



## Research project “opTRAC” started: usability optimized traceability for the development of embedded systems

Hundreds of thousands of cars are being recalled because of defects of components relevant to security. How can such a thing happen and how can it be avoided in the future? Today’s development and production processes are to such an extent complex, that no single engineer can be capable of keeping track of all details. Experts from different domains (i.e. mechanics, electrical engineering and computer sciences) use various tools for the modeling of embedded systems. The integration of different approaches, models and tools is a central challenge.

The standard ISO 26262, which came into effect on November 2011, requires the traceability of digital data for the development of embedded, relevant to safety, electrical and electronic systems in vehicles. With the help of traceability, individual digital data elements (i.e. requirements, functional structures, product structures) should be connected by mapping component dependencies in a domain independent way.

Thus, questions can be answered which - so far - could only be examined on the basis of know how: when changing the construction of one component, how can the impact of this change (with regard to the other components) be estimated? If components are designed with the help of different tools and by many people, then the overall connections across tools, processes and system boundaries have to be considered.

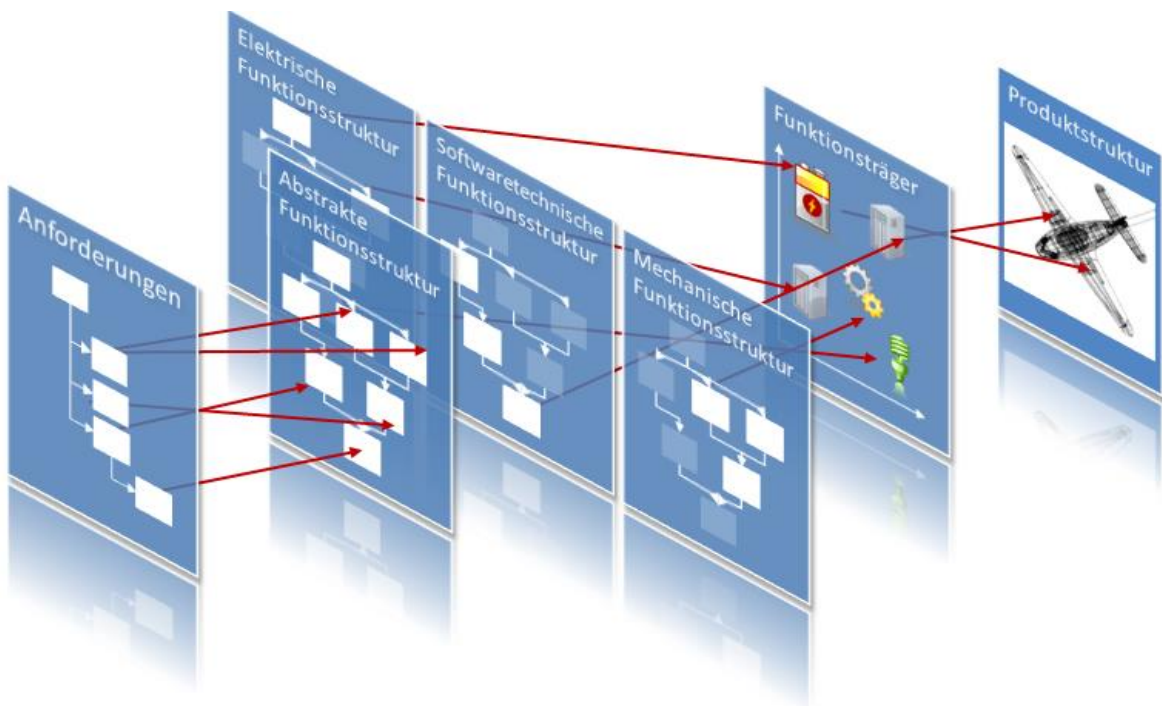


Image: Schematic diagram of the traceability thought for product development

In this regard, the research project „opTRAC“ has set its goal, namely to examine “usability optimized traceability for the development of embedded systems”. First of all, support should be provided for continuous traceability of development data, which on one hand satisfies the requirements of the above-mentioned standard and on the other hand has been optimized regarding its application for the development of mechatronic products.

Traceability solutions for modeling, maintenance and usage of traceability information will be optimized or newly developed. Furthermore, a new software solution will be developed to help companies to conduct ISO 26262 conformity testing. The development of a flexible implementation strategy, with which companies can introduce the solutions into their business in a structured manner, as well as user workshops involving industry experts are completing the research project.

The project „opTRAC – usability optimized traceability for the development of embedded systems in line with ISO 26262” started on March 1st, 2013. It is government-funded by the German Federal Ministry of Education and Research (BMBF) within the Initiative „KMU-Innovativ“, has a project duration of two and a half years, and a volume of 1.8 million EUR. Members of the consortium are the 3 companies InMediasP GmbH, CONWEAVER GmbH and GITTA mbH, plus the Fraunhofer Institute for Production Systems and Design Technology (IPK).

