

# What's new in CAD Decor 3.0

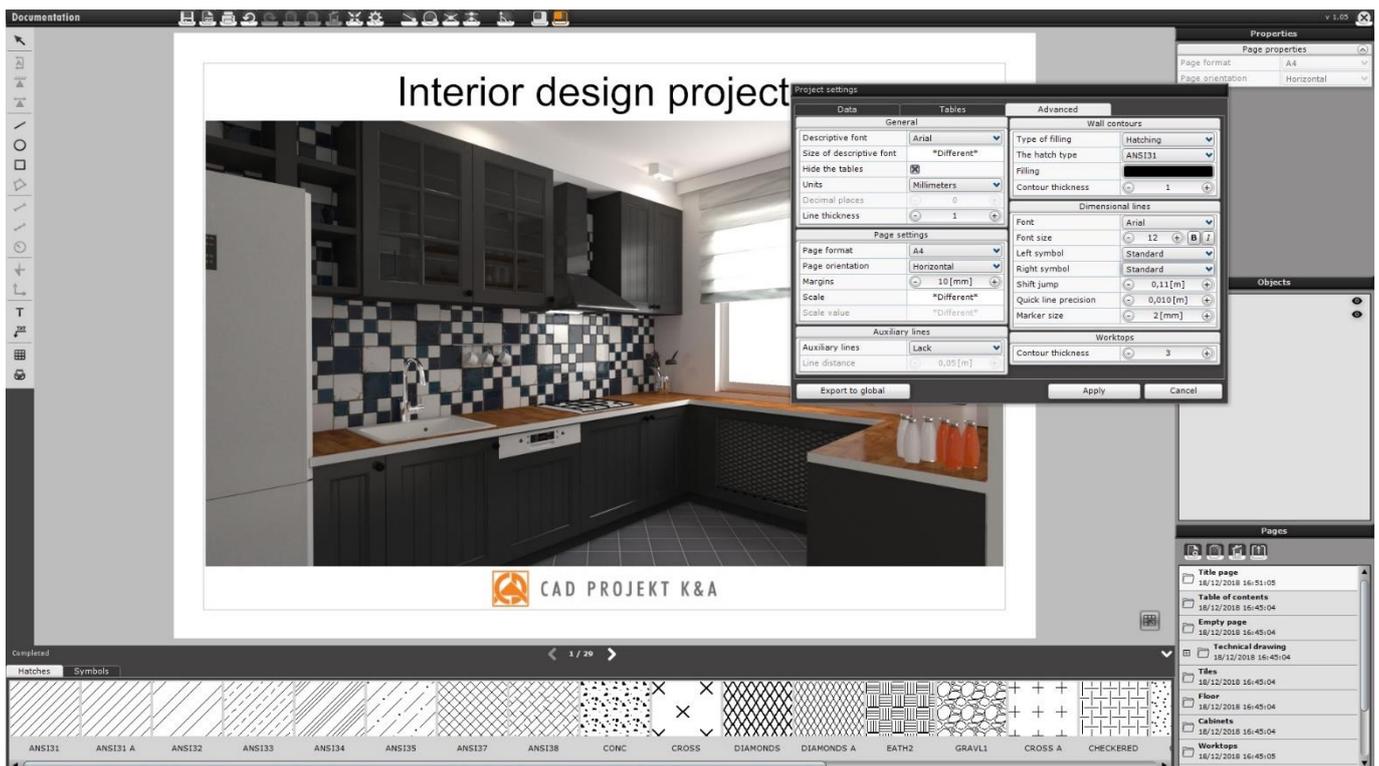
## TECHNICAL DOCUMENTATION

One of the most awaited changes in CAD Decor in version 3.0 is access to **the professional, personalized and comprehensive technical documentation**. The **Documentation module** in the CAD Decor 3.0 program can be launched in the visualization - after selecting the **"Documentation"** icon in the top menu.

The documentation may contain any number and types of pages (including examples of visualizations, technical drawings, sections of selected walls or fragments of the design, drawings of worktops, floor sections and room sections with or without equipment). Some of these elements are selected during the initial configuration of the documentation or during further work with it, while the sections and wall projections can be created individually when the documentation is already generated. **All pages of the documentation can be edited and freely adapted to your current needs.**

An interesting feature of our documentation is the possibility of displaying textures of objects (i.e. pieces of equipment, cabinets and worktops, tiles and paints). Of course, objects can also be presented in a linear form. The module also offers the **ability to insert new objects directly in the documentation** (various shapes, hatches, dimensions, texts and references, tables and images), as well as easy management of the scale and size of the sheet, separately for each page.

It is worth mentioning that **the new documentation supports much larger designs** than the previously used module.



## NEW VISUALIZATION LOOK (WITHOUT RENDER PRO)

The visualization interface has changed. It is now more transparent and readable. Instead of three toolbars (the top menu icon, the panel with tabs "Materials", "Scene" and "Render" and the bottom bar with tile previews and tile functions), there are now four function groups. Their visibility can be easily and conveniently controlled (you can hide them, expand or narrowed them using the mouse or restore the default settings). We describe them below.

### The top menu has remained almost unchanged - with two exceptions:

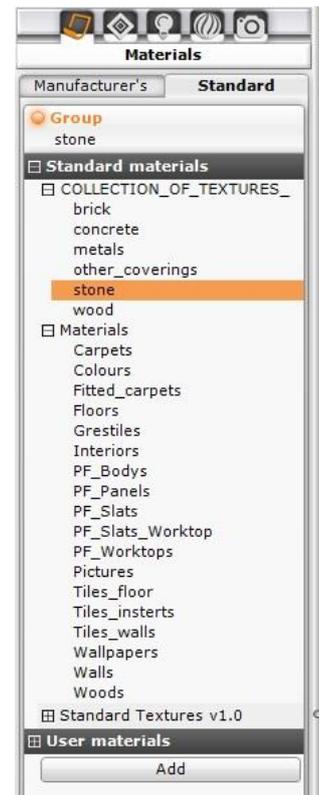
- the "Documentation" icon has been added;
- another new icon "Quick save" allows to save images (standard, stereoscopic or anaglyph) and 3DE Presentations on the disk without selecting the location, format or resolution of files (because they are being saved accordingly to the last settings made in the "Save visualization" dialog box, opened by the "Export 3D scenes" icon).

### There are five new tabs available now in the left panel:

- "Materials" – here you will find: a **Paint Module** (giving access to the Tikkurila's and Sigma Coatings' product offers), a list of texture and material databases by various manufacturers as well as the library of universal (standard) testure databasres by CAD Projekt K&A with the ability of uploading any numer of user's own textures;
- "Tiles" – a list of databases for wall and floor linings and decorations from renowned manufacturers;
- "Lights" – a list of light sources in the design: halogens, fluorescent lamps, point light and sunlight as well as luminous objects, i.e. emitters (objects attributed with a property of a real light emission – available only with Render PRO) and glowing objects (attributed with a property of glow, which is a simulation of an intense glare);
- "Render" – rendering options and photographic filters; in the **Render PRO module** there are **Radiosity** and **Ray tracing** algorithms available, as well as a completely **new Path tracing GI calculation method**;
- "Presentation" – a panel for recording AVI videos (in 2D or 3D), offering users of the additional Render PRO module also **the ability to record 360° animations** (videos recorded in a **Spherical panorama** mode to be posted on Facebook, requiring prior **Path tracing** calculations) and creating VR presentations, displayed by our VR file browser: **obserReR** (requiring prior **Radiosity** calculations).

### A totally new right panel has appeared, which includes editing functions:

- after selecting a material (marking an object), its parameters can be changed - in the "Material properties" tab;
- after left-clicking on the light source on the list in the left side menu, you can manage its parameters in the "Light properties" panel;
- there is one more tab here: "Scene settings", in which you can control the camera and scene settings, and also save a list of selected design views in various resolutions to be used during rendering (while using the **Path tracing** algorithm, available in the **Render PRO** module, you can choose any number of these views to be rendered and obtain illustrations with various resolutions and camera settings, spending the time needed to perform calculations on other activities).



### The bottom menu:

- it displays previews of tiles and the functions of their application and edition, as well as a summary of the used linings (as in the earlier versions of the CAD Decor program);
- also previews of materials from the currently selected collection of textures are presented here (analogously to the previews of tiles), what improved their visibility (they can be easily managed f. e. by changing their sizes, and after pointing the cursor on the item on the list, its enlarged preview will appear in the bottom left corner of the scene viewer)(previously the miniatures of textures were displayed in the much smaller left panel);
- users of the additional Render PRO module after switching to the **"Render"** tab in the left side menu will see saved images and a preview of **Path tracing** calculations in the bottom bar.

Visibility of the four groups of functions, described above, can be easily and conveniently controlled - after right-clicking on the top bar, a small context-menu will open in which you can hide side and bottom panels or restore their default view. These three panels can also be expanded and narrowed using the mouse.

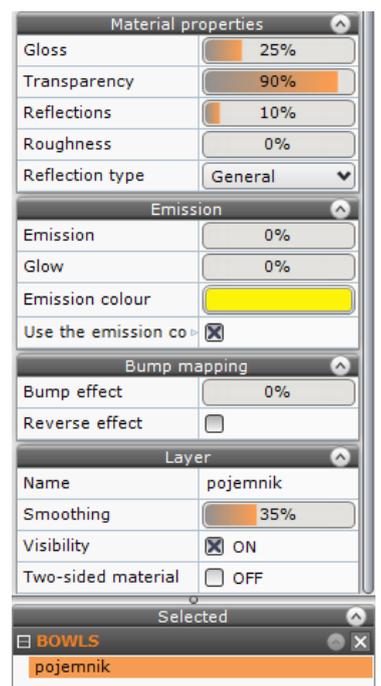
## NEW WAYS OF MANAGING MATERIALS

**CAD Decor in version 3.0** offers easy application of textures and colours already used in the scene to other objects, without time-consuming browsing of databases in a tedious search for a particular texture or looking for an identical shade on the palette. **Thanks to the "Eyedropper" and "Bucket" tools for sampling and applying materials, the appearance of all elements of your design can be unified in a few moments!**

**"Eyedropper tool"** allows to lift (sample) a texture or colour from the indicated pixels along with previously attributed properties! The lifted material can be edited in the right panel or immediately used in the scene. Its' properties, such as gloss, transparency, reflections, roughness, emission, glow or bump mapping, are automatically assigned to objects on which the sampled material is applied. **"Bucket tool - applying materials to objects"** and **"Bucket tool - applying materials to layers"** allows you to apply sampled texture or colour to other objects or surfaces (individually or to all objects assigned to a particular layer at the same time).

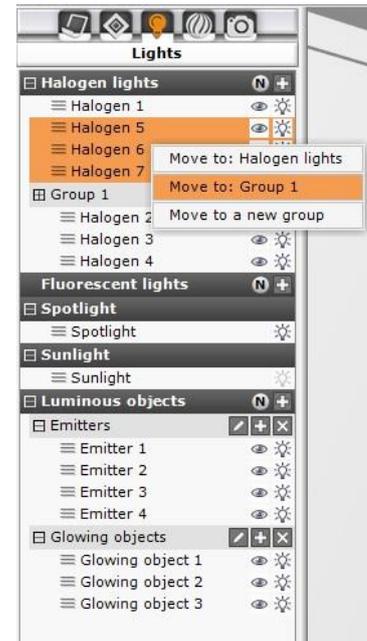
**After selecting an object you can edit its properties in the right side menu.** A new feature is the ability to edit surfaces (i.e. walls, platforms) for which no texture has been applied yet. You can move the texture, rotate it or change its size... You can attribute textures with such parameters as: **gloss**, **transparency**, **reflections** (general or planar: vertical or horizontal), **roughness** (which is vital for the natural appearance of light reflected by various surfaces, such as ceramic tiles, wooden worktops or floors), as well as light **emission** and **glow** (i.e. imitation of the intense light, which, however, does not affect the lighting distribution in the scene) and the **bump mapping** effect.

**It is also possible to manage a particular layer of an edited object** (i.e. one that is difficult to indicate with the mouse, because other layer covers it) - the list of layers is available at the bottom of the right side menu. You can control their smoothing (the level of smoothness of rounded surfaces) and visibility or define whether the material should be two-sided to improve the distribution of light in the scene (this may be especially useful in case of some window blinds or other models made of single surfaces).



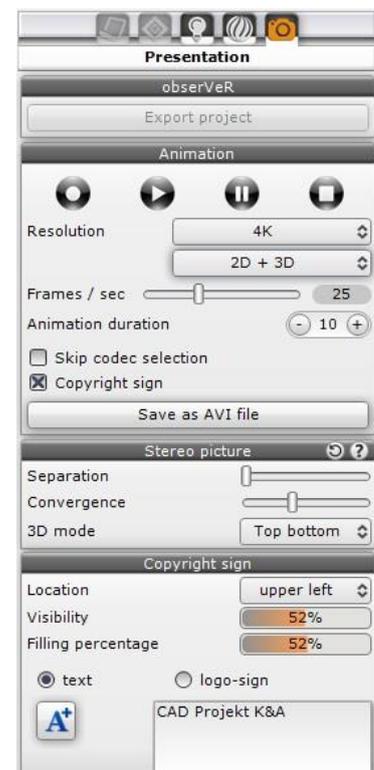
## NEW WAYS OF MANAGING LIGHT

- Lists of light sources on a separate **"Lights"** tab in the left side menu – for **greater convenience and clarity!**
- **Easier management of light sources** - the ability to create groups of lights with any name.
- Easy transfer of lights between groups using the "drag-and-drop" method or function available under the right mouse button.
- You select light sources on the list in the left menu and modify their properties in the right menu.
- **Quick preview and edition of luminous objects**, that is, objects and surfaces with attributed emission (emitting real light to the environment) and glow (imitating intense glow, but not having any influence on the light distribution in the scene).



## OTHER CHANGES IN VISUALIZATION (WITHOUT RENDER PRO)

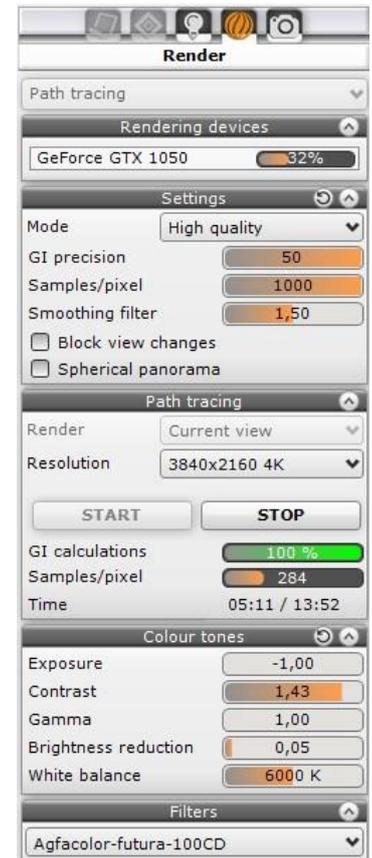
- scene settings: **"Statistics"**, **"Diagnostics"** and light distribution data: **"Style"** (IES selection for halogen lights) have been moved from left side menu to right one.
- the **"Bump mapping"** feature has disappeared from the list of rendering options - it is now available in the **"Material properties"** tab in the right side menu.
- in the **"Presentation"** tab in the left side menu we have added the **"Stereo picture"** panel, enabling you to manage 3D video settings.
- **sliders for controlling material properties now have numeric values** that can be edited using the right mouse button and entered from the keyboard.



## NEW PATH TRACING ALGORITHM (WITH RENDER PRO)

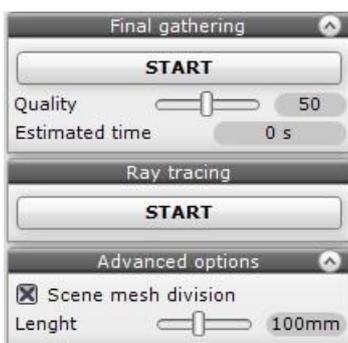
In the additional Render PRO module **there are currently available two algorithms for calculating the global illumination in the scene: Radiosity**, which has been already very well known to users of our programs, and **a completely new Path tracing algorithm**, which analyzes how much light reaches every single pixel in the scene (analyzing the paths of the rays).

- **Path tracing** is more precise than **Radiosity** and can provide results indistinguishable from real photographs – **it can use many graphics cards** to render a single view;
- in addition to calculating global illumination, **Path tracing** also analyzes reflections and refractions of rays (i.e. light distribution on metal and mirror elements or glass) in a similar way to the **Ray tracing** method, which is used to enhance the results of the **Radiosity** algorithm;
- in the **Path tracing** option panel **you can create 360° Presentations** that can be published on Facebook (the "**Spherical panorama**" function);
- during rendering using the **Path tracing** algorithm, the preview of the currently analyzed image is visible, as well as previews of completed renderings, stored on the disk in the indicated folder;
- **we introduced new photographic filters for Path tracing** to help you find those, that reflect the character of your designs the most accurately (in the "**Filters**" tab);
- the mechanism used by **the Path tracing algorithm allows to handle bigger designs** than the **Radiosity** algorithm and to modify materials parameters (f.i. gloss, reflections) during computations;
- we have also provided **many new colour tones for Path tracing**, to make it even easier for you to choose the right filter that best reflects the character of the designed interior (the "**Filters**" tab is available for both **Radiosity** and **Path tracing**, but in case of Radiosity it contains less items).



## CHANGES IN RAY TRACING OPERATION (WITH RENDER PRO)

The user no longer has to choose the quality level of **Ray tracing**, i.e. the number of samples to be processed per pixel, from one sample for one pixel (1x1) to sixteen samples (4x4), or even the number of analyzed reflections and refractions, because **we set all these parameters at the maximum level by default for all users!**



We optimized this feature so you do not have to compromise the quality to keep the computation time short! It will speed up your work and ensure the best visual effects without your effort. In the past, rendering of large scenes at 4K resolution at 4x4 mode caused excessive memory usage, because some part of the **Ray tracing** calculation was carried out by the processor, and the rest by the graphics card. Now the whole process runs on the graphics card and **there are 32 samples per pixel analysed by default! Also the number of reflections and refractions has been set to 20 for each user**, while previously the limit was 10 reflections and 20 refractions.

**We wish you a pleasant work in the new CAD Decor v. 3.0**