

Introduction

I've held various workshops and met hundreds of people over the last few years. Some of them were experienced, while others weren't at all, but everyone shared the desire to create photorealistic renders and gain complete mastery of the process and tools.

Workshop after workshop I've tried to continuously improve the sequence of the presented topics to find the right order for a logical and above all informed use of V-Ray. In architectural rendering more than anywhere else, all the main concepts are derived from photography. My job has been precisely that — to put down roots in this discipline and make all the necessary connections that bring depth and thickness to its practical application within the software.

Our goal is 'Awareness' and this can only be obtained through in-depth analysis, through asking ourselves "Why?", and through first of all knowing the principles and then refining them into methods — all while continuing to preserve simplicity of vision.

Ciro Sannino

The publisher

The **publisher** of this work **Gabriele Congiu**, owner of the publishing house **GC edizioni**, (**Autodesk Authorized Publisher**), as well as **Teacher** and **Autodesk Certified Author**, decided to publish **PHOTOGRAPHY & RENDERING with V-Ray**, bestowing a publishing imprint in line with all his publications. He considers **Ciro Sannino**'s first book a practical work oriented to all those (experts and not) who want to learn the basics for creating a photographic render using a quick and intuitive method.

Who is the author?

The **author** **Ciro Sannino**, a graduate in Industrial Design, has worked in 3D and rendering since 1997. He's a **certified V-Ray instructor**, approved by **Chaos Group (V-Ray production house)**, and since 2006 has also dedicated himself to his much-read personal blog: www.grafica3dblog.it.

With the support of **CGworld** he developed the **5-Step Render Workflow®** method, which has been successfully adopted in his live workshops and illustrated in this book.


Objective of the book

The intention of the book is to **build** a solid way of thinking **through reasoning** and **application**. It allows the user to tackle photorealistic rendering, and to know where to start and what path to follow in order to arrive at the final outcome. All aspects, parameters and problems are sorted into a framework that not only makes studying the book easier for users, but also facilitates their subsequent phase of growth.

How the work is structured

The **15 chapters** that make up the work are structured to ensure gradual learning and are aimed at using **V-Ray** and its relative applications in the photographic field. The cornerstone of the work is the parallelism between photography and the **V-Ray** software. The theoretical concepts presented in the chapters are followed by their practical application using exercises, and are examined further in some cases, through videos.

Style guidelines

Certain style guidelines have been used throughout this book to facilitate reading and comprehension of the topics covered. These include technical **Notes** for in-depth analysis and the author's **Considerations**. Colour printing and highlighting of the fundamental words in **bold** for each paragraph also facilitates reading. Videos are indicated by a box with a grey background and this **symbol** .

DVD-Rom contents

A DVD-Rom is attached to the work and contains all the **.MAX** files with their relative textures needed to carry out the exercises. It also contains videos in **.MP4** format and **.JPG** files of the images used in the book, to help you better grasp the aspects explained in the paragraphs. 3D models from **DesignConnected** are also included in the DVD. Some of these can be downloaded for free and others can be purchased directly from the site www.designconnected.com and finally, you can find textures produced by **Arroway Textures**, as seen on their site www.arroway-textures.com.

Principles and methods

The famous American philosopher *Ralph Emerson* wrote:

“As to methods there may be a million and then some, but principles are few. The man who grasps principles can successfully select his own methods. The man who tries methods, ignoring principles, is sure to have trouble.”

Emerson didn't know about computer graphics but he did understand the problem with tutorials that don't illustrate principles. Tutorials are only valid and useful if, knowing the principle, one seeks a guide to show him/her how to technically apply it.

This is what we are going to do in this book: illustrate a set of rules that go beyond the software and which deal with photography, the physics of materials, the creation of a photographic set, and the proportions between objects and lights. Each concept will then be associated with its practical application, to be carried out using **V-Ray** for **3ds Max**.

To fulfill this purpose we will prioritize the topics. There are tools which contain dozens of options, but in this book we will only use the necessary ones to make the illustrated principles concrete and speed up learning. We must keep these simple relationships in mind:

Knowledge of all parameters > Time / Definition
Knowledge of Photography and Design > Aesthetic quality

The purpose of knowledge of the more technical parameters of **V-Ray** is almost always better time management and the production of a clean and defined image. Knowledge of photography and design on the other hand, directly influences aesthetic quality. That's why we have to start thinking “outside the parameters”, imagining ourselves creating a photograph with a set to be put together and arranged, and assisted perhaps by an interior designer who can harmonize forms and colours.

The photographic world isn't made up of *Vray light*, *Color mapping* and the *Physical camera*. Rather, it's made up of *Bank light*, exposure problems and DSRL cameras. This is a world of knowledge in which we can find everything we need and translate it into parameters and options that will allow us to produce photographic renders.

Considerations: The way we use the word **Quality** in this field can easily cause misunderstandings. The same word can indicate both precision of calculation and the aesthetic quality of an image. Let's use the power of words to begin immediately to distinguish between two different types of “quality”, which have very different meanings. We might have an image that lacks precise calculation, but in which we can already glimpse a strong aesthetic quality. For this reason, henceforth, I will call the meaning related to the precision of calculation the **Definition** of the image, while the aesthetic quality will simply be called **Quality**.

V-Ray certification for users

Official certifications currently available are the **V-Ray Certified Professional**, issued directly by **Chaosgroup**, the company that produces **V-Ray**, and the **5SRW Certification for V-Ray**, issued by **CGworld**, a company specializing in education and processes.

V-Ray Certified Professional

The **V-Ray Certified Professional** is a software certification. To obtain it you need to book a session and go to a *V-Ray Training Center* to take part in an exam consisting of *120 multiple choice questions* (currently in English). To pass the exam you need to answer more than 70% of questions correctly.

Users who pass the exam will be included and published in the official list found on the Chaosgroup website and can display their name and surname aside the **Chaos Group** logo on business cards and letterheads.



CHAOSGROUP
V-Ray Certified Professional

Official website: www.chaosgroup.com

5SRW Certification for V-Ray

The **5SRW** for **V-Ray** is a process certification. It is issued by **CGworld** and certifies that users are able to carry out the *five step* process using **V-Ray**. Vast knowledge is required and relates to photography, lighting techniques, **V-Ray** software and color correction using **Photoshop**.

The test is divided into two parts: *100 multiple choice questions* and a practical exam in which the participant shows he/she is able to build a scene using specific processes and meeting the standards of the **5-Step Render Workflow®**.

Certified users will be officially published at www.5srwcertification.com and will receive a unique *url* for their certification.



 **CG · World**
the professional network

Official website: www.5srwcertification.com

E-Learning: www.learnvray.com

Minimum hardware requirements for V-Ray

The minimum requirements for using **V-Ray ADV** or **V-Ray RT CPU** are:

- CPU 4 CORE + Hyperthreading (i7 or its alternatives);
- RAM 4 GB.

Ideal workstation for using V-Ray

Providing only one ideal configuration for using **V-Ray** may be too limiting. However, in this paragraph we would like to direct you to a workstation that provides good value for money, stressing that, for a tailored solution it is advisable to visit the www.3dws.net website and contact **3DWS** to obtain the ideal configuration for your needs.

The workstation we currently advise is:

“Middle Range” class of workstation– Mono CPU with **Xeon E5 1650**, **32 GB di RAM** and a **Quadro 2000** video card as a minimum, or a “High End” class of workstation for creating renders using V-Ray Advanced– dual **Xeon E5 2687**, **32 GB di RAM** and a **Quadro K5000** video card.

Who is Chaos Group?

Chaos Group was founded in Sofia, Bulgaria in the second half of the 1990s. Its two partners *Peter Mitev* and *Vladimir Koylazov* worked to develop software for simulating fire. The first product they released was called *Phoenix* and was a plug-in for the early versions of 3ds Max 3 and 4.



At the end of the 1990s they had the idea of developing a true rendering engine with Global Illumination to be integrated into 3ds Max as a plug-in. This idea was fostered by the incompatibility of the fire simulation software Phoenix with the rendering engine that is integrated into 3ds Max (Scanline). The first beta versions were released to the public in December 2001 and in Spring 2002 the first commercial version of **V-Ray** was presented. The Phoenix project was abandoned for a long time and only in recent years has it reemerged with the new versions Phoenix FD 1 and 2.

Chaos Group currently has offices in various countries throughout the world, but its headquarters has always been in Sofia and now has over 100 employees. **V-Ray** is **Chaos Group's** product leader, having now become a standard for high level professional 3D visualization of photorealistic images.

Who is 3DWS?

3DWS (www.3dws.net) was founded on 3rd December 2001. The company's goal is to support all professionals in the CG, Video Pro, CAD, and Networking environment and to advise them on the best workstations. **3DWS** has been **Chaos Group's** official partner for years, providing professional support for **V-Ray**, both from a technical and artistic point of view.



Its partners also include **NVIDIA** and **Intel**.

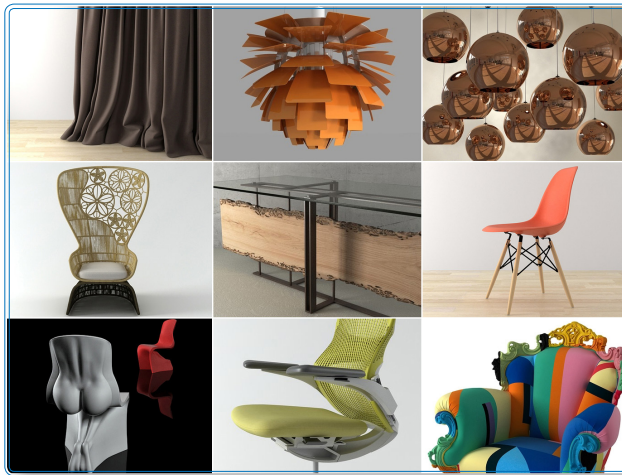
Who is DesignConnected?

DesignConnected is a computer graphics company that was set up in 2006 with headquarters in Sofia, Bulgaria. It has become the main producer of high quality 3D models of furniture, lighting and accessories, [Figure Intro-1](#). The main rules followed by **DesignConnected** are to perfect 3D modelling, ensure the beauty of structures, and capture precise details, paying special attention to the latest trends and design icons. At www.designconnected.com it's not only possible to purchase various high definition 3D models, but also to download some for free. These can be used in various projects, as long as the source is acknowledged.



designconnected.com

Figure Intro-1
Some of the 3D models rendered by DesignConnected



Who is Arroway Textures?

Arroway Textures produces high resolution textures, [Figure Intro-2](#), used in many fields, such as architecture, mechanics and design, in which a realistic visualization of computer graphic images is necessary. Its headquarters are in Leipzig, Germany.

arroway[®]
textures

At www.arroway-textures.com you can purchase thousands of high resolution textures to meet all the varying needs of digital graphics professionals.

Figure Intro-2
Several examples of the application of Arroway Textures to renderings using various software programs

