

Development of a method and of software tools for the production of components made of long and continuous fibre-reinforced plastic combinations for the aviation sector (German abbreviation: MeSoKKo); development of mathematical models and of a software tool for the purpose of component design which is fit for purpose

Project management: Prof. Dr.-Ing. Harald Bachem

Summary: Within the framework of the project, a technology will be pursued involving the manufacture of components through a combination of sheet-moulding-compound (SMC) semi-finished products and pre-impregnated continuous-fibre reinforcements, which are processed into a complex component in a single-stage pressing and curing process. The focus is on components to be used in the interior of aircraft. The new hybrid fibre-composite technology is characterised by the achievement of geometrically complex, highly integrated and functional lightweight components with extremely low process times (in the range of 30 to 180 seconds). This corresponds to less than 10 percent of today's curing times for the impregnated semi-finished products typically used in the interior of aircraft. The problems of classical SMC technology will be addressed. Such problems have to date hindered the use of the technology. The targeted design of the areas with continuous fibres in the components will address the problem of the mechanical properties, and the dispersion of the parameters in omni-directional long-fibre reinforcement.

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