



Aufeer Design: Complex Engineering Works and High Quality

Aufeer Design, with headquarters in Mlada Boleslav in the Czech Republic, provides expertise in design, engineering, FEM analysis simulation, and prototype development for automotive manufacturers and their suppliers worldwide. The company uses CATIA for all its design work and provides its customers with high quality parts and modules in a shorter amount of time than before.

Staffed with highly experienced engineering and design professionals, Aufeer Design specializes in complete automotive design and engineering involving all areas of car development (except for powertrain and suspension). The company's areas of expertise include the design and engineering of body in white and other exterior metal, plastic and hybrid systems such as roofs as well as all interior components such as seats, instrument panels, and trimming. The company has successfully participated in numerous car, truck and aerospace projects domestically and internationally.

FLEXIBILITY IN A RAPIDLY CHANGING MARKET

The challenges facing Aufeer Design are constantly changing due to the evolution in local, regional and global automotive market requirements. The company stays ahead by being flexible and tailoring its solutions to its customers' needs. For example, it uses state of the art technologies in hardware and software, and keeps its staff abreast of these changes, so that its engineers

can deliver each project on time and with the required quality objectives. Data security and management are also key factors when it comes to winning customer confidence as is the necessity to establish a local presence in order to provide better service to automotive companies in fast growing economies such as China, India and Russia.

Design and analysis of automotive components Aufeer Design previously used CATIA V4 and is now using V5 for all design and engineering activities in the area of die design, complete interior and exterior (bumpers, spoilers, racks) plastic components, sheet metal work for the car body, body-in-white and for all closures or moveable parts. The complete tooling is also designed in cooperation with the car manufacturer or the appropriate tier-1 tool manufacturers. Its metal components and body-in-white department covers the entire end to end process from the design of Class-A surfaces all the way to the development and pre-series production of automotive components. Its FEM calculations

and simulation department performs all virtual static and dynamic analyses to validate and improve engineering designs for rigidity and strength in accordance with safety standards and homologation regulations. Engineers perform analysis studies to optimize the use of materials, which reduces waste and minimizes costs. And since designs and relevant data are also viewed and tested in CATIA, there are virtually no rejected parts during their tool manufacturing process.

Aufeer Design uses the electrical harness and cable wiring features of CATIA to design and develop all the electrical systems for an entire car including the engine or cockpit. Virtual prototypes of different seating positioning mechanisms, different lighting (headlights, rear lights, brake lights) are also designed in CATIA and manufactured in its factories.

FASTER DESIGN TIME

CATIA V5 has enabled Aufeer Design to reduce development time while increasing the precision of its design and analysis work. Thanks, for example, to the way CATIA manages the history of a design, modifications can be made quickly and their repercussions throughout the rest of the model instantly seen. Previous V4 users as well as new V5 users have overwhelmingly admitted to V5's ease of use and efficiency in handling complex design work and immediately took to its intuitive interface and user friendliness. "We had been using

CATIA V4 in the past; however 95% of all key engineering and design activities are now done in CATIA V5. We benefit from tools such as parametric functions, history and even implemented more efficient work arrangements with assemblies," said Martin Zabadal, CEO, Aufeer Design.

Dytron, Aufeer Design's CAD partner since 2000, helped implement the Dassault Systèmes Solutions, provided training for its engineers and continues to help the company with consulting services when needed. After a short period of training and practice, Aufeer Design's engineers have increased their design productivity and are consequently able to handle more projects than before.

MANAGING DOCUMENTATION AND WORKFLOW

Aufeer Design is deploying ENOVIA SmarTeam for its data and project management needs. It is currently in the process of customizing the solution, with the help of Dytron, so that it responds to its internal processes and design standards. For example, it is creating libraries particularly for storing and managing documents, parts and assemblies as well as for management, sales, technical specification documents and norms. Aufeer Design will soon begin a pilot project it believes will greatly improve documentation management and product development workflow. "We used file management systems to store part data in the

past, but ENOVIA SmarTeam offers greater variability in terms of database management options," said Martin Zabadal.

EXPANDING TO NEW MARKETS

The future at Aufeer Design looks bright as the company expands its engineering and design activities around the world. After the opening of its engineering and design centers in Ostrava and Bratislava, it recently added another office in Hyderabad, India and will soon open one in Puebla, Mexico, where the company already has customers. One of its objectives is to deploy a new application in the area of lighting and electronics to further expand its reach in the

automotive market. The company also plans to deploy V6 collaborative tools to enable it to implement the benefits and full-scale potential of ENOVIA SmarTeam and CATIA V6 and hence enhance its collaboration tools both internally and with its customers. This new PLM platform will serve as the foundation for improved data sharing and cooperation and give the company a competitive advantage when it comes to the speed at which it can roll out its projects and provide better value for its customers.]

For more information:
www.aufeerdesign.cz

