



# Lightweight and Flexible

*Dear Reader,*

The ongoing efforts to reduce CO<sub>2</sub> emissions from cars and trucks remain one of the most important driving forces behind the development of vehicle bodies. Lightweight design has proved to be a highly effective method of achieving this goal. The use of innovative production processes, the replacement of conventional materials with lightweight alternatives and the integration of functions are enabling body design engineers to significantly increase the efficiency of vehicles. Current trends in the automotive world are also having an impact on body design. The development of in-car IT systems and increasing levels of automation are bringing about changes in what customers expect from their cars. This paradigm shift has had a major impact on the design of the interior in particular. The aim here is to achieve the ideal balance between reducing costs and meeting customers' expectations. In the light of this, unconventional methods are playing a more important role than ever in ensuring the competitiveness of vehicle bodies.

This is demonstrated by many of the latest solutions for cars and commercial vehicles which are being discussed not only in ATZ but also at the 15<sup>th</sup> Hamburg Body Construction Conference on 3 and 4 May 2017. The key themes of this successful ATZlive conference will include the application of aerodynamics and lightweight structures to reduce CO<sub>2</sub> emissions, system-integrated bodies for the next generation of electric vehicles and improving development processes to increase the efficiency of cars and commercial vehicles.

In this issue of ATZ we are focusing on the subject of lightweight design. The German Aerospace Centre (DLR) demonstrates the potential for developing new vehicle concepts and bodies using a modular body structure for an electric city car. Edag describes the opportunities offered by the new process of incremental swing-folding, which allows scalable lightweight structures to be produced flexibly and cost-effectively. And finally, in our interview with BMW, we look at the latest trends in lightweight vehicle design.

I very much hope you enjoy reading this issue of ATZ.

Best wishes,



**Dr. Alexander Heintzel**  
Editor in Chief

