

COURSE UNIT 6



Visualisation

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INTRODUCTION

How to use this course unit

This course unit is not a manual but a combination of theory and workshops with which to learn the programme on a 1-to-1 basis. Every mouse-click and every entry is described in detail, providing you with a teaching resource that lets you learn the basics of the programme by yourself. Each chapter provides explanations, information, and a workshop to practise the functions. To enable the workshops to be completed smoothly, the explanations should be read through very carefully. The order of chapters should not be changed because each workshop builds on the previous one. The programme DVD contains examples stored as an ELITECAD file, enabling problematic places to be reviewed.

Conventions used in this course unit

The start and end of a workshop are marked as follows:

V V V WORKSHOP _

WORKSHOP END

Functions are written in block capitals. The corresponding icon also appears for new functions.

FUNCTIONS (BLOCK CAPITALS)

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Functions can be accessed directly using icons (buttons). The functions are grouped together in toolbars or in the large tool management.



[Enter]

Function keys on the keyboard appear within square brackets.

Input values (bold)

Input values must be entered using the keyboard. When the text is entered in the input line, it must be confirmed with the [Enter] key.



PREPARATION

V V V WORKSHOP

In this course unit we start with the project CAD_Object6. First, load the project.

1. Open project

Storey		×
Ø 🛛 🗐	₿.	
<u> </u>	8	
🔳 Project		
Window R	ecord Help	
Project:	CAD_Object6	

Select the project "CAD_Object6" and confirm with OK.

2. Menu FILE > OPEN Select the model "Starting Position

Select the model "Starting Position" and open it.

The opened model should look as follows.



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KN S	P ENI	

MATERIALIZATION

State materials for objects

A function for materials allocation is offered in the respective parameter screens.

WALL Window Record Help								×	
Ø	Type: 🗃 🗃	Brick Wall	~						
Dimensions		arameter ≝⊾ 1 ∨ 幸幸 10 ⊕ Brick		Previe	ew →∰ 200				
256	∠	2 1 - 7 Tiled stone105 Brick		/Stone/Ma	sonry/Tiled s	tone			< >
✓ room dividing □ Parapet wall		₩ ₽]	Tiled sto	Tiled sto	Tiled sto	Tiled sto	Tiled sto	Tiled sto
System-built wall		Layer group center Layer group top Structural construction	✓✓✓▲	Tiled sto	Tiled sto	Tiled sto	Tiled sto	Tiled sto	Tiled sto
OK		Cancel		Tiled sto	Tiled sto		Tiled sto	Tiled sto	Tiled sto

Users can toggle between material mode and colour mode.

Material mode

Colour mode

ø	2 1		ø	2	<u> </u>	
۵	Tiled stone105	m 2	*	11		m 2
	Brick	766E		Brick		

Allocating materials using "drag and drop"

The other option for allocating materials is using "drag and drop". The material can be dragged and dropped from the Materials editor onto the component in question.



TIP

If you want to allocate the same material to multiple surfaces or objects, etc., there is a multiple allocation function. Drag the material onto a surface as normal. However, instead of releasing it, press the [Shift] key on the keyboard or the "+" sign. Click and hold down the mouse and move it to a different surface before pressing one of the two buttons. This can be repeated any number of times.

V V V V WORKSHOP

1. Open the Materials editor.

Menu View > Window > Material... or use the key combination [Ctrl]+[7].

2. Switch the allocation mode to "Replace".

Material - <root></root>		×
👂 🏚 🎠 🗖	I 👻 ĝi 💽	
		Object - Allocation mode
		Part-object - allocation mode
		Surface - Allocation mode
Accessories	Colours	Replace - Allocation mode

3. In the Materials editor, double-click to switch to the folder "Boards".



4. Drag and drop the material "Planks001" onto the fence.



5. In the materials editor, switch to the folder above.



6. Double-click on the folder "Timber", drag and drop the material "**Maple001**" onto the fence.



7. In the Materials editor, switch to the main folders.



8. Double-click on the folder "Surroundings/Grounds/Lawn+Grass", drag the material "Lawn002" and drop it onto the lawn.



ELITECAD

9. In the materials editor, switch to the folder above.

 Material - </Surroundings/Ground... ×</td>

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10. Double-click on the folder "Surroundings/Grounds/Nutrient Media", drag the material "Loam001" and drop it onto the ground.



11. In the materials editor, switch to the folder above.



12. Double-click in the folder "Surroundings/Grounds/Board lining", and drag and drop the material "**Gardendish011**" onto the seat.



ELITECAD

13. Now add the remaining materials.

- Garage door: Wood/Cladding/Sheeting004
- Street: Surroundings/Grounds/Hard planes/Asphalt002
- Forecourt and sidewalk: Surroundings/Grounds/Hard planes/Asphalt005
- Kerb: Surroundings/Grounds/Hard planes/Asphalt001
- Retaining wall for street: Stone/Concrete/Coarse concrete/Course concrete003
- Retaining wall house: Stone/Concrete/Exposed concrete/Exposed concrete004
- Exterior staircase: Stone/Concrete/Exposed concrete/Exposed concrete002
- Roof: Stone/Tile/Rooftiles/Tile101
- Masonry: Finery/Finery/Finery001
- Tinwork: Metal/Metals/Copper
- Banister: Metal/Metals/Chrome
- Window glass: Glass/Glasses/Pane glass

The model should now look roughly as follows.



WORKSHOP END

TIP

Materials that were accidentally allocated can be deleted by clicking "Material for delete". Depending on the "allocation mode", the material is deleted on the relevant planes.



VIEW POSITION

This function is used to observe the 3D object from any point and in any direction. You can finely tune the direction of view using the camera screen below. The design model depiction is automatically set to be in perspective.

V V V V WORKSHOP

1. Activate "Without structure".



Important: In the ARS version of ELITECAD, you cannot perform any action in Storeys Manager because the model has more than one structure. It does not matter that another storey may be currently active. You can specify the height of the camera in the camera window as you prefer.

2. Image start point

▣◙<<</></>••

3. Select the function View position.



Please click View position or ENTER

4. Using the capture mode Freehand select the point **P1**. *Please enter height of view position*

5. Enter the value **300** into the input line and confirm the value **[Enter]**. *Please click point of vision*

6. Using Capture Freehand mode, select point **P2**. *Please enter height for point of vision*

7. Enter the value 300 into the input line and confirm the value [Enter].



CAMERA

The camera is set in the 4-views window. If the camera screen is open, only the camera symbol can be clicked in CAD. Selecting or manipulating CAD objects is not possible. The depiction of the design model view can be controlled separately. If you right-click in this area, a menu opens where you can select how the design model view should be depicted. This is also true for the other views, as they are interconnected.



Using the camera in the 4-view window

Various handles are available, which you can use to manipulate the camera interactively while left-clicking.

Modify position of camera

Modify direction of camera



Move camera



Modify opening angle of camera



V V V V WORKSHOP

1. Set the opening angle in the camera screen to **60**.

Cam	era		Х
Cam	era		
ŕ	Name		_
	Active camera		
	Active contend		
_		1	
٢	🗙 🖻 🔒		
	View position	Focal point	
Х	1575	144	
Y	-1661	-367	
z	300	300	
	Anortura angle		
	Aperture angle		
	60		
			_
	OK	Cancel	

2. Correct the angle of view so that the model is located roughly in the middle of the model window.



3. Confirm the camera screen with OK.

WORKSHOP END

CREATE DESIGN MODEL VIEW.

This function stores the 3D view angle currently set on your model as model view. In case you wish to change the view angle of a view model, right-click in the view and select "Modify cut-out" from the context menu. You are now "within" the limitation framework and can move around using the centre mouse button and the zoom functions, as usual. The size of the section can also be changed using the handles. The camera position and the section are saved by pressing [Esc] or CANCEL.

Modify cut-out

V V V WORKSHOP

1. Create new design model view.

View	ı ×
ø.	· 3D
ø	New model view
Ø	New view

2. Enter the name, set the display to solid, switch the background on and switch to material mode.

Define view	×
⊿ General	
Name	Exterior View
Туре	Design model
▷ Format	act. zoom
Orientation	Landscape
Scaling	1:50
Unit	cm
🔺 Design model pa	rameters
Depiction	Solid
▲ Background	
Background colo	our 0 👥 0 % 🥥
ОК	Cancel

3. In the material mode, click on the selection button and then on Surroundings.





4. Now switch to the folders Background/Land/ and select the material Land007.

/Surrounding	gs/Background			ø	< >	/Surrounding	s/Backgroun	d/Land		ø	< >
Animals	Background	Fencing	Grounds	People	Plants	Land	Montain	Panaroma	Sea	Skies	Town
/Surrounding	gs/Background	/Land/La 🍿	< >								
	-	-									
Land003	Land004	Land005	Land007								

- 5. Next, confirm the screen with OK.
- 6. Load the model view onto the screen.



7. Save work copy [Ctrl]+[W]

WORKSHOP END

MOVE BACKGROUND IMAGE

Depending on the camera setting and angle, moving or scaling the background image is required so that it fits correctly. To do so, right-click to open the context menu. Here you will see two menu items for Moving and Scaling. If you also press [Ctrl] when scaling, the image can be modified not to scale.

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V V V V WORKSHOP
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1. Right-click in the model window and select Move background image.



Please indicate reference point

2. Now left-click in the image. *Please enter NEW position for alignment point*

3. Set down the background image roughly as shown below.



4. The function remains active so that the action can be repeated until the image is correct. Afterwards, cancel the function with [Esc].

WORKSHOP END

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ELITECAD
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REPETITION

Now try to define another model view in the interior.



1. Return to the model view and define another viewpoint in the living area.



2. Save this camera as new model view as well. Enter the name **Interior view** and use the same options as described above. Load the view onto the screen and move the background image, too.



3. Allocate materials to the interior view.

- Slab: Wood/Parquet/Parquet block/**Oak006**
- Stairs: Wood/Parquet/Parquet block/Oak006
- Truss: Wood/Timber/Ash001
- Roofing: Wood/Cladding/Sheeting022
- Oven: Metal/Metals/Alu
- Banister: Metal/Metals/Chrome
- Kitchen worktop: Stone/Quarry stone/Marble/Marble002
- Slab faces for stair exit: Finery/Finery/Finery001

The interior view should now look roughly as follows:



WORKSHOP END

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LIGHT SOURCES

Like the camera, the light sources are set in a 4-view window. Control using the right mouse button is the same as with the camera.

For each view, the light sources can be switched on or off separately and their intensity individually controlled.



Using the light sources in the 4-view window

Depending on the light type, there are various handles available, which you can use to manipulate the light type interactively by left-clicking on them.

Here is a spotlight, for example:

Modify position of light source



Modify direction of light source



Move light source

Modify opening angle of light source



V V V V WORKSHOP

1. Load the model view "Exterior view".

View ×
🕞 = 🤞 🖏 3D
🔺 🗊 Ĕ Design model <rendering< td=""></rendering<>
Design-model views
DE Bottom view
E Exterior View

2. Open the light parameters, deactivate "Camera light" and "Sun", activate "Front" and modify the following settings for the same light source.

Ensure that the light source by which you set the intensity and the shadow resolution is also selected in the list.



Do not set the controller for shadow resolution to an unnecessarily high level, since detailed resolution will also use more internal memory. Gradually raise the slider until you are happy with the result.

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3. Confirm the screen with OK.



4. Load the model view "Interior view" onto the screen.



5. Open the light parameters, deactivate "Camera light" and "Sun", activate "Side left" and modify the following settings for the same light source.



Light X	Z 1082.5963 -0.4297
Light Sun	Intensity Shadow resolution
✓ Name ♣ ▲ ↓ ■ ✓ Environm ■ □ ■	50 Min max
Sun ₩ Image: I	Range Widen Sharpness
□ Side right	0 0 0
Position Direction X -1074.7445 0.7426	< > OK Cancel
Y 731.0971 -0.5138	Cancer

6. Right-click in the model window and select the point "Render model".



ELITECAD



7. Set the light source with the handles roughly in such a way as shown below and confirm the screen with OK.



8. Switch to solid mode.

9. Save work copy [Ctrl]+[W]

WORKSHOP END

Render

V V V WORKSHOP

1. Load the model view "Exterior view".

View ×
🕞 🔻 🦻 🖏 3D
🔺 🗊 Ĕ Design model <rendering< td=""></rendering<>
Design-model views
D E Bottom view
E Exterior View

2. Access the screen parameters.



arameter		>
2D-display	3D-display	lmage - Help
🗹 2D	✓ 3D	Grid
✓ Elements	🗹 Edges 🛛 standard 🗸 🗸	✓ Frame
🗹 Text	Surfaces	Work plane
✓ Hatches	Textures	Marker
Dimension	Light	Cross hair
Arrows	✓ Light source	
Geo Geo	Shadow	Camera lock
Pixel	Transparency	☑ 3D-Camera-lock
	Perspective	
	Pixel hidden line	
Reference plan	Silhouette recognition	
	☑ 3D-Def-text	
	Shader P	Render
	Shader filter	good V P
	Skybox	good V P
	OK Cancel	

3. During rendering, select the data record "good" and click OK to close the screen.

4. Trigger rendering.

▣◙<^{*} ♥ ◘ ♬ **∅ ♂ ♂ ♂ ♂ ♂ [™] ℃** ४ ½ ½ ½ № № № ₩ <mark>೩ ℃</mark> ₩

5. The progress is displayed in the information line.

<exterior view=""> Render process ongoing (Cancel with Esc)</exterior>	80%
--	-----

ELITECAD

6. The image should now look roughly as follows:

7. Load the model view "Interior view" onto the screen.



8. Access the screen parameters, select the data record "good" and close the screen with OK.

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9. Start rendering.

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10. The image should now look roughly as follows:



WORKSHOP END

		μ.
	-	

The rendered image is "frozen" and is no longer automatically up to date. If the model view remains in render mode, it can be brought up to date by clicking "Refresh view".

View	×
🕞 👻 🥵 🖏 3D	

EDIT MATERIAL

All properties that a material displays such as image texture, transparency, mirroring, shine, etc. can be set or modified in the Materials editor.

If a material is changed that is stored in the database, a query appears as to whether the change is saved again to the database or whether a new material should be generated. If you click "No", a new material is generated with a name extension and automatically relocated. This new material is only present in this drawing and if you right-click on it, it can be stored to the database (DB).

Materials editor <th>×</th>	×	
Stone/Masonry/Quarry str	Effects selection	Before
Extended	OK Apply Cancel Au	utomatic refresh

V V V WORKSHOP _

1. Load the model view "Exterior view".

View	×
🖃 * 🧏 🖲	🐓 3D
🔺 🗊 📘 🕨	esign model <rendering< th=""></rendering<>
	model views
60 <u>E</u>	Bottom view
æ E	Exterior View

2. Switch to solid mode.

3. In Materials Manager, right-click on a folder or click on a material and select the point "Edit material by surface".

Select material by surface
Edit material by surface

4. Now left-click on the lawn. The materials editor opens.

5. On the left-hand side, click on the effect "Texture" and under Division change the material width to **200**.

The change in the preview window becomes visible on the right-hand side.

Materials editor - Texture x			
 /Surroundings/Grounds/Le Basic colour/general Texture 	Image Filter No Division Tiled 200 cm 200 cm 125 cm Position Shift Mirror horizontally ↓ 0 % Rotation angle	Before	
Extended	OK Apply Cancel	Automatic refresh	

6. Now click on APPLY.

A prompt appears asking you whether or not you wish to save the change directly to your database. Click NO and then close the main screen with OK.

Elite			×
?		naterial in databas drawing material v	
[Yes	No	Cancel

7. Load the model view "Interior view" onto the screen.

View ×
🕞 🔻 🧏 🖳 3D
🖌 🗊 🖻 Design model <rendering< td=""></rendering<>
Design-model views
🗊 Ӗ Bottom view
😥 Ĕ Exterior View
🗇 Ĕ Frontview
🗇 🖻 Hind view
😥 E Interior View

8. Switch to solid mode.

P 🖾 💎 🧇 🗔 🖓 🎒 🍠	● ● ● ● ● ● ●	⋭⋡⋭⋬⋭	¹ 생 # ⁴ 🕯 🔏 🖧 🔐 猊
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9. In Materials Manager, right-click on a folder or click on a material and select the point "Edit material over surface", and then click on the parquet flooring.

10. On the left-hand side, left-click on the name of the material and activate "Mirroring" from the possible effects.

Materials editor <th>/Parquet block/Oak006></th> <th>x</th>	/Parquet block/Oak006>	x
VWood/Parquet/Parquet b Basic colour/general Mirroring Texture	Effects selection	Before
Extended	OK Apply Cancel	utomatic refresh

11. On the left-hand side, click on the effect "Mirroring" and under intensity set the controller to 6.

Materials editor <th>/Parquet block/Oak006> - Mirroring</th> <th>x</th>	/Parquet block/Oak006> - Mirroring	x
/Wood/Parquet/Parquet bl Basic colour/general Mirroring Texture	Intensity 0 % 100 % 6 ÷ Matte Mirroring	Before
< >		After
Extended	OK Apply Cancel A	utomatic refresh

12. Click APPLY, confirm the prompt with NO and then close the main screen with OK.

_

13. Save work copy [Ctrl]+[W]

WORKSHOP END

AREA RENDER

For larger design models, the complete rendering process may take a long time. That is why there is an option to use range rendering to depict a specific range of the drawing as a rendering design model. The active render parameters are taken into account. The rest of the image is preserved in the previous depiction.

The function remains active so you can change the render setting and view the results, until you cancel range rendering using [**Esc**].

V V V WORKSHOP __

1. In Materials Manager, right-click on a folder or click on a material and select the point "Edit material over surface", and then click on the glass.

2. On the left-hand side, left-click on the name of the material and activate "Mirroring" from the possible effects.

Materials edi	itor <th>Pane glass></th> <th>x</th>	Pane glass>	x
/Glass	;/Glasses/Pane glass	Effects selection	Before
	Basic colour/general	Basic colour/general	
ו 💯	Fransparency	Transparency	
- 🗙 I	Mirroring	Refraction / absorption	
- 🔂 s	Shadow	🖂 치 Mirroring	
		🗆 🥌 Shine	
		Texture	
		🗆 👪 Bump map	After
		🗆 🗮 Lights	
		Shadow	
		🗆 🌑 Shader	
		-	
			Surface \vee
			Animated preview
Extended		OK Apply Cancel Au	tomatic refresh

3. On the left-hand side, click on the effect "Mirroring" and under intensity set the controller to **10**.

Materials editor <td>Pane glass> - Mirroring</td> <td></td> <td>x</td>	Pane glass> - Mirroring		x
/Glass/Glasses/Pane glass Basic colour/general Transparency Mirroring Shadow	Intensity 0 % Matte	100 %	Before
			After Surface Animated preview
Extended	ОК	Apply Cancel	Automatic refresh

- 4. Click APPLY and confirm the prompt with NO.
- 5. Switch to Area render mode.

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first point

6. Click on point **P1**. *second point*

7. Click on point P2.

The relevant area is now shown as rendered.



- 8. Set the controller in the material editor to **20** and click APPLY.
- 9. Click again on the points **P1** and **P2** or on a different section.

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10 Repeat until you are happy with the result. Afterwards, cancel area rendering with **[Esc]** and then close the material editor.

WORKSHOP END

RADIOSITY

Daylight rendering is a process for rendering the energy distribution of atmospheric light in the scene. This energy diffusion enables a basic illumination level as would be found on a cloudy day, which you can combine with other light sources.

If you wish, the result may be saved with the drawing. Menu "Settings > Options > Save/Load > Drawing". This setting is "on" by default. In the CAD_Object6 example file, the setting is "off" for space reasons on the DVD.

V V V V WORKSHOP _____

1. Load the model view "Exterior view".

View ×
🖃 🛪 🦻 🖏 3D
🔺 🗊 Ĕ Design model <rendering< td=""></rendering<>
Design-model views
DE Bottom view
E Exterior View

2. Trigger rendering.

▣◙<<>

<b

3. Access screen parameters, adjust the following settings and then close the screen with OK.

P 🔍 💎 🤄 🕞 🗳 🗗 🗗 🗗 🛱 ۹	ᆃ᠈ᢧᢀᢞᢔ᠘ᢞ᠘ᢞ᠘ᢓᠯ᠖᠖᠙᠅ᡥ <mark>ᡘᠺᢩᠺᠺ</mark>
Render parameters	×
Parameter good ~	Radiosity
Mirroring, Refraction Texture filter	Quality Preview ~
 Bump mapping Use high resolution textures 	Daylight outside ~
Edge smoothing good	Quality
Image cut-out Cut-out	Resolution Display quality ~
Refresh automatically	% 100 -
Lighting ☑ Shadow 0% 100%	Pixel 1497 ■ 808 ■
Light intensity	Cancel

4. Refresh view.



5. The progression is displayed in the information line. Following the radiosity calculation, the system automatically carries on rendering.

<exterior view=""> Radiosity calculation running (Cancel with Esc)</exterior>	35%
<exterior view=""> Render process ongoing (Cancel with Esc)</exterior>	80%

6. Since the radiosity calculation works like an additional light source, the ambient light must be reduced. Open the light parameters, confirm the prompt with "Temporarily switch to solid mode" and change the intensity of the ambient light to **25**.



Light	:		×	Z	0.0000	0.0000
Light	t			Intensity	Shad	ow resolution
~	Name	ـر 🔺 🙁	•			
	Environment		.	25	Min	max
	Sun Side left	* □ * □		Range	Widen	Sharpness
	Rear	* □				
	Side right Front	* □ * □		0	0	0
	Camera light	20				
	~ 🗙 🖻					
	Position	Direction				< >
Х	0.0000	0.0000		-		
Y	0.0000	0.0000		l	OK	Cancel

7. Close the screen with OK. Rendering will be triggered again.

8. Load the model view "Interior view" onto the screen.



9. Trigger rendering.

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10. Access screen parameters, set the following settings and then close the screen with OK.

P 🔍 💎 🤄 🖓 🗳 🗗 🖝 🗗 🖓 🍾	₂♂₭₡₭₭₭ ₺ ₿₠₦₦ <mark>₿₽₽</mark> ₩₡
Render parameters ×]
Parameter good ~ 🔛 🗙	Radiosity Intensity
Mirroring, Refraction Texture filter	Quality Preview ~
Bump mapping	Daylight outside ~
Use high resolution textures	Use all windows
Edge smoothing good ~	Quality
Image cut-out V	Resolution Display quality ~
Refresh automatically	% 100 -
Lighting	Pixel 1497 + 12 808 +
✓ Shadow 0% 100%	
Light intensity	OK Cancel

11. Refresh view.



12. Open the light parameters, confirm the prompt with "Temporarily switch to solid mode" and change the intensity of the ambient light to 20.

Light			×	Z	(0.0000	0.0000
Light	:			Inte	ensity	Shado	w resolution
~	Name Environment		•		20	Min	max
	Sun Side left Rear Side right Front Camera light	* □ * □ * □ * □		R	ange 0	Widen	Sharpness
	V 🗙 🖻	Direction	2				< >
Х	0.0000	0.0000		1		01/	C 1
Y	0.0000	0.0000				ОК	Cancel

13. Close the screen with OK. Rendering will be triggered again.

WORKSHOP END

ELITECAD

Exterior view



Interior view



When working, it is advisable to use the "preview" depiction and only to use optimal rendering where necessary and for the final image.

After rendering has been completed, the intensity of the result can be adjusted retroactively without the need to run the rendering again. If you reset the slider to "0", the radiosity result will be deleted.

— TIP

_____ TIP

E.

RADIOSITY UPDATE

Once the radiosity has been rendered once, it is not automatically refreshed when the geometry is modified or if new material is allocated. The daylight rendering process must be manually restarted.

V V V WORKSHOP _

1. Load the "model" view onto the screen.

View	×
🖃 + 3D	
🔺 🗊 🖻 Design model <render< td=""><td>ing</td></render<>	ing
Design-model views	
🗊 Ĕ Bottom view	
🗰 Ĕ Exterior View	

2. Access the menu item "Insert", select "Load into" and confirm the prompt with "to startpoint".

	Read additional drawing $ imes$
Insert Draw AR Objects Position	Position?
Load into	
Library	to startpoint new position Cancel

3. Select the template "Parts of Library.d" and open. Confirm the subsequent prompt with OK.

AR Open drawing				×
\leftarrow \rightarrow \checkmark \uparrow \bullet en_uk \rightarrow CAD_Object6 \rightarrow \checkmark \eth		"CAD_Object6" durchsuchen 🛛 🔎		
Organisieren 🔻 🛛 Neuer Ordi	ner		= • 💷 🧃	
Name	Änderungsdatum	Тур	Größe	^
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E Parts of Library.d	01.10.2013 17:10	Elite Document	1 592 KB	
E Renderingmodell.d	02.10.2013 09:37	Elite Document	5 362 KB	
E Starting Position.d	02.10.2013 10:26	Elite Document	3 733 KB	¥
<			>	
Dateiname	Parts of Library.d 🗸	Elite files(*.d)	~	
		Open	Cancel]

4. Load the model view "Exterior view".


5. Refresh view.



6. As yet the new parts have no radiosity illumination. Right-click in the model window and select the item "Radiosity Update". Radiosity and rendering will be recalculated.



7. Refresh the radiosity for the Interior view as well.

WORKSHOP END

Exterior view



Interior view



——— TIP E.

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If in a plot compilation render images with radiosity are present, the radiosity update can also be carried out in the plot for multiple views. Right-click in the model window and select the item "Radiosity Update".

VIEW WITH RENDER IMAGE

Calculated 2D views of your model can also be defined with render images.

```
V V V V WORKSHOP _
```

1. In views management, select "Front view" from among the model views.

View ×	
🖃 🕶 🥵 🖏 3D	l
🖌 🗊 📘 Design model <rendering< td=""><td>l</td></rendering<>	l
Design-model views	L
🗊 Ӗ Bottom view	L
E Exterior View	
🗊 🖻 Front view	
🗊 Ӗ Hind view	l
🕡 🖻 Interior View	

2. In Layer management switch the "Surroundings" layer to invisible.



3. Open the light parameters, deactivate "Camera light" and "Sun", activate "Front" and set the intensity of the ambient light to **30**. Close the screen with OK.

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Light	×	Z 0.	0000	0.0000
Light Sun		Intensity		w resolution
✓ Name	※ A 上 型			
Environment	▶ □ ▶	30	Min	max
Side left	* - •	Range	Widen	Sharpness
Rear	*			
Side right	*	0	0	0
Front	* 🗆 🔹 🕨		<u> </u>	
Camera light	≥ □ @ ■			
- × 🖻 🖬				
Position	Direction			< >
X 0.0000	0.0000			
Y 0.0000	0.0000		ОК	Cancel

4. Create new view.

View	×
	📌 🖏 3D
ø	New model view
ø	New view

5. Adjust the following settings.

🔳 Define view	>	< .	
⊿ General		▲ Visible lines	with Pen
Name	South facade	Pen	6
Туре	View	Masked lines	
▷ Format	A3	Display priority	View before object
Orientation	Landscape	Intersection lines	\checkmark
Scaling	1:50	Depiction	Render
Unit	cm	Visualisation	good 🚽 🛩
Offline		Vector shadow	
Rest scaling			
Header			
▲ View parameter			
Quality	Quick	ОК	Cancel
Opening symbols		OK	Cancel

6. Next, open the render parameters on the same screen, adjust the following settings and close the screen by clicking OK.

Depiction	Render		
Intensity	100 %		
Parameter	good 🗃		
Render paramet	ers	×	
Parameter	good 🗸 📕	Radiosity	
Settings		Intensity	40
Mirroring, F	Refraction 🛛 Texture filter	Quality	Preview ~
🗹 Bump map	ping	Daylight	outside \checkmark
Use high re	solution textures	Use all windows	
Edge smoothi	ng good ·	Quality	
Image cut-out	total scene	Resolution Disp	olay quality \sim
Refresh aut	omatically	% 100	
Lighting		Pixel 149	7 🛉 📑 808 🔺
Shadow	0% 100%		
Light intensity	100		Cancel

- 7. Close the main screen with OK. The view will be calculated.
- 8. Load the "South façade" view onto the screen.



WORKSHOP END

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South façade



The view can continue to be enhanced with 2D library parts.



You can use this button to determine whether, for the view, a solid image or render image is defined or not, in addition to the lines.

Hidden line

Only lines are displayed.

Solid

The colour surfaces are added to the background of the line display.



Render

The render image is added to the background of the line display.

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DEFINE CUT-OUT

If you right-click in the view, a menu item "Define cut-out" appears or, if one is already present, "Modify cut-out " and "Remove cut-out ".

.

Define cut-out	Modify cut-out	Remove cut-out

The function "Define section" determines an area to which the visibility of the view is restricted. Partial areas can therefore be defined from larger views. If you click "Modify section" the handles of the limitation framework become visible on which the section can be changed. Click "Remove section" to delete the limitation framework.

V V V V WORKSHOP

1. Load the "South façade" view onto the screen.



2. Right-click in the view and select the point "Define cut out".



3. Drag the rectangle across **P1** to **P2**.



4. Delete the 4 view lines with the function DELETE SEGMENT.

This deletion generates a deletion line (blue) that continues to cover these lines and is not printed out.





5. Refresh view.



6. Save work copy [Ctrl]+[W]

WORKSHOP END



DEFINE PLOT

V V V WORKSHOP

1. Create new plot.

Viev	ı ×
4	😼 🖏 3D
\$	New section
P	New detail
	New plot view

Enter a name and the format and confirm with OK.

📧 New plot view	×
∡ General	
Name	Rendering
Template	Without 📂
▷ Format	A2
Orientation	Landscape
ОК	Cancel

2. Set plan edge.

In the menu click "LAY-OUT > FORMAT FRAME.



3. INSERT VIEW



Click on the "Exterior view" and then on OK.



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4. Set the view to the top left.



5. The view is too large. Load the model view "Exterior view".



6. Change the scale to 1:100.

1:1 1:2 1:5		and Medican		
1:2	8			
1:5				
1:10				
1:20				
1:25			The seat of the	
1:50		1		
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1:500	6	Caller a		
1:1000				
User				-
1:50			100 - 100 - 10	
1:50		cm	- A2	:

7. Load the plot view onto the screen.



8. PLACE VIEW



Insert the views "Interior view" and "South façade".

9. Align views.



Click on the view in question and position it. The function remains active and can be carried out for as long as required until it is cancelled with [Esc].



10. Save work copy [Ctrl]+[W]

WORKSHOP END

In the plot, the render images can also be combined with normal vector plans.



MODIFY SECTION (PLOT)

Within the plot it is also possible to work directly in the sub views.

```
V V V WORKSHOP
```

1. Load the plot view onto the screen.

View ×
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🖌 🗊 Ĕ Design model <rendering< td=""></rendering<>
Design-model views
Views
Sections
Plan views
Details
Plots
🖻 🖃 🖻 Rendering

2. Double-click on the limitation framework of the south façade. The frame is highlighted red in this condition.

3. Right-click in the view and select the point "Modify cut-out".



4. Widen the view using the handles created and align with the others.





5. Update the view within the plot. If need be, execute the radiosity update.



6. To deactivate the view, either left-click outside this view in the plot or click on the name of the plot in views management.



WORKSHOP END



CALCULATE FINAL IMAGES

The quality of the images can be adjusted to your requirements. Do not set the quality unnecessarily high while working. Only do so before rendering the final image.

Be also advised to lower the quality of the images when editing the project for long periods, and to increase it again when you are finished.

The level of quality that can be set depends on your computer and its RAM. The size of your model is also a factor. If an image can no longer be calculated, a message appears on the screen. If this happens, the quality must be lowered.

In the CAD_Object6 example file, the quality is set to half of that in the description for space reasons on the DVD.

V V V V WORKSHOP

1. Load the model view "Exterior view". Ensure that the image is rendered.

View ×
🕞 🔻 🧏 🖳 3D
🔺 🗊 📔 Design model <rendering< td=""></rendering<>
Design-model views
🗊 🖻 Bottom view
E Exterior View

2. Access screen parameters, modify the following settings and then close the screen with OK.

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Render parameters	×	
		Radiosity Intensity 50 ‡
Settings		Quality Preview ~
✓ Bump mapping		Daylight vutside v
Use high resolution textures		Use all windows
Edge smoothing optimal	~	Quality
Image cut-out Cut-out	\sim	Resolution Print quality ~
Refresh automatically		DPI 300
Lighting		Pixel 2629 ★ 1419 ★
Shadow 0% 100%		OK Cancel
Light intensity 100	÷	

3. Refresh view. If need be, execute the radiosity update.



4. Do the same for the view "Interior view" as well.

5. For the "South façade" you reach the rendering parameters via the general screen parameters since the view is not a pure rendering. Set the same settings there as well but remain with the "Resolution" for image quality. Next, close both screens with OK.

2D 3D Raster 2Elements Edges standard Frame Text Surfaces Work plane Hatches Textures Marker Dimension Light Cross hair Arrows Light source Clipping Geo Shadow Camera lock Pixel Transparency 3D-Camera-lock Perspective Pixel hidden line Pixel hidden line	Image: Standard in the second stan	neter		×
Elements Edges standard Text Surfaces Work plane Hatches Textures Marker Dimension Light Cross hair Arrows Light source Clipping Geo Shadow Camera lock Pixel Transparency 3D-Camera-lock Perspective Pixel hidden line Shader P Shader filter good Shader filter good	Elements Edges Text Surfaces Hatches Textures Dimension Light Arrows Light source Geo Shadow Pixel Transparency Pixel Pisel Pixel hidden line Shader Shader Shader filter Shader filter Shader filter Shader filter Shader filter Jood	D-display	3D-display	Image - Help
Shader (P) Shader filter Skybox (P)	Shader Shader filter Skybox OK Cancel	2D Elements Text Hatches Dimension Arrows Geo Pixel Reference plan	□ 3D □ Edges standard ✓ □ Surfaces □ Textures □ Light □ Light source □ Shadow ♡ Transparency □ Perspective □ Pixel hidden line	 □ Raster ☑ Frame □ Work plane ☑ Marker ☑ Cross hair □ Clipping □ Camera lock
OK Cancel	ity Iution Display quality	Reference plan	Silhouette recognition 3D-Def-text Shader Shader	
	olution Display quality ~		OK Cancel	
	olution Display quality ~		UK Cancel	
el 4506 🔹 12370 🚖		ОК	Cancel	

6. Refresh view. If need be, execute the radiosity update.



7. Save work copy [Ctrl]+[W]

WORKSHOP END

```
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```

SAVE IMAGE

Rendered model views can be saved as an image file.

V V V V WORKSHOP

1. Load the model view "Exterior view". Ensure that the image is rendered.

View ×
🕞 🛛 🦻 🖏 3D
🔺 🗊 Ĕ Design model <rendering< td=""></rendering<>
Design-model views
DE Bottom view
E Exterior View

2. In the menu "File > File exchange" select the point "Write pixel format ".

Proj: <cad_object6> Struct:<sued> DXF/DWG</sued></cad_object6>	
File Edit View Insert Draw A Read IGES	
New Ctrl+N Write IGES	
Open Ctrl+O Read Ml	
Ti 🕰 Load work copy Write MI	
Show Write pixel format	
Save Ctrl+S Read point cloud	
Save as F12 Read terrain data	
Save work copy Ctrl+W Write VRML	
Send Write EliteVisual	F
Export Read IFC 2X3	
Create archive Write IFC 2x3	
Read archive BCF	
Project Read SAT	
Structure settings Write SAT	
File exchange	
Print Ctrl+P Write SketchUp	
Zoom-Plot Read 3DS	
Write 3DS	
Recently opened files	

3. The "Write pixel format" screen opens. Enter a file name and confirm it with "Save". The image will be saved in the selected folder as an image file.

R Write pixel format					×
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\$RECYCLE.BIN		27.02.2017 10:17	Dateiordner		
<		22.07.2046.00.42	B		>
Dateiname:	Exterior View				~
Dateityp:	JPEG files (*.jpg)				~
∧ Ordner ausblende	n		Save	Cancel	

4. Do the same for the view "Interior view" as well.

5. The procedure is slightly different for the "South façade". Since the view is not pure rendering and also contains lines, the resolution must be entered manually. Load the view "South façade" onto the screen and from the menu "File > File exchange" select the menu item "Write pixel format". Enter the pixel size as follows:

Write pixel format				
active image				
free size				
Width:	4000	Pixel		
Height:	1070	Pixel		
·				
ОК	C	ancel		

6. Right-click in the view and select the point "Print preview".

	Radiosity Update
4	Print preview
	Modify cut-out

7. Click OK to confirm the screen "Write pixel format". The "Write pixel format" screen opens. Enter a file name and confirm it with "Save". The image will be saved in the selected folder as an image file.

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∧ Ordner ausblenden		Save	Cancel	

WORKSHOP END

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----- TIP

For "Write bitmap" for normal views, always use the aspect ratio of the image.

PRINT

If colour gradient hatches or transparencies exist in plans, certain printer drivers may not print them as transparent. In this case, the option "Print in highest quality" must be selected in the SETTINGS menu > SYSTEM > CONFIGURATION.

```
V V V V WORKSHOP _
```

1. Load the plot view onto the screen.



2. Click on the PRINT symbol.



3. Print on format size A2:

Select the relevant printer or plotter, select the format under "Properties" and under "Range" select "Format".

Print					×
Printer					
Name:	Microsoft Print to	PDF		 Properties 	
Status: Type: Location: Comment:	Bereit Microsoft Print To PORTPROMPT:	PDF		 Plot Format detection Output to file 	
Range	●Format ○ Cut-out □ Modify □ 180° rotation	Scaling Factor X-offset [mm] Y-offset [mm]	1 0 0	Copies Number of copies:	
Options	Set plot	ter		OK Cancel	

4. Print on format size A3:

Select the relevant printer or plotter, select the format under "Properties" and under "Range" select both "Format" and also the "Modify" option.

Print		×
Status: Bereit Type: Microsoft Location: PORTPRO	Print to PDF Print To PDF MPT:	 Properties Plot Format detection
Comment:		Output to file
Range Format O Cut-out Modify 180° rota	Scaling Factor 1 X-offset [mm] 0 Y-offset [mm] 0	Copies Number of copies:
Options	Set plotter	OK Cancel

5. Save the file.

WORKSHOP END