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## High Performance Fibre Reinforced Polymers for Advanced Applications

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Fibre reinforced plastics (composites) are offering due to their high specific mechanical/physical values, a big potential for lightweight application in different use and markets. The potential of composition was detected and transformed very early by the aircraft industry and aerospace, followed by sports and leisure applications.

The potential of composites is based on the design of loadoptimized anisotropic structures where fibres in every layer of the laminate are oriented in the main load directions. Besides the material the processing techniques as well as the possibilities and limitations of shaping the material to complex contoured parts define the efficiency of the application of composites. Aircraft industry is using in the production of big structures at low production lots completely different processing techniques than e.g. the automotive industry with highly automated series production processes.

In this paper the possibilities and limitations of composites will be described and discussed; some aspects for all challenging future of composites will be discussed.