# AUTODESK®
## VRED™ PROFESSIONAL 2014

# Visualize your ideas

Use Autodesk® VRED™ Professional for high-end visualization and virtual prototyping

**AUTODESK**

# Shorten the overall time to market

Integrated workflows enable you to visually explore, evaluate, and communicate your automotive design ideas. Autodesk VRED Professional helps you go from concept to market faster and more efficiently.

| WHAT'S NEW | | BENEFITS | |
|---|---|---|---|
| Multiple rendering modes | Physical camera settings | Shortened development times | Work with large data |
| Engineering tools | Various storytelling capabilities | High-level quality assurance | Render in real time |
| Surface analysis modes | Collaboration | Precise design reviews | |
| NURBS rendering | Augmented reality features | | |

## Stay ahead of the competition by integrating a visualization pipeline

The world is fast paced. Progress happens every day. Market change and new developments happen one after another. Demands still to be actualized are the standards of tomorrow. To remain competitive in this environment is a challenge. Autodesk® VRED™ Professional software helps you bring future-oriented products and innovations to life.

For Autodesk, visualization is a key part of the product development process. Autodesk's focus is to provide integrated visualization workflows to enable reliable decision making based on digital design data, to support efficient design communication between teams and suppliers, and to promote the design in a compelling way to internal and external stakeholders--all the way to the end customer.

Because there is a common, scalable visualization platform throughout the enterprise, customers are able to use consistent visualization assets across different departments and functions, throughout the entire product development and marketing processes. With such an intergrated visualization process companies can save money, shorten the time to market, and strengthen their competitive advantage.
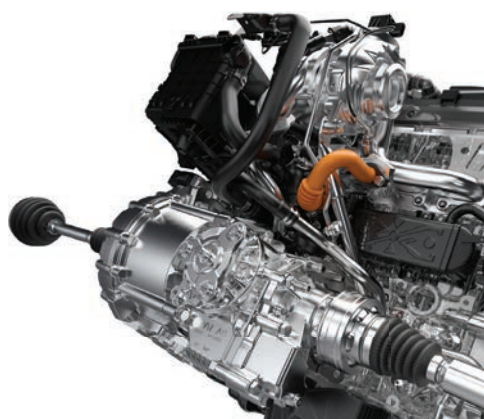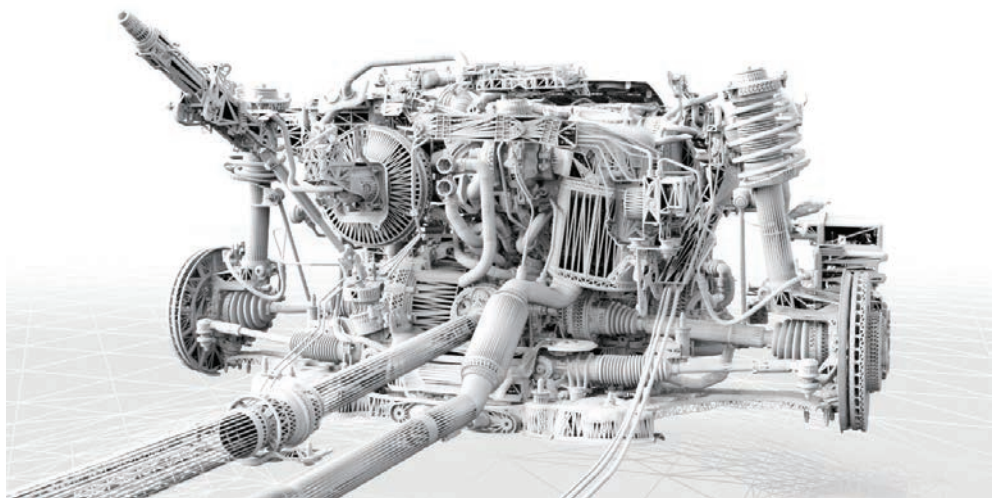


Image courtesy of SKODA AG.



Image courtesy of SKODA AG.

## How does virtual reality work with VRED?

The VRED product line is a powerful, innovative software solution for virtual reality, utilizing the fastest ray tracing and Open GL engine on the market. Thanks to minimal rendering times even with highly complex productions, VRED facilitates faster processing with perfectly optimized workflows. Autodesk VRED Professional enables you to improve on quality and communication from the very beginning of your car production process. Add a visualization pipeline to your data creation pipeline in order to review designs faster and make decisions across different departments based on the same intelligent model. Shorten the overall time from conception to market for a considerable reduction in costs.

### What can virtual reality do for you?

Virtual reality is a trend-setting technology that helps you to depict as-yet nonexistent products in a photorealistic way—and enables you to check their operational functionality in virtual space. With Autodesk VRED Professional, your abstract data can come to life.

Working with Autodesk VRED Professional opens up new perspectives for the creation of form and shape: photorealistic, visualized construction data can be combined with real images or footage.

### Who can use VRED Professional?

Meet multiple requirements in different departments with one software solution. The automotive industry in particular has diverse software needs: existing processes have to be shortened, costs must be reduced, and innovations must be secured. At an early stage in a project, advertising concepts are introduced and marketing strategies defined, while at the same time various models are selected. VRED Professional enables you to streamline this timeline and coordinate workflows between departments.

In the early phases of construction, workers can use VRED Professional to carry out performance tests to detect potential sources of errors. Analysts can perform ergonomic tests in CAVE environments and evaluate the design appearance utilizing a powerwall.

Image courtesy of Lean Design GmbH.

# Be more creative, make better decisions, identify problems earlier, and increase efficiency.

The sophisticated material library in Autodesk VRED Professional simulates exteriors and interiors realistically, so fewer physical prototypes are needed. Completed construction data can be used efficiently for other requirements within the automotive workflow. You can even visualize your CAD data photorealistically for use in marketing and sales.

## Achieve the highest degree of excellence

Do all components match? Does the material show the expected characteristics? Is the model fully functional? Autodesk VRED Professional enables fast and efficient workflows in different phases of product development, as well as in virtual prototyping. Engineers and designers who work in different, highly specialized subject areas can easily and consistently confirm the accuracy of their data and design.

**Capture the forms you want without compromise**

- Using Autodesk® DirectConnect software as a path to other applications, you can visualize your ideas and designs as soon as 3D data is available.
- Maintain groups, layers, and animations of your 3D data or physically split geometries when necessary.
- Optimize your data for rendering.
- Customize the user interface according to your needs.

**Virtual product photography**

VRED Professional is an innovative and powerful software solution for high-end 3D visualization. Equipped with physical camera and light settings and material settings that are based on the physical characteristics of plastic, metal, carbon,

or woven cloth, VRED Professional enables users to create a photorealistic visual setups. The quality you can achieve directly in VRED Professional significantly reduces the time and cost of postproduction.

**Specialized engineering tools**

Autodesk VRED Professional offers a set of expert engineering tools that help to evaluate data sets in detail. Because of the multiple display methods available, mistakes in construction data become visible before prototypes are built.

- Analytic rendering modes:
  Engineers can directly analyze 3D surfaces to better understand the surface shape, quality, and continuity of a design through multiple analytical rendering modes, including Isophotes and Zebra stripes.

- Gap analysis:
  A Gap Analysis tool is provided with VRED Professional to evaluate the fit between adjacent surfaces.

- Annotations:
  Annotations can be attached directly to the 3D model during an interactive review. Comments can be adjusted regarding color and content at any time, facilitating a better communication workflow throughout the evaluation process.

- NURBS rendering:
  VRED Professional offers the first solution for direct NURBS raytracing. Examine surface quality and continuity with a resolution down to single pixels. The evaluation of digital design surfaces in 3D space is no longer limited to the precision

of polygonal data meshes approximated from the original CAD surfaces, as is the case with all other traditional rendering solutions. Due to the introduction of NURBS raytracing, the process of data preparation is significantly accelerated with much less need for data preprocessing, helping to save time and money.

**Real-time rendering**

The render engine integrated in Autodesk VRED Professional is capable of rendering even high volume data in real time. Users can switch between OpenGL and raytracing rendering by just pressing a single button and without having to modify material settings. VRED Professional includes a wide range of render modes for OpenGL and raytracing that deliver different levels of display quality and speed:

- CPU Rasterizor
- Precomputed Illumination + Shadows
- Full Global Illumination (Photonmapping)
- Spectral Rendering

Autodesk is a world-leading supplier of engineering software, providing companies with tools to experience their ideas before they are real. By offering powerful visualization technology to the automotive in-dustry, Autodesk helps car manufacturers and their suppliers move from physical to virtual processes and create more productive workflows. The Autodesk automotive approach is unique in that it is scalable, attainable, and cost-effective, which allows a broader group of manufacturers to realize the benefits of high-end visualization and vir-tual prototyping. It provides the most straightforward path to creating and maintaining visual reference in a multidisciplinary engineering environment.

**Learn more or purchase**

Access specialists worldwide who can provide product expertise, a deep understanding of your industry, and value that extends beyond your software. To license Autodesk VRED software, contact an Autodesk Authorized Reseller. Locate a reseller near you at **www.autodesk.com/reseller.**

**Autodesk Education**

Autodesk offers students and educators a variety of resources to help ensure students are prepared for successful design careers, including access to free* software, curricula, training materials, and other resources. Anyone can get expert guidance at an Autodesk Authorized Training Center (ATC®) site, and validate skills with Autodesk Certification. Learn more at **www.autodesk.com/education.**

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