

PROFESSIONAL GRAPHICS

for Design and Manufacturing

INDUSTRY OVERVIEW

Professional graphics serves a very wide range of industries and customers. Historically, product development has been the largest consumer of professional graphics products by a wide margin.

Product development is a broad term that encompasses disciplines such as computer-aided design (CAD), computer-aided manufacturing (CAM), and computer-aided engineering (CAE) simulation. The entire product development process is commonly referred to as product lifecycle management (PLM). The end goal of the process is to deliver the best quality and cost-effective product in the minimum amount of time.

ELEVATOR PITCH

The Radeon Pro family of professional graphics cards are designed to accelerate product development workflows. Our workstation graphics solution provides the necessary performance required to drive increasingly large and complex models through the entire design visualization process. From evaluating designs with simulation tools to creating stunning renders before the product reaches manufacturing processes, Radeon Pro offers the power you need to get the job done.

Professionals harnessing the power of Radeon Pro graphics will benefit from certifications and optimizations for many of today's popular design applications including SOLIDWORKS, Creo, CATIA and NX. Combining this with exceptional warranty, 24/7 prioritized support, extended product lifecycles and enterprise-quality drivers – Radeon Pro graphics is the right choice for your product development workflow.

MARKET VERTICALS



Automotive
& transportation



Aerospace
& defense



Machinery &
industrial equipment



Consumer goods
& electronics

RECENT INDUSTRY TRENDS



- **Cloud-based design solutions** – major CAD application platforms (e.g. SOLIDWORKS, 3DEXPERIENCE, Siemens NX) are starting to offer cloud-based solutions for users to work from anywhere. However, there is still a strong demand for high performance on-premise workstations due to IP security policies and performance sensitivity to network speeds.



- **Augmented reality (AR) and virtual reality (VR)** – there is a major push for adopting these cutting-edge visualization techniques in product development, which increases the computing requirements of workstations significantly.

RECOMMENDED PRODUCT FOR USE CASE



Design and manufacturing engineers

- Designing products and preparing manufacturing processes
- Top CAD applications: SOLIDWORKS, CATIA, NX, Creo, Inventor, AutoCAD, Solid Edge
- Top CAM applications: DELMIA, Mastercam, SolidCAM, CAMWorks, Autodesk CAM, Vericut, EdgeCAM
- Purpose of GPU: accelerate 3D graphics; CAD requires mid-high graphics performance
- Recommended GPU: Radeon™ Pro WX 4100/5100/7100
- Radeon™ Pro advantage: delivers best-in-class value for CAD and CAM workloads



Simulation engineers

- Evaluating, optimizing, and validating designs with simulation tools
- Top CAE applications: ANSYS, Abaqus, MSC Nastran, NX Nastran
- Purpose of GPU: pre- and post-processing and visualization of simulation data (e.g. crash analysis)
- Recommended GPU: Radeon™ Pro WX 5100/7100
- Radeon™ Pro advantage: lowest cost 8GB cards for processing large simulation datasets



Marketing and visualization artists

- Creating photorealistic renderings of products and/or using VR/AR for design review
- Top rendering applications: KeyShot, Iray, V-Ray, Radeon™ ProRender
- Top VR/AR applications: Unreal, Unity, VRED, native application VR (e.g. 3DEXPERIENCE)
- Purpose of GPU: accelerate OpenCL-based GPU rendering or drive VR/AR displays for product visualization; both use cases require significant graphics performance
- Recommended GPU: Radeon™ Pro WX 7100/9100
- Radeon™ Pro advantage: lowest cost options for driving high fidelity VR experiences or OpenCL-based GPU rendering



Managers and design reviewers

- Top PDM applications: ENOVIA, Windchill, Teamcenter
- Managing, reviewing and collaborating around designs
- Purpose of GPU: accelerate 3D graphics for visualization and product reviews with lightweight formats
- Recommended GPU: Radeon™ Pro WX 2100/3100/4100
- Radeon™ Pro advantage: fast and reliable solutions for entry-level graphics requirements

RADEON PRO BENEFITS



• **PRODUCT RELIABILITY** – Reliability is paramount for product design professionals because the cost of downtime typically far outweighs the capital spend on workstation equipment. Radeon™ Pro GPUs are built with quality components and tested to exceptional standards for demanding 24/7 environments.



• **APPLICATION CERTIFICATIONS** – Radeon™ Pro hardware and software are certified for professional applications in product design and media content creation. This means users have the peace of mind that their applications will work flawlessly with daily workflows.



• **ENTERPRISE DRIVER** – Regular driver updates that deliver bug fixes, stability enhancements, and performance optimizations. Rigorously tested to enterprise-grade quality standards



• **PERFORMANCE** – Unlike AMD's Radeon™ RX family that is optimized for gaming, Radeon™ Pro solutions are tuned for flawless experiences in leading professional applications

OBJECTION HANDLING

Why should I pay more for professional GPUs over regular GPUs?

• While consumer GPUs are generally less expensive, they lack the guaranteed reliability and performance of professional GPUs, which are purpose built for delivering optimal experiences with design applications in demanding environments. While consumer GPUs may work for similar workloads, many of the major application vendors only offer support for systems with certified GPUs. Despite a lower upfront cost, consumer GPUs may lead to higher TCO in the long-term due to the unguaranteed compatibility with professional applications.

• AMD professional GPUs are accompanied by industry-leading warranty and enterprise-level support. With a certified professional GPU, the user has full backing from AMD as well as the specific software vendors to ensure that the GPU performs to expectations.

I'm unfamiliar with Radeon™ Pro. How does it relate to "regular Radeon" or AMD FirePro™?

• AMD formed the Radeon Technologies Group in 2015, and one of its primary objectives was to unify all GPU products under the "Radeon" brand. "Radeon RX" is the designated gaming brand, while "Radeon Pro" is the purpose built workstation brand. It is the direct successor to "AMD FirePro", which has since been retired. The transition to Radeon™ Pro also brought about a significant uptick in driver quality. There are millions of end users running AMD professional graphics products, and there are less than 30 reported software issues annually.

I've always stuck with Quadro®, so why should I make a switch now?

• Radeon™ Pro GPUs are certified on many of the same major applications as competing products while priced lower at every product tier. It is designed to provide a perfectly viable alternative, giving users the flexibility to choose the optimal GPUs for their budgets.

Discover More About Professional Graphics
in Design and Manufacturing on AMD.com
<https://www.amd.com/en/graphics/workstation-design-and-manufacturing-solutions>



▼ CUSTOMER SUCCESS STORY

▼ West Surrey Racing

Radeon Pro graphics played a substantial role in helping West Surrey Racing (WSR)'s success, a renowned UK motorsport team run by New Zealander Dick Bennets. Over the years, the team's racing greats like Mika Hakkinen and Jonathan Palmer and their 70+ Formula 3 wins have made global headlines—and in 2016, they partnered with AMD to take their team to the next echelon of racing. Using HP workstations equipped with Radeon Pro WX Series graphics cards, WSR took stock BMW 125i racing cars in their bare shells to laser-scan the shapes into Siemens NX. The Radeon Pro-optimized application then rendered and customized the cars, building out the components to bring high performing cars to life.

Learn More About How AMD Helps Contribute to WSR's Success

pro.radeon.com/power-to-wsr

