chair in Processing of Composites and the Chair for Automation, as well as the company partners FACC Operations GmbH, internationally recognized for



*Center hinge fitting for Airbus A330/340*

developing and manufacturing FRPC components and systems for aerospace applications, Alpex Technologies GmbH, worldwide active in design and manufacturing of high-precision tooling, moulding and assembly solutions for aerospace and automotive industries and Langzauner GmbH, manufacturer of hydraulic presses with a specific focus on composite components.

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