



More than 70 participants at the CCeV themed day in Leipzig discussed current and future practical examples of functional integration in fibre composite structures.

TOGETHER

CCeV themed day “Functional integration in practice” at BMW in Leipzig

The two CCeV workgroups “Multi-Material-Design” and “Smart Structures” came together for the first time, in cooperation with the PolymerMat e.V. for a joint themed day at BMW in Leipzig. More than 70 participants from both industry and research joined the event.



The guests were welcomed by representatives from the CC Ost and CC West departments, Dr. Thomas Heber (departmental head for CC Ost and workgroup leader for “Multi-Material-Design”) and Dr. Martin Gurka (workgroup leader for “Smart Structures”, CC West). The opening lecture was held by Dr.-Ing. Johannes Voigtsberger (head of Integration of production projects at BMW i, BMW factory in Leipzig and member of the board of CC Ost), who used the one hundredth anniversary of the company to take a look at BMW developments and offer an overview of the mobility concepts of the future. A tour around the BMW factory provided a comprehensive overview into the serial production of BMW's electric vehicles i3 and i8 and completed the program of the host.

In the afternoon session of the CCeV themed day, the participants investigated the topic of functional integration: The incorporation of multiple passive, active or sensory functions in a single component makes the component itself more complex, but reduces the number of components within the system as a whole. Costs, manufacturing expenses, installation space and weight can be saved using elegant functional integration.

The general approach, which is considered the aim within the design of functional integration, is to map as many technical functions as possible with as few components as possible, is shared by the specialists, but they believe it can be broadened: Only by observing the system as a whole is it possible

to take into account all of the constraints that are necessary to achieve sensible functional integration.

Herwig Kirchberger from Teufelberger Composite GmbH reported his experiences in this area: According to Kirchberger, if you combine the knowledge gained from metal-composite-light construction with solutions from the electronics industry, and then draw on user experiences from both sectors, functional integration can be implemented successfully.

Wolfgang Schlick from Fahrzeugbau Meier GmbH presented a patented new development: an innovative GRP chassis for camper vans and commercial vehicles that has been developed in conjunction with the professor for plastic technologies at TU Ilmenau. The participants were able to view the camper prototype on site.



Fahrzeugbau Meier GmbH presents the prototype of a camper with a functionally integrated GRP chassis.

“It is impressive to see the variety of innovations being made in the fibre composites sector, both at BMW in Leipzig and at smaller companies, such as Fahrzeugbau Meier GmbH”, concludes Dr. Thomas Heber: “Even beyond the automotive industry, for example, in machine and system construction, there are considerable potentials waiting to be exploited by our members.”