Abstract:

Resulting from a high variety of customer utilization scenarios, a high variant spectrum at comparatively low production volumes is characteristic for commercial vehicle manufacturers. Within a product lifecycle of around 15 to 20 years, the vehicle portfolio and its component building blocks need to be revised cyclically and fundamentally to comply with new legislation and meet changing customer requirements. The outcome is evolutionary growth of the diversified portfolio. Negative consequences are high inner variance, strong interconnectedness of many components and hardly predictable change distribution. This paper focuses on modular design for commercial vehicles and existing approaches to modularisation are presented. However, these do not refer to all aspects necessary for the modularisation of commercial vehicles. A model for generic package space decomposition is introduced, which supports the creation of essential synergetic effects by identifying hot spots for modularisation potentials. Focusing on one specific package sector, different layouts and their characteristics are compared and evaluated in order to reduce internal variance without reducing the market-related external variance.

Stichworte:

FTM Fahrzeugkonzepte