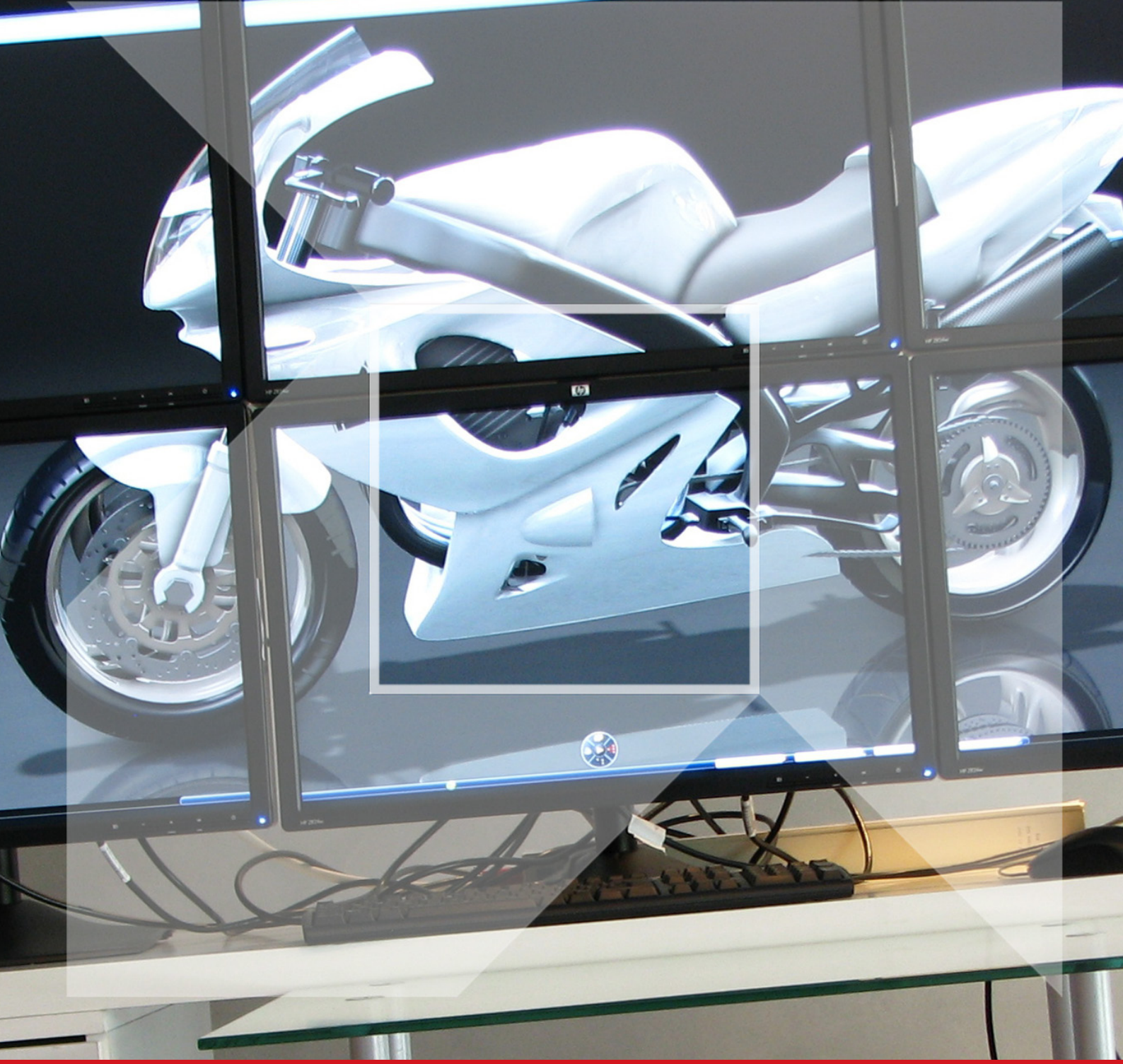


FirePro GRAPHICS
AMD

3D opens the door to the world we imagine

The AMD FirePro™ V9800 professional graphics card and AMD Eyefinity technology enable a spectacular six screen experience.

AMD

AMD Firepro™ & Dassault Systèmes Case Study

For three decades Dassault Systèmes (DS) has been a world leader in 3D and Product Lifecycle Management solutions. DS SolidWorks, CATIA, SIMULIA, DELMIA and ENOVIA products enable engineers and industrial designers to digitally define and simulate products, processes and resources. These Dassault Systèmes applications help customers to quickly bring more innovative products to market. With its latest brand, 3DVIA, Dassault Systèmes invites ordinary individuals to unleash their imagination and express themselves and their vision in 3D. Through a 3D platform of community, 3D content, and complimentary 3D software, consumers can create and share lifelike 3D experiences online.

As it establishes 3D as the universal language for both businesses and consumers, Dassault Systèmes exploits the latest developments in computer hardware in order to deliver a high performance and high productivity experience for its customers. Such hardware developments include the AMD FirePro™ family of professional graphics products and, in particular, the new AMD FirePro™ V9800 professional graphics card.

Christophe Delattre of DS Research and Development (R & D) team in Paris says. “A powerful graphics card is mandatory when handling large data sets in an application like CATIA. It is key to getting the best out of the software and providing a real-time 3D experience. In R & D we regularly conduct compatibility testingof our software on various hardware configurations.

On one hand we are looking to verify that the hardware can support our software; on the other we also want to know if our software is designed to make full use of what the hardware delivers and so we take a particular interest in the development of graphics cards.”

“Rendering performance was still very good after switching from one screen to six screens. Moving from one screen to six was very easy and we achieved very good performance and speed without the need to modify our application.”

For compatibility testing the Dassault Systèmes R & D team has some favorite models - typical customer assemblies that contain several hundred parts. These are very large datasets with between one and five million polygons. The R & D team loaded these in both CATIAV5 and CATIAV6 and manipulated them using the AMD FirePro™ V9800 professional graphics card, taking a particular interest in shading and rendering performances.

The verdict? In the words of Christophe: “Fantastic. For a single card, it has a crazy number of stream processors - 1600! It must be one the most powerful graphics processing units ever made.”

According to Christophe, who leads the Dassault Systèmes R & D visualization team, setting up a six-screen display was quite straightforward. “We put the graphics card into a Windows® 7 OS-based workstation. We plugged in six HD (1920x1200 resolution) LCD screens and we set up the screen configuration using the AMD Catalyst™ software. We started CATIA, and it worked just fine.” The team went on to explore AMD Eyefinity technology and checked out OpenGL support, dynamic

manipulation of shaded models and assemblies, video memory for both large data sets and textures and real-time photorealistic rendering.

“Rendering performance was still very good after switching from one screen to six screens,” reports Christophe. “Moving from one screen to six was very easy and we achieved very good performance and speed without the need to modify our application. This is clearly going to have a beneficial impact on our customers and their ability to conduct collaborative design reviews on power walls and within virtual reality rooms.”

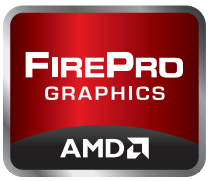
Christophe also tested the bezel function in the AMD Catalyst software – this enables engineers to make an allowance for the edge of each display unit. “We did not have to remove any pixels and did not lose any part of the image. In CAD, having a seamless image really matters. Actually the AMD FirePro™ V9800 professional graphics card is ahead of its time and we are looking forward to an ‘edge-blending’ capability in an upcoming version of AMD Eyefinity technology so we can drive several HD projectors for a large display wall. We are also waiting for LCD manufacturers to provide edgeless screens.”

With 4Gb of on board memory the AMD FirePro™ V9800 professional graphics card enables plug and play simplicity. This contrasts with the cost of a PC cluster, which would be the normal requirement for supporting several screens, a solution that may also require additional IT skills. “The ability to drive a six-display system with just one box is definitely the right path. It is amazing that one card can drive a high-resolution projector and a big wall or room with stereo as well. It is definitively a one step forward in terms of providing a life-like experience to DS customers,” notes Christophe.

“With AMD Eyefinity technology, the feeling of complete immersion is really impressive. At Dassault Systèmes we aim to push the limit of high quality images on screen in order to bring users as close to reality as possible.” ***Jerome Maillot,Senior Manager, Dassault Système***

“With AMD Eyefinity technology, the feeling of complete immersion is really impressive,” says Jerome Maillot, Senior Manager “At Dassault Systèmes we aim to push the limit of high quality images on screen in order to bring users as close to reality as possible. The ability to drive six display outputs simultaneously and achieve such a large image on a very high resolution display is a great step forward for engineering collaboration. Sharing a 3D model at full scale and achieving a significant cost reduction at the same time sounds like a dream, yet it is a reality. It is clear that the AMD FirePro™ V9800 professional graphics card has delivered the high level of technology that Dassault Systèmes has come to expect.”

DASSAULT SYSTEMES | AMD



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