

Beiqi Foton Motor Co., Ltd.

Driving innovation with CATIA V5



Overview

■ Challenge

With the rapid developments in China's automotive industry, Foton needed to accelerate development cycles, control development costs and ensure product quality to maintain its competitive advantage.

■ Solution

Foton is applying CATIA V5 as its 3D design and collaboration solution for its heavy trucks, light passenger cars and AUV passenger cars.

■ Benefits

With CATIA V5, Foton has streamlined product parameters, improved product development and project implementation, significantly improved product design efficiency and reduced product development cycles.



"CATIA V5 not only accelerates product design, improves quality and reduces costs, but also enhances the whole design process."

Yang Guotao, General Manager Assistant and Manager of General Management Department, Beiqi Foton Motor Co., Ltd.

An independent innovation leader in China's automotive industry

Beiqi Foton Motor Co., Ltd. is a state-owned, publicly-traded automotive manufacturer. Its business operations extend to various regions and sectors, and the company employs more than 28,000 people.

Foton has produced and sold 1.8 million vehicles over the past ten years and has grown into a core leader of independent brands and innovation in China's automotive industry. It also is a fleet auto manufacturer in China, with a complete range of commercial vehicles in China. In 2006, Foton's brand value exceeded 13.968 billion Yuan (US\$1.8 billion) and ranked fourth in China.

The 21st century has seen the Chinese automotive industry enter a rapid development stage in which market competition has intensified. Customers

are demanding improved product quality, better performance and security, and lower prices. These requirements have prompted all automotive enterprises to pay more attention to product development. Automakers must accelerate product development cycles, significantly shorten design and production preparation cycles, control product development costs, ensure high product quality, and focus on and enhance successful design experiences to raise the design technology management bar.

Foton also faces these challenges. It must develop a complete series of products through independent innovations, and product development is the first bottleneck to overcome.

CATIA breaks development bottlenecks

In 2003, Foton leveraged its collaboration with Daimler-Chrysler Corporation and



introduced CATIA V5 for 3D design of a heavy duty truck. After a short implementation cycle, CATIA V5 brought substantial benefits to the design processes of heavy duty trucks, light passenger cars and AUV passenger cars.

3D design allows Foton's designers to spend more effort and time on productive design, accelerating the development of new vehicles and providing complete product data for further management processes. For the design of a new vehicle, Foton has adopted a "top down" design methodology, in which the overall design is completed first and then the detail design perfections are added. Vehicle designers design the framework of whole vehicle and identify main parameters and mounting positions for each subsystem. Based on this initial configuration, the designers of each subsystem add the detailed subsystem framework and part designs. Finally, vehicle designers assemble all subsystems. For Foton, this process transformation has allowed its enterprise R&D centers, distributed in six provinces, work together more smoothly and, therefore, more effectively.

Bringing benefits with efficiency

By applying CATIA V5 3D applications to its design processes, Foton rationalizes product parameters, improves to product development and subsequent project implementations, and establishes and perfects 3D design standard specifications and 3D general purpose components and standard part libraries. The advanced applications of CATIA V5 significantly improve product design efficiency, reduce product development cycles and optimize designs. Product preassembly and interference checks can be performed during design processes to reduce the validation times of trial-manufacture and testing, improve product quality, reduce costs, speed the completion of the extended vehicle and reduce designers' workloads.

CATIA V5 has delivered compelling results. Until 2005, Foton had produced and sold a total of 1.3 million vehicles. By 2010 with CATIA's advantages, Foton plans to achieve annual output of more than 1 million vehicles (948,000 commercial vehicles) and to export 200,000 vehicles. It also expects to garner 20% of the global truck market and become a leading commercial vehicle manufacturer.

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