ProSTEP iViP
Documentation

Final Project Report

Parametrical 3D Data Exchange via STEP

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Abstract

Studies show that approximately 80% of design solutions in the automotive industry are variant designs, respectively adaptations of existing solutions. The full potential for cost and development reduction inherent in variant designs cannot be implemented yet due to restrictions relating to the data exchange. Fully modifiable designs including parametric and feature information can currently not be exchanged across different CAx systems neither in a standardized nor in a proprietary way.

Despite the availability of qualitative STEP processors, data exchange partnerships between automotive OEMs and their key suppliers are increasingly based on a policy to exchange native CAD data. This policy is not cost effective and produces isolated islands of system specific data. Moreover, many process chains at OEM and supplier side are characterized by the need to bridge the shortcomings of data transfer between different CAD systems, which is time consuming and cost intensive.

The document contains usage scenarios for parametric CAD data exchanges. These where used to get an overview of the possibility for a parametric CAD data exchange between several common CAD Systems. It gives also a mapping between the parametrical parameters of the different systems and problems in the parameter exchange.

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