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V-Ray

V-Ray for Blender

Product document

June 2025

Product description

V-Ray brings award-winning, production-proven rendering to Blender. As the industry standard for photorealistic rendering, it delivers physically accurate results out of the box, without time-consuming setups. From ultra-realistic renders to creative stylization, V-Ray does it all. No matter the industry, scene complexity, or visual style, it empowers artists to create the highest quality possible directly within Blender. Whether an individual artist or part of a team, V-Ray scales with the available hardware and handles everything from small-scale personal passion projects to studio-grade, high-end work, delivering stunning stills and animations with speed and professional-grade quality.

Value proposition

V-Ray is built for artists who demand the same award-winning rendering quality used in blockbuster films, high-end commercials, and visualizations, alongside creative freedom and reliable performance. Whether working solo or in a team, V-Ray empowers artists to craft stunning stills and animations across any industry, scale, or style. Designed to match Blender's native workflow as closely as possible, it provides all the essential tools and unlocks new creative possibilities, so users can do more in Blender without interrupting their creative flow.

What it's used for

To create **highly realistic** stills and animations for:

- Archviz
- Product design and visualization
- Automotive and vehicle rendering
- Advertising, branding, and packaging
- Lifelike characters
- Realistic environments
- Medical and scientific visualization
- Realistic visual effects

To create **stylized*** stills and animations for:

- Fiction characters
- Animations
- Motion graphics
- Isometric designs
- Sci-fi and fantasy worlds
- And more

***Stylized/NPR (non-photorealistic rendering)** is a broad term that encompasses a wide range of looks, such as stylized realism, flat design, abstract or surreal forms, retro-inspired, low-poly, etc.*

Other use cases:

- Integrate Blender modeling work into a V-Ray production pipeline
- Learn and teach 3D rendering

Who are its users?

- Artists who complete their commercial work, whether stills or animations, entirely within Blender often rely on add-ons where the DCC's capabilities fall short. While committed to staying within the Blender ecosystem, they seek a more professional rendering solution than what the native Cycles renderer currently offers.
- The artist who does the modeling for studios that are already using V-Ray in their production pipeline. He creates the assets that are then transferred to the traditional DCCs for the rest of the work to be done (rigging, animation, simulation, rendering, compositing, editing, etc.)
- Existing Chaos customers who are dissatisfied with their current content creation tool, particularly due to the software developer's pricing model, pace of development, support, etc., and are now exploring the option of migrating to Blender.
- Beginner 3D artists at the start of their journey. Whether they're learning through YouTube, online courses, or formal education, they use Blender to build foundational skills in modeling, animation, and rendering.
- Educators and content creators are helping shape the next generation of 3D artists, whether through YouTube, online courses, or classroom teaching. They're trusted voices in the community and passionate about making 3D accessible to all.

What are their pain points?

Time-consuming, realistic material setup

Achieving realistic results in Cycles often requires complex node setups and lots of tweaking to achieve the desired result, which slows down the creative process.

Relying on extras to get the job done

Blender artists often note that they rely heavily on various add-ons or have to switch between tools to achieve the look they're after. Online assets often require extra tweaking, such as fixing scale or shading, which disrupts the creative flow and can lead to additional costs.

Working under tight deadlines

3D artists often work under tight deadlines and need fast turnaround, but rendering can become a major bottleneck, especially when it comes to animations and more complex scenes. Long render times can block the machine and slow down progress when it matters most.

Limited scalability and reliability

Other renderers struggle with geometry-heavy scenes or complex lighting setups, and CPU- or GPU-only setups can't fully leverage available hardware, making them unreliable for demanding production work.

Key benefits

Superior quality and photoreal results, faster

Achieve high-quality, realistic renders out of the box, no complex node trees and manual tweaking required. With physically accurate lights, materials, and cameras and smart default settings, V-Ray is designed to deliver great results with minimal setup.

Built for production, proven in production

Production-proven and trusted by the industry's best, V-Ray is a renderer backed by over 20 years of production history, used by top studios to create jaw-dropping visuals for blockbuster films, TV series, high-end commercials, and visualizations.

More than a renderer

V-Ray expands what you can do in Blender while keeping you in the creative flow.No third-party tools, no interruptions. Access over 5,500 free, high-quality assets in Chaos Cosmos, meet tight deadlines with one-click cloud rendering, collaborate and share work easily, and finish your images with built-in post-processing—all without leaving the Blender creative space.

Built to handle it all

V-Ray can take on the biggest challenges in production, delivering the speed and reliability needed for any project, regardless of industry, scale, or style. It scales efficiently across different hardware configurations, plus it's optimized for heavy scenes, handling dense geometry and complex lighting setups with ease.

Interoperability with other Chaos products

- **Chaos Player:** Quickly review rendered image sequences with Chaos Player.
- **Chaos Vantage:** Render your scenes at full ray-traced quality in real time by exporting a .vrscene file from Blender and loading it into Chaos Vantage. Native Live Link integration is planned and coming soon.
- **Chaos Cloud:** Rendering and collaboration via Chaos Cloud are available for V-Ray for Blender users. Virtual tours are not supported yet, but support is planned.
- **Chaos Arena:** V-Ray scenes created in Blender can be used for virtual production with Chaos Arena.

Key features

Rendering

Render anything and everything with versatile, award-winning, production-proven technology that scales to your hardware setup.

- CPU, GPU, and hybrid rendering
- V-Ray Interactive Rendering in the VFB
- AI Denoising, V-Ray Denoiser
- Compositing-ready rendering output
- Chaos Cloud rendering

Lighting

Illuminate any scene with stunning photorealism or create the artistic effect you envision—V-Ray makes it easy.

- Global Illumination
- V-Ray's extensive range of light types for artificial lighting
- V-Ray Sun & Sky for natural lighting
- procedural clouds system
- Aerial Perspective
- Environment Fog
- V-Ray Dome Light
- Adaptive Lights

Cameras & lens effects

Tweak settings like a real-world photographer to get the desired look, or use auto controls for fast, effortless results.

- Real-world cameras with exposure controls and auto settings
- Realistic lens effects

Materials & textures

Create any look, from ultra-realistic to surreal effects for magical or sci-fi scenes, and build materials faster with fewer clicks using V-Ray's:

- Extensive shader set
- Powerful texture toolkit, including procedural textures and utility textures

Geometry

V-Ray also comes with powerful tools for creating, managing, and rendering complex geometry.

- V-Ray Proxies
- V-Ray Clipper

Works the Blender way

Continue working the Blender way while harnessing V-Ray's production-proven rendering.

- Initial Support for rendering essential Cycles materials (Principled, Diffuse, Emissive, Glossy, Sheen, Glass, Refraction BSDFs)
- Blender-native interactive rendering
- V-Ray Node Editor in Blender
- Support for Blender's Hair System

Interoperability

Blender now fits seamlessly into any V-Ray production pipeline. Export scenes and import them as references, and easily connect with other tools in the V-Ray ecosystem for a smooth cross-DCC workflow.

- V-Ray Scene (.vrscene) file format

Beyond rendering essentials

V-Ray expands creative possibilities in Blender by letting you do more without leaving the software or relying on third-party apps, keeping your creative flow uninterrupted.

- Built-in post-processing in the VFB
- Free, high-quality render-ready content in Cosmos
- Cloud collaboration to streamline reviews and feedback management

Why should Blender users choose V-Ray?

- **Superior quality and realism,** powered by award-winning ray tracing technology. With physically accurate lights, materials, and cameras, V-Ray delivers first-class, photorealistic results without complicated setups.

- **Production-proven and trusted by the industry's best**, V-Ray is a renderer backed by over 20 years of production history, used by top studios to create jaw-dropping visuals for blockbuster films, TV series, high-end commercials, and visualizations.

- **Ready to scale** and take on the biggest challenges in production, delivering the speed and reliability needed for any project, regardless of industry, scale, or style. It's optimized for heavy scenes, handling dense geometry and complex lighting setups with ease, and scales efficiently across different hardware configurations.

- **Built to serve the imagination**, V-Ray gives users the flexibility to fine-tune every parameter or rely on universal defaults. It adapts to a variety of creative needs, enabling accurate recreation of any material, light, or effect with a rich feature set.

- **Artist-friendly workflows**, allowing lets users to complete all their work within Blender without switching tools or disrupting creative flow. With built-in post-processing, cloud rendering and collaboration, and access to a free, high-quality asset library, V-Ray saves time, cuts costs, and keeps creativity uninterrupted.

- **Pipeline-friendly renderer** that works across all major DCCs and makes it easy to connect Blender to the broader V-Ray ecosystem, allowing studios to integrate Blender more seamlessly into existing pipelines for modeling and asset creation, without the need to recreate assets.

System requirements

Processor	Intel1 64, AMD64 or compatible processor with AVX2 support.
RAM	8 GB RAM or 8 GB swap minimum – recommended 64 GB RAM or more; (The actual amount required will vary with scene requirements.)
Operating system	Microsoft® Windows 10, or Windows 11 operating system.
TCP/IP	Only IPv4 required for distributed rendering is supported. IPv6 is currently not supported.
GPU Acceleration	NVIDIA CUDA: Maxwell-, Pascal-, Volta-, Turing- and Ampere-based NVIDIA card(s) with latest recommended video driver; NVIDIA RTX: RTX cards with latest recommended video driver; V-Ray Production Denoiser: AMD or NVIDIA GPU supporting OpenCL 1.2; NVIDIA AI Denoiser: Maxwell, Pascal, Volta, Turing or Ampere-based NVIDIA card with latest recommended video driver; The minimum required compute capability is 5.22.
License Server	6.2.0 or later

Need-to-know product facts

- V-Ray for Blender supports **Blender 4.2 LTS** as well as the two most recent official releases, **4.3 and 4.4.** It currently runs on **Windows only**.

- This is a **brand-new integration**, built from the ground up on the latest V-Ray rendering technology. It is not based on or related to the legacy V-Ray for Blender plug-in.

- The first commercial release includes all the **essential features for rendering stills and animations**, though it does not yet offer the full V-Ray toolset found in more mature integrations such as V-Ray for 3ds Max or Maya. For a detailed comparison, please refer to the **V-Ray for Blender – Key Feature Comparison vs. Mature Integrations** document.

- V-Ray for Blender is also **the only V-Ray integration available as a standalone product**, making it the most accessible way to get started with V-Ray.


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