

Die Konfigurations- und Verträglichkeitsmatrix als Beitrag für eine differenzierte Betrachtung von Konfigurierungsproblemen

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Abstract

To be competitive, companies are forced to deliver highly customised products in very short time. Therefore, the configuring of products has become more important, since it represents the starting point of the order processing.

In the first part of this work, an analysis of products, business processes and softwaretools from the configuration point of view is considered. This analysis shows different types of products which have to be treated different during the order processing.

In order to represent the configuring knowledge of different types of products, a method called „K- & V-Matrix“ is presented. Based on this method, the different types of products have been represented to detect the methods possibilities and limits. In order to support this method, a softwaresystem („K- & V-Matrix-System“) to analyse and verify the data within the method is presented. It can be used as a simple configuration system. Within the „K- & V-Matrix-System“, several possibilities for the acquisition of customer requirements have been implemented. In this context, the integration of the „K- & V-Matrix-System“ with other systems like CAD-, PLM, ERP-systems have been considered. This way, it is possible on the one hand to use product describing data of PLM-systems within the sales process for the acquisition of the customer requirements. On the other hand, the acquired customer requirements serve as a basis for the order processing within an ERP-System or for the creation of a customer specific CAD model.

Customers often wish to integrate the CAD model, which was created according to the special requirements, in their development environment. Therefore, the manufacturer need to simplify the CAD-model in order to hide sensitive product knowledge. These simplified models can be used not only for the customers, but also for different purposes within the company of the manufacturer, e.g. for FEM-calculations. In this work, a softwaretool has been developed which allows to classify features or parts of a CAD-model in order to create different simplified CAD-models.

Finally, the concepts developed in this work have been verified with different products of the industry.