

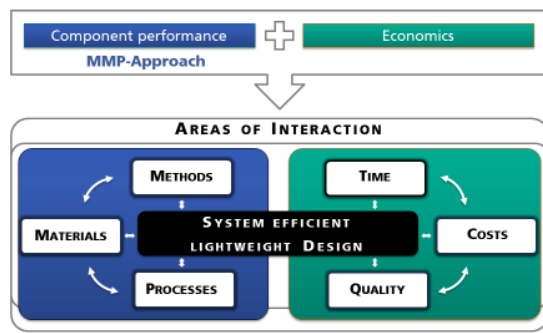
Latest trends in lightweight design in transportation industry

- Abstract -

Composites are having a great success story in aerospace and aeronautic applications and are an established group of materials in this industry. Focusing on an increased efficiency for road vehicles, composites are more and more used in the automotive industry as well due to their lightweight potential – even if the motivation is a different one. Large scale production requires efficient processing of composites by robust fully automated manufacturing. Low cost materials and high performance mold and process technologies require a holistic approach to design more complex structural parts.

The presentation will give some market trends and differentiates the market of automotive from different composite markets.

MMP Approach

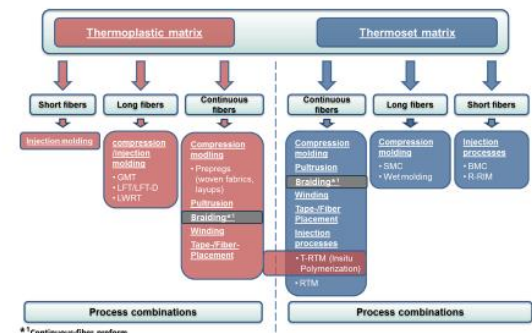


Slide 16

© Fraunhofer CT

Fraunhofer
CT

Overview of process technologies



* Continuous-fiber preform

Slide 21

© Fraunhofer CT

Fraunhofer
CT

Together with advanced steel, aluminum and magnesium in future new Multi-Material vehicle concepts will be realized. The presentation will give an overview about current state-of-the-art technologies for large scale manufacturing of composite parts, especially for automotive applications. Therefore, suitable composite materials and their combination in the manufacturing process will be introduced.

The family of composites will be divided in thermoset and thermoplastic based materials as well as short/long-fiber reinforced composites suitable for semi-structural applications and continuous fiber reinforced composites suitable for structural applications such as Body-In-White. An insight into the state-of-the-art processing of thermoset and thermoplastic based composites as well as an outlook in new technology trends for automotive composites will be given.