



Supporting New Product Development at Bentley Motors Through Virtual Innovation

The Virtual Engineering Centre (VEC) at the University of Liverpool in partnership with specialist light simulation experts Optis, has enabled definitive British luxury car manufacturer Bentley Motors to integrate the use of virtual prototypes into their new product development process, improving design at an early stage when changes are less costly, accelerating time to market for new models.

THE CHALLENGE

Bentley was keen to work collaboratively with the VEC and technology partner Optis to assess the value of integrating Virtual Reality (VR) and high-fidelity simulation into their product development process and, if proven, to integrate into all future new product programmes. Sharing engineering data on their flagship model the Mulsanne, Bentley Motors and the VEC developed a unique framework to evaluate the assessment, verification and integration of VR technologies and immersive environments.

THE SOLUTION

Through the integration of key software into a fully tracked 3D stereoscopic environment, verification studies were undertaken on the existing design. The studies demonstrated that utilising the expertise and technology available, provided a platform for robust decision making and supported improvements for design.

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THE BENEFITS

Having developed a robust and accurate process in the development of their virtual prototypes with the VEC, Bentley engineers are now able to recreate new models virtually, providing a powerful design review tool. This process framework, incorporating the latest technologies, has enabled Bentley Motors to speed up their product development times through better understanding of design data at earlier stages in the design process, reducing the number of physical prototypes required, eliminating the need for late stage modification and resulting in a reduction in overall development costs and resulting in a reduction in overall development costs.