

CAVA Accelerates Product Development at Ford

Ford Motor Company uses CAVA to become more efficient in its development process

Innovation potential for more efficient production methods has a long tradition in the automobile industry. The first moving assembly line was already introduced in 1913, at that time for the legendary Tin Lizzy.

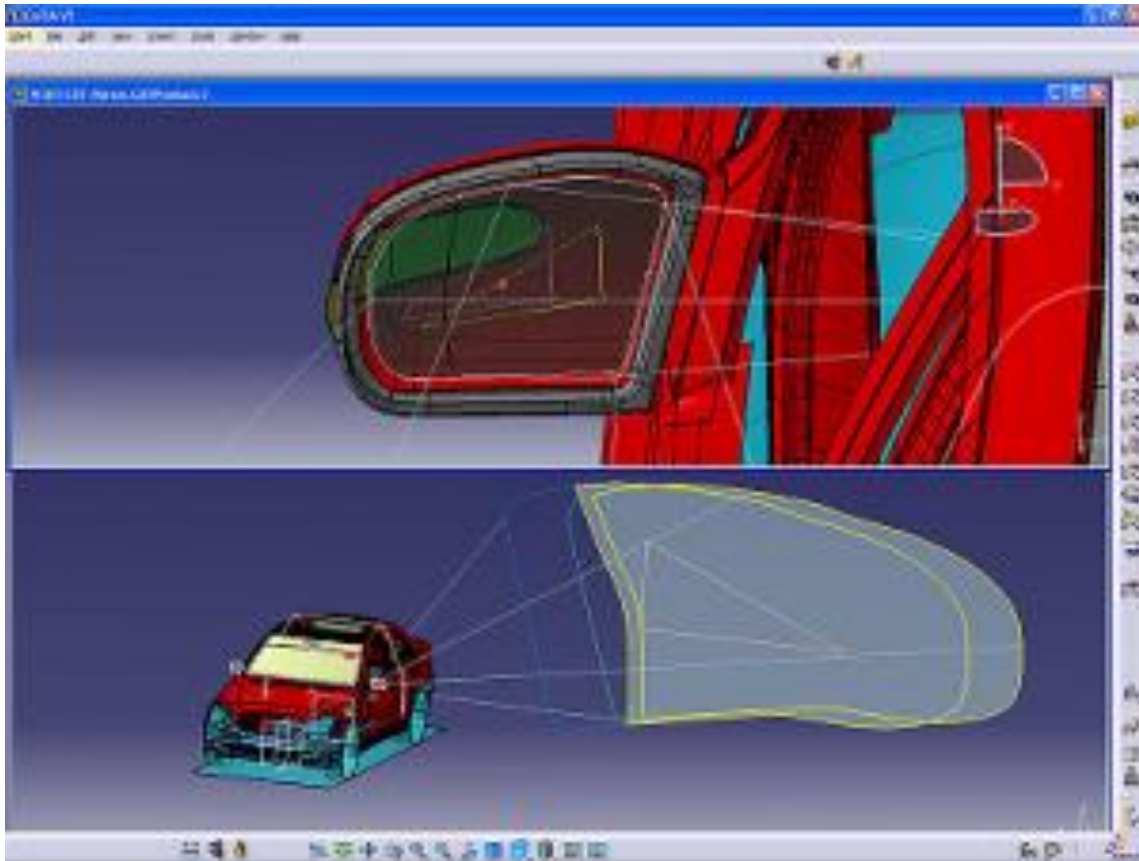


Challenge

Increasing standards in the automotive industry ensure improving car safety, environmental protection as well as general quality of products and production process. Less good, it also slows down and complicates product and production enhancement. To facilitate car design that takes legal compliance at all process stages into account, TECHNIA's experts developed CAVA in a joint project with German car manufacturers to address their specific needs. One of the companies benefiting from the solution is Ford Motor Company.

Solution

CAVA is based on Dassault Systèmes' generic software CATIA. TECHNIA's experts combined their in-depth knowledge in process engineering for the automotive industry as well as their expertise in CATIA with the aim: Developing a product suite that enables automotive manufacturers to achieve a higher level of capability and flexibility in doing automated checks. The process-related software system supports the entire process chain concerning legal compliance by displaying the requisite industry standard information geometrically in CATIA. Approved by a passenger car certification authority for a non-EU/ECE based Technical Service, physical experimental assemblies are no longer needed. Instead, virtual homologation, which is based on CAD data, is certified with CAVA.



Gains

Ford Motor Company uses CAVA to become more efficient in its development process. The target was to reduce costs for the in-house solution enhancements and updates of standards and regulations as well as reaching a higher level of capability and flexibility concerning more tests and verifications.

Therefore, the integration with current updates of the most relevant legal provisions and in this way creates a standard application. The implementation of CAVA at Ford Motor Company started in 2007 and was seamlessly integrated into the global company system of CATIA V5.

Movement in the automobile industry

Today, about 100 CAVA users around the world work with the software for global product management in the US, Brazil, Germany, UK, Turkey, Australia, China and India. It is rolled out in several departments.

CAVA Vision, for example, is used for basic design, as there is a wide range of requirements for vehicle construction with which manufacturers have to comply. CAVA Safety helps in design engineering as safety usage is increasing massively and direct safety aspects for both passengers and pedestrians play a major role in vehicle development.

Furthermore, there are solutions such as CAVA Tools for easy and fast calculation of a car silhouette, or CAVA Wiper to control standard fulfillment of windshield wipers via simulation and visualization. The menu operations of the CAVA products correspond to the V5 features in terms of handling, so that the ease of use via intuitive graphical user interface leads to a great acceptance across all divisions and users.

Enabling functions of CAVA

CAVA really works out with regard to reducing costs as a result of process enhancement. Therefore, it can be used in an early design stage throughout development and validation, which significantly saves time and resources in product development. As the homologation division receives reliable and validated data from product development, the compliance of legal provisions is ensured throughout the whole process. So, the procedures of system analyses and type approval tests become much more efficient. The driver's field of vision for instance can be computed exactly and virtually tested. Moreover, CAD evaluation quality improves substantially.



Future improvements

The next round of development does not have to start from scratch. CAVA uses the power of the CATIA templates for example for vision analysis, so a formerly complicated application is very much simplified. This enables efficiency in developing unique tools for vision evaluation. It is evident that legal compliance in global product development processes will play an even more important role in terms of worldwide competitiveness in the future.

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