

Supporting new product design at Bentley



Hartree Centre
Science & Technology Facilities Council



Following the development of a virtual prototype study at the Virtual Engineering Centre (VEC), the collaborative expertise and access to the STFC Hartree Centre's visualisation suite has enabled Bentley Motors to integrate the use of virtual models into their new product development process, improving design at an early stage when changes are less costly.

Challenge

Definitive British luxury car manufacturers, Bentley Motors is dedicated to developing and crafting the world's most desirable high performance cars.

Bentley was keen to work collaboratively with the VEC to assess the value of integrating virtual reality and high fidelity simulation into their product development process. If proven, they were keen to integrate the technology into their existing design process utilising the Hartree Centre expertise and specialist facilities for future product development programmes.

Solution

Sharing engineering data on their flagship Mulsanne model, Bentley and the VEC developed a unique framework to evaluate the assessment, verification and integration of VR technologies and immersive environments. Through the integration of key software into a fully tracked 3D immersive environment, verification studies were undertaken on existing design. The studies demonstrated that utilising the expertise and technology available provided a platform for robust decision making and supported improvements for design.

Due to the success of this project, Bentley engineers have now adopted this approach for the development of their next-generation products. Using the framework provided by the VEC, Bentley has been able to utilise the state-of-the-art visualisation facilities at the Hartree Centre for its development programme.

Benefits

The Hartree Centre's visualisation facilities enabled Bentley engineers to create new vehicle models virtually, providing a powerful design review tool. This has enabled Bentley to speed up product development times through better understanding of design data, as well as reducing the number of physical prototypes required. This in turn reduces costs and the likelihood of needing late stage modification.

Work with us

We collaborate with industrial clients and research partners on projects that create insights and value using high performance computing, big data analytics, simulation and modelling.

By combining our world-class facilities with access to our specialists and computational scientists, we can enable your organisation to produce better outcomes, products and services more quickly and cost-effectively than through conventional R&D workflows.

With our partners we are developing the next generation of supercomputing architectures and software, combining existing best practice with innovation to deliver faster, cooler and more sustainable solutions capable of meeting the challenges of data intensive computing.

For more information:

- +44 (0)1925 603708
- hartreecomms@stfc.ac.uk
- @hartreecentre
- /company/stfc-hartree-centre