



TECHNISCHE UNIVERSITÄT
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Merge Technologies for Multifunctional Lightweight Structures

2nd International MERGE Technologies Conference

IMTC 2015 Lightweight Structures

- Materials, Semi-Finished Products and Composite Structures for Lightweight Design
- Processing, Systems and Application for Mass Production of Lightweight Structures
- Modelling and Simulation of Hybrid Structures and their Production Processes
- Smart Systems Integration

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Greeting

Dear Ladies and Gentlemen,

Large-scale manufacturing processes for lightweight construction are the key technologies of the future. In order to meet the challenges of increasing mobility and climate change, the conservation of resources presents a central responsibility for research and development. Multifunctional lightweight design therefore requires solution-oriented strategies and marketable applications that can only be developed through interdisciplinary thinking as well as through the networking of multiple actors in the areas of material, manufacturing technology, microelectronics and system integration, design, calculation and simulation, and quality assurance. To achieve this interdisciplinary research, the **Cluster of Excellence "Merge Technologies for Multifunctional Lightweight Structures" (MERGE)** started its work in 2012 and coordinates now round 100 scientists and technicians from 18 research institutes.

The second **International MERGE Technologies Conference IMTC 2015** offers an open exchange platform for networking with representatives of different disciplines. It aims at experts in academia and industry who contribute their knowledge to the research and development of lightweight structures and to the corresponding manufacturing technologies. Contributions from all topics, relevant to the **economically and environmentally sustainable production of hybrid lightweight components**, provide a profound insight into the versatile field of lightweight construction. The contributions of the conference transcript can be divided into the following key aspects:

- Materials, semi-finished products and composite structures for lightweight design
- Processing, systems and application for mass production of lightweight structures
- Modelling and simulation of hybrid structures and their production processes
- Smart systems integration
- Poster contributions.

We wish you a pleasant conference, filled with interesting and informative contacts and conversations. We hope you enjoy your stay in Chemnitz. In case you have any questions please do not hesitate to contact us.



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