CADFMconsultants delivers complex 3D workflow video training with AMD and Dell Technologies

Dell workstations powered by AMD Radeon™ PRO graphics provide rock-solid performance for online teaching and content production.

AMD RADEON PRO

Computer Aided Design (CAD) is already a hardware-intensive activity and when you add live online video training as well, even greater stress is placed on host computing hardware. CADFMconsultants has been providing CAD teaching and materials for 20 years, and when the pandemic shifted the company's training and consultancy work from physical classes to the Internet, the most reliable platform to deliver this new context was required. Dell workstations powered by AMD Radeon™ PRO graphics provided everything the company's training workflow needed.

Simultaneous CAD and video streaming

"We do a lot of third-party contract work for Autodesk®," explains Shaun Bryant, Managing Director of CADFMconsultants. "In 2015 I was doing work for what was then Lynda.com™, which was acquired about a year later by LinkedIn™. I'm now consulting as a LinkedIn Learning instructor, generating a lot of content for the platform. I enable people to learn how to use the software better, smarter and quicker. That's now all done remotely."

The software that CADFMconsultants provides training for encompasses workflows from Autodesk® AutoCAD® and Revit® to Twinmotion® and the Unreal® Engine. "I'm an Autodesk Certified Instructor (ACI) for both AutoCAD and Revit," says Bryant. "I'm also an ACP (Autodesk Certified Professional). I can train for any Autodesk-certified training center (ATC) anywhere around the UK."

When the pandemic arrived in 2020, however, CADFMconsultants was no longer able to train in person. "No classroom training was available," says Bryant. "We had to move into online mode and suddenly realized that the hardware we

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Shaun Bryant, Managing Director of CADFMconsultants

were using was even more important. We've been doing a lot of training via online video with up to 12 people at a time."

This didn't just involve demonstrating one piece of software, but an entire workflow going across multiple applications. "I will have a 3D model in AutoCAD or in Revit," says Bryant. "I need to adjust it and have materials applied to it. Then it goes into Twinmotion or Unreal Engine to generate a walkthrough. When I bring a Revit model into Unreal it will have the Revit materials. Then you tell Unreal Engine to make it look good. So you can either swap to a different material specification, or you can enhance what's already there."

This entails running multiple applications simultaneously, but when you are also providing live training, that isn't the only software the system has to cope with. "You're not only doing the training and running the software," says Bryant. "You're also running applications like Microsoft Teams™ or Zoom™, and you're running that over the Internet. You've got to have something that is going to cope with all of that loading on it at any given time."

CADFMconsultants also creates learning materials for asynchronous consumption via the LinkedIn Learning platform and that also puts the onus on the system being used. "Creating LinkedIn Learning material is predominantly screen capture, using Bandicam Screen Recorder™ and Camtasia Studio®," says Bryant. "Both generate large, high-res files, normally at a 1080p resolution. So you're running products such as Revit and then you're outputting a reasonably complex 3D model out of Revit into Unreal Engine. The graphics part has got to cope with that while the system is encoding the video in real time."
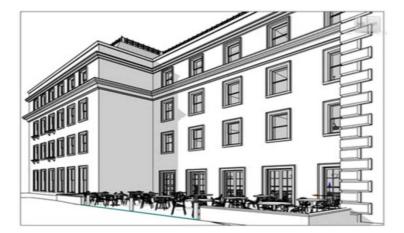
Reliable performance with AMD Radeon™ PRO graphics

With both the company's core activities putting so much pressure on the abilities of the host system, CADFMconsultants needed a platform that could deliver the needed performance with complete reliability. This led to AMD Radeon PRO graphics running on a Dell Precision workstation. "In 2011, I was asked by Autodesk to be an AutoCAD and Revit expert on the Autodesk stand at an event called WorldSkills," continues Bryant. "They were running cards from another manufacturer that weren't quite capable of what I wanted to do. But there was this other workstation with an AMD graphics card in it that was allowing me to present smoothly. When my company switched from in-person to online training, I realized that I had to have hardware like that to handle it."

As a result, CADFMconsultants chose a Dell Precision 3650 workstation powered by AMD Radeon PRO W6600 professional graphics. "It's a really well-rounded system, and very reliable," says Bryant. "There's no fan noise like I've had in the past with other cards, which is really important when you're trying to record audio for LinkedIn Learning."

"The AMD Radeon PRO W6600 is not expensive, but it's got the performance to do everything you need on a day-to-day basis."

Shaun Bryant, Managing Director of CADFMconsultants

The value proposition of AMD workstation graphics has been another essential element. "The AMD Radeon PRO W6600 is not expensive, but it's got the performance to do everything you need on a day-to-day basis," says Bryant. "If I'm an architect generating Revit models, and I want to put those into Unreal Engine and do a bit of architectural visualization, I can do that very easily with the W6600. But I'm not spending the earth on it either. So that money that I'm not spending could be used for other things, such as getting all my architects trained up on Revit to use the machines that have got the W6600 in the first place. With other manufacturers, as you go across the price scale, you find that the cards are wanting in some way."

Typically, the main deficiency is frame buffer memory. "With cards from other manufacturers, when we are editing big models and need to do a 3D orbit on a complex model, they start to struggle," says Bryant. "This doesn't happen with the AMD card. You're getting good bang for your buck, with more memory for the money."

Maintaining professional reputation

"Before I started using AMD Radeon PRO graphics, I wasn't able to do the entire workflow transition," says Bryant. "Now I can go from AutoCAD into Revit into Twinmotion into Unreal Engine, all using the one machine. That's where the reliability of the AMD graphics comes across. I know that if I need to go into complex workflows, I can do that straight away."

"That multitasking is so important," continues Bryant. "The last thing you want when you are rotating a complex 3D model for a demonstration is to have a horrible, pixelated effect going on in Zoom or in Teams. You also don't want your machine to crash because your GPU is not coping with that graphics information coming through right in the middle of an important video call."

"There are three key words that I would use to describe what I gain from Dell and AMD," concludes Bryant. "One is cost. Their price points are excellent. Second, but most important, is reliability. I don't want to be sitting here with a graphics card or workstation that isn't working. Third is reputation. All of CADFMconsultants' work comes from reputation – for Autodesk, for LinkedIn Learning, for numerous ATCs. We've got to make sure that whatever work we deliver is of a certain quality, otherwise our reputation is shot. Again, with Dell and AMD everything's reliable. This allows me to develop the content I need but also more importantly, maintain my reputation."

About CADFMconsultants

CADFMconsultants' mission is to provide the Autodesk™ software user community with training and consultancy solutions, empowering the user and enabling them to move forward and evolve utilizing the latest Autodesk™ software and technologies. As experts on Autodesk™ Certification, the company is also able to take CAD practitioners and their teams through the Autodesk Certification process, giving them that cutting edge needed to work smarter and faster in today's busy design world. For more information visit cadfmconsult.com.

About Dell Technologies

Dell Technologies (NYSE:DELL) helps organizations and individuals build their digital future and transform how they work, live, and play. The company provides customers with the industry's broadest and most innovative technology and services portfolio for the data era.

About AMD

For more than 50 years AMD has driven innovation in high-performance computing, graphics, and visualization technologies. Billions of people, leading Fortune 500 businesses, and cutting-edge scientific research institutions around the world rely on AMD technology daily to improve how they live, work and play. AMD employees are focused on building leadership high-performance and adaptive products that push the boundaries of what is possible. For more information about how AMD is enabling today and inspiring tomorrow, visit the AMD (NASDAQ: AMD) website, blog, LinkedIn, and Twitter pages.

Expanded Highlights for PowerPoint (35-50 words):

Challenges:

When the Covid pandemic shifted all of CADFMconsultants' training online, the company needed a graphics workstation that could cope with a multi-application workflow while also delivering streaming live video via MS Teams and Zoom, as well as recording smooth 1080p Full HD video for distribution on the LinkedIn Learning platform.

Solution:

The price-performance and frame buffer memory allocation of mid-range AMD workstation graphics cards led CADFMconsultants to deploy AMD Radeon™ PRO W6600 graphics card running on a Dell Precision 3650 workstation for its online video teaching and LinkedIn Learning training production needs.

Results:

With AMD Radeon™ PRO W6600 graphics running on the Dell Precision 3650 workstation, CADFMconsultants experienced the reliable performance it wanted for a workflow involving Autodesk AutoCAD and Revit as well as Twinmotion and Unreal Engine. The competitive cost and reliability has enabled the company to maintain its reputation as a leading CAD training provider.

Web Copy for Case Study Hub Page

Landing Page Description (50 words):

Read the case study about how CADFMconsultants deployed a Dell Precision 3650 workstation platform powered by AMD Radeon™ PRO W6600 graphics to deliver reliable performance with a multi-application CAD workflow while streaming live video or screen recording at 1080p resolution to deliver reputation-enhancing AutoCAD teaching and LinkedIn Learning training materials.

Case Study Description for Hub Page (25 words):

CADFMconsultants deployed AMD Radeon™ PRO graphics to deliver reliable performance with a multi-application CAD workflow while delivering live video teaching and training materials for LinkedIn Learning.