Abstract:

Nowadays the situation in the manufacturing industry is characterized by higher competition and market pressure on the one hand, and an increasing customer orientation on the other hand. The resulting increase in product variants led to a higher complexity in products and processes that companies have difficulties to cope with. One approach for companies to provide customers with solutions that exactly match their needs while being able to handle the complexity is the concept of individualized products, which goes a step further than conventional variant management. Scale effects guarantee similar cost reductions potentials as with mass produced goods while flexible product structures assure the consideration of specific customer needs as with unique products. However, this concept demands for new ways in product development, in particular a two-stage development process. The first step is constituted by the customer-independent definition of a flexible product structure incorporating degrees of freedom for individualization. The second step is represented by a fast derivation of individual product solutions within a customer-specific interaction process. This so-called product adaptation is supported by
standardized process building blocks and underlying methods. However, it seems unlikely, that a pre-developed product spectrum contains all elements to meet exactly the requirements of a specific customer. Therefore, with every product adaptation, an individual design process is required which goes beyond mere configuration of predefined elements. In order to enable fast adaptation processes, design engineers have to be supported by appropriate methods and tools, and in particular design guidelines. The objective here is the determination of content and form of these guidelines, which will be addressed in the scope of this paper.

**Stichworte:**
individualized products; systematic product development; design guidelines.

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**Entries:**