

Advanced Simulation Methods for the new Porsche Panamera

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Summary:

The Porsche Panamera brings together for the first time the virtues of a sports car with Porsche's own interpretation of a classical Gran Turismo. This new segment is characterised by the balance between sportiness on the one hand and comfort, luxury and long-range touring characteristics on the other. The fact that the development was new, with no previous model available to use as a basis for vehicle parameters and characteristics, created a significant challenge.

To meet the requirements of a reliable, target-oriented vehicle development, major emphasis was placed on virtual development tools. Advanced simulation methods found their application in the early concept definition, and were integrated into the complete vehicle development process. The CAE tools and methods were also developed further during the project to meet the specific project needs.

The following paper demonstrates these points using the example of design for passive safety. The paper describes the new Digital Product Development Process, with its centrally managed multi-disciplinary Digital Prototypes, which was introduced for the Panamera project. Furthermore, a selection of the CAE tools used in the development of the Panamera and their evolution are discussed. The main focus of the CAE tools was to accelerate and provide a qualitative improvement to the product development process.