

Welcome

Thank you very much for your interest in SiteMaster Elevation 2013. We would like to congratulate you on the acquisition of this extraordinary product. SiteMaster Elevation 2013 is the ideal software for a simple and precise analysis of your digital photos.

This innovative method allows you to directly calculate the dimensions of distorted photos. Distortions are typical for freehand photos or scanned paper illustrations. With one or two reference dimensions you can process the digital photo without any rectification. SiteMaster Elevation is not just easy and fast to use, but also very precise.

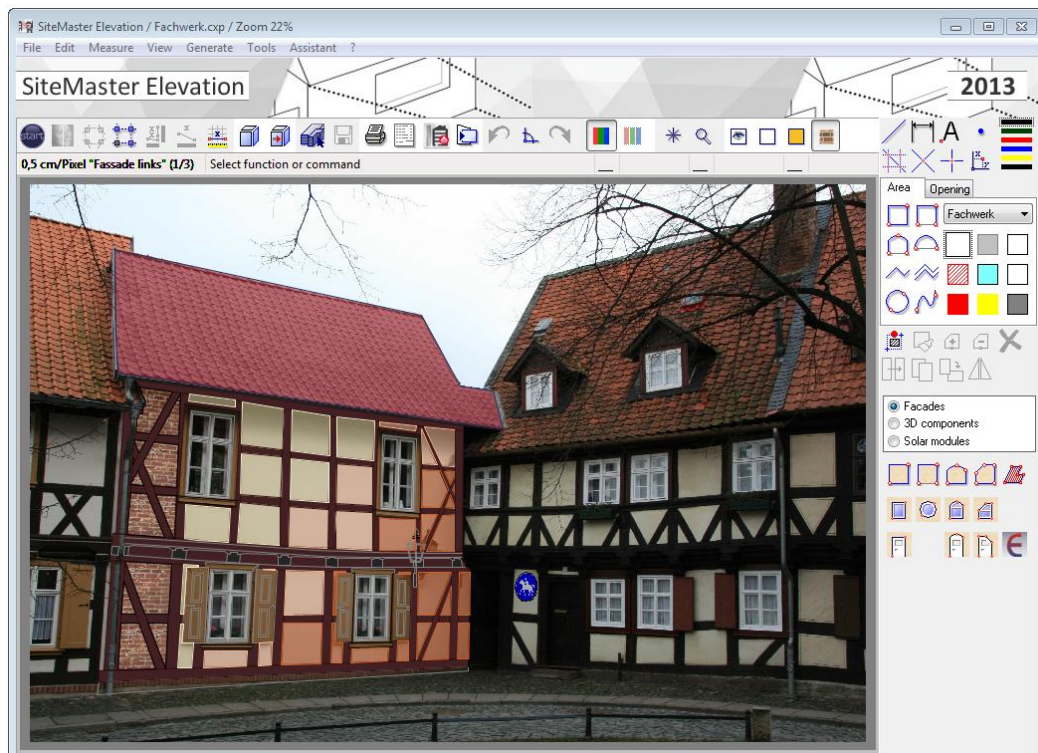
Whether you want to create drawings of facades, color variants, maps of damages, record ground plans in a three dimensional manner, assemble images or plan solar modules - SiteMaster Elevation 2013 always is the right tool.

We wish you much success for your work with SiteMaster Elevation 2013!

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Content

1 Explanations on the manual	4
2 Installation.....	5
2.1 System requirements	5
2.2 Install SiteMaster Elevation 2013	6
2.3 The first start.....	6
2.4 Demoversion.....	6
2.5 activate/release SiteMaster Elevation 2013.....	7
2.5.1 Internet activation.....	8
2.5.2 Email activation.....	8
2.5.3 Fax activation	9
2.6 Transmit activation	10
3 Interface	11
4 Control.....	12
4.1 Mouse control.....	12
4.2 Zoom buttons.....	12
4.3 Selection	13
4.3.1 Single and multiple selection	13
4.3.2 Display control	14
4.4 Representation modes	14
4.5 Orthogonal mode.....	15
4.6 Undo / redo	15
5 Basic functions.....	16
5.1 Snap functions	16
5.2 Geometric functions.....	16
5.3 project features.....	17
5.4 Element features.....	18
6 The assistant.....	19
6.1 Structure.....	20
6.2 Create project	21
6.3 Load project	25
6.4 Load example.....	25
7 Load image	26
7.1 Adjust image	27
7.2 Hide image.....	28

8 Lens correction	28
9 Measuring plane	28
10 Calibration	28
10.1 1-value calibration.....	28
10.2 2-value calibration.....	28
10.3 Plan calibration	28
10.4 Calibration change	28
10.5 Calibration management	29
11 Working areas.....	30
11.1 General drawing functions	30
11.1.1 Construction.....	30
11.1.2 Surfaces and openings.....	31
11.1.13 Automatic surface finder	33
11.1.4 Element transformations.....	34
11.2 Facade	35
11.2.1 Elements	35
11.2.2 Energieberater Export	36
11.3 3D Components	39
11.3.1 Elements	39
11.3.2 3D preview.....	41
11.4 Solar modules	41
11.4.1 Elements.....	41
11.4.2 Module library.....	43
2. Assign image:	45
11.4.3 Solar report.....	49
12 Reports	51
12.1 Report list	51
12.2 CAD Export.....	52
12.3 Image rectification	54
12.4 Printing	56
14 Shortcuts	57

1 Explanations on the manual

The manual is based on the SiteMaster Elevation version 2013 and shows how to use the software and work with it.

The software and hardware names as well as brand names of the respective companies are generally protected.

All the information and programs indicated in this manual have been carefully acquired and/or compiled by the authors and reproduced in compliance with effective check measures. Nevertheless errors can never be totally excluded.

Graebert CAD ANYWHERE would like to point out that the company does not assume any liability, guarantee or legal responsibility for consequences occurring.

Please feel free to inform us about possible errors.

Colour shaded texts	contain further explanations.
[Buttons]	are in bold type and square brackets.
[F2]	keyboard functions are in bold type, blue and in square brackets.
<i>File – Open Project</i>	menu commands are bold and italic.

2 Installation

2.1 System requirements

Minimum requirements	PC, Notebook, Tablet PC, Netbook
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Operating system	XP / Vista / Windows 7
------------------	------------------------

Hard disk capacity	400MB
--------------------	-------

Screen	1024x768 pixles with at least 16 Bit color depth
--------	--

Processor	at least 1 GHz
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Main memory	at least 512 MB RAM
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Empfohlene Ausstattung	PC, Notebook, Tablet PC
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Operating system	XP / Vista / Windows 7
------------------	------------------------

Screen	1280x1024 pixles with at least 16,7 Mio. Colors
--------	---

Processor	multicore/singlecore processor with at least 3 GHz
-----------	--

Main memory	2 GB RAM
-------------	----------

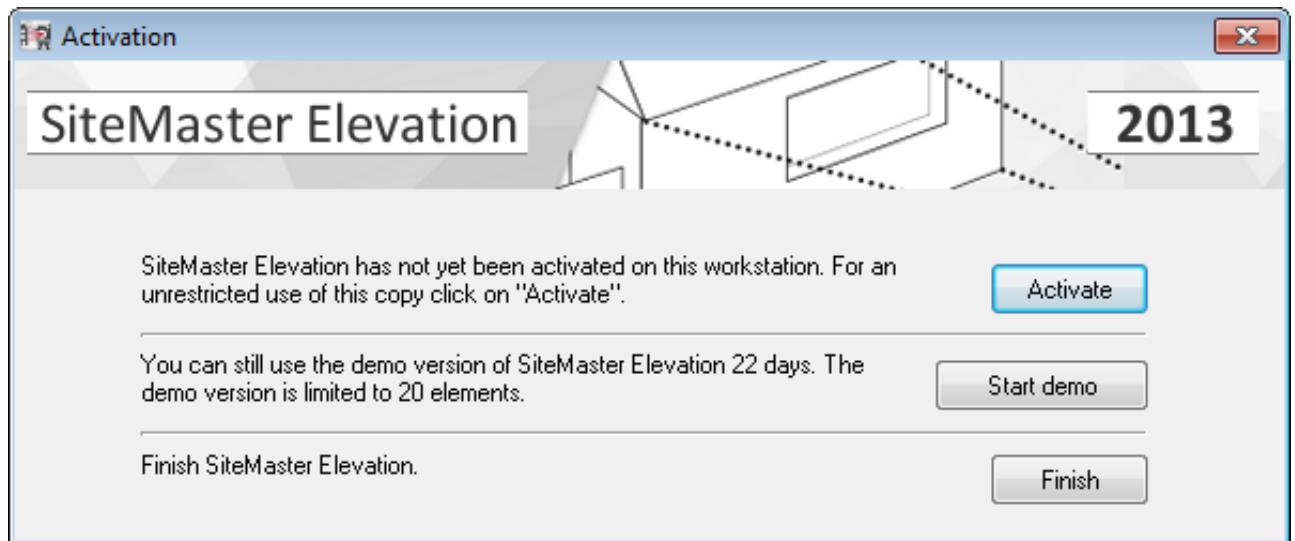
2.2 Install SiteMaster Elevation 2013

After starting the installation file the Wizard will guide you through the setup process.

Within the installation routine, the user information will be requested. Please enter your user name and your company/organization identification in the corresponding dialog field.

2.3 The first start

You start SiteMaster Elevation 2013 by clicking on the desktop icon or under **Start – All programs – Graebert – SiteMaster Elevation 2013**. The following dialog will appear:



2.4 Demoversion

After the installation SiteMaster Elevation 2013 can be used 30 days in the demo mode. The number of drawing elements is limited to 20. The demo version is especially marked during the image rectification and in the reports. The enveloping surface is not available in the demo mode.

Click on [**Start demo**] to test SiteMaster Elevation 2013. The activation reminder appears at each start of the program.

2.5 activate/release SiteMaster Elevation 2013

If you purchased a license for SiteMaster Elevation 2013, you can activate the program permanently. For this purpose, click on **[Activate]**.

The following dialog will appear.

The screenshot shows a Windows-style dialog box titled "SiteMaster Elevation 2013 activate". It contains five numbered steps for activation:

- 1. Enter serial number:** Four text boxes, each containing "w92l", separated by hyphens. This entire row is enclosed in a red rectangle.
- 2. Check serial number:** A "Check" button.
- 3. Transmit product code:** Three radio buttons labeled "Internet" (selected), "Email", and "Fax". To the right is a "Request activation code" button and a large empty text area. The "Product code" text is to the right of the "Request activation code" button. A green rectangle highlights the product code text "mjtW99d89dx8mag0qn0cimcb59bq".
- 4. Enter activation code:** A single text box with a cursor, enclosed in a black rectangle.
- 5. SiteMaster Elevation activate:** An "Activate" button and a "Finish" button.

The shown serial number is only for illustration purposes and can't be used for activation.

The activation is done according to the following principle:

1. Enter the serial number (red rectangle)
2. Verify the serial number
3. Transmit the product code (green rectangle)
4. Enter the activation code (black rectangle)
5. Activate SiteMaster Elevation 2013

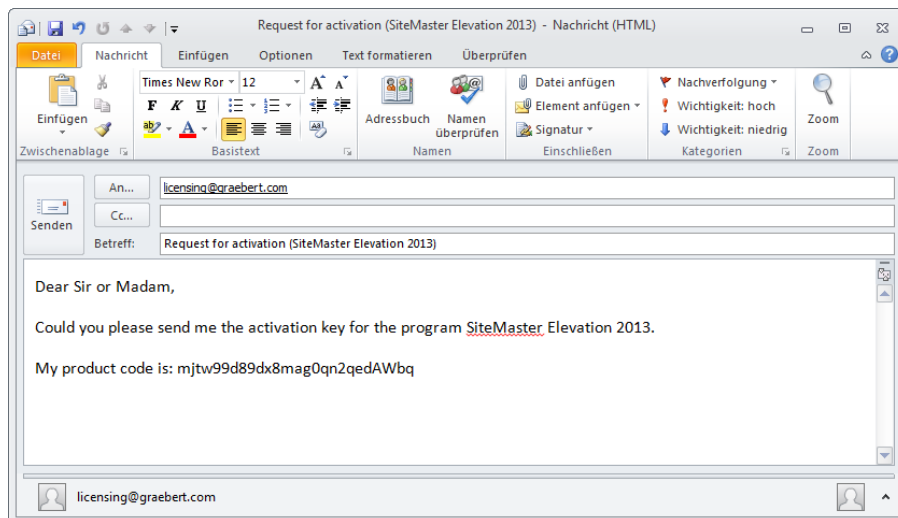
After the verification the product code is shown. It can be transmitted on three different ways.

2.5.1 Internet activation

The activation via internet is the most effective way of activation. The product code is transmitted to the authentication server and the activation code is received. With this method SiteMaster Elevation can be activated immediately and at any time.

2.5.2 Email activation

In case of the email activation the standard email program with a prepared email will be started. This email will be sent and you will receive the activation code per email answer. This method allows to activate SiteMaster Elevation during the normal business hours from Monday to Friday within a few hours.



2.5.3 Fax activation

For the activation per fax, a fax number to which the activation code is to be sent is required. After clicking on [**Request product code**] an HTML page is generated and opened in the standard browser. Print this page and send it per fax to the number indicated. The activation code will be sent back per fax and is to be entered in the field 'Enter activation code'. This method allows to activate SiteMaster Elevation during the normal business hours from Monday to Friday within a few hours.



The screenshot shows a web browser window with the following content:

FAX +49 (0)30 896903-12

Activation request

SiteMaster Elevation 2013

Dear Sir/Madam,

I would be extremely grateful if you could please send me an activation code for my version of On-Site Photo 2010. Please use the following fax number:

Fax number:

Product code: mjwtw99d89dx8mag0qn0cimcb59bq

Activation code: _____

When the activation code has been entered the software will be activated by clicking on [**Activate**]. All functionalities of SiteMaster Elevation 2013 will be available then.

2.6 Transmit activation

The activation can be transmitted from one computer to another one. The button **[Annul activation]** is found in the menu Help-About. The license is deactivated and transmitted to the activation server.



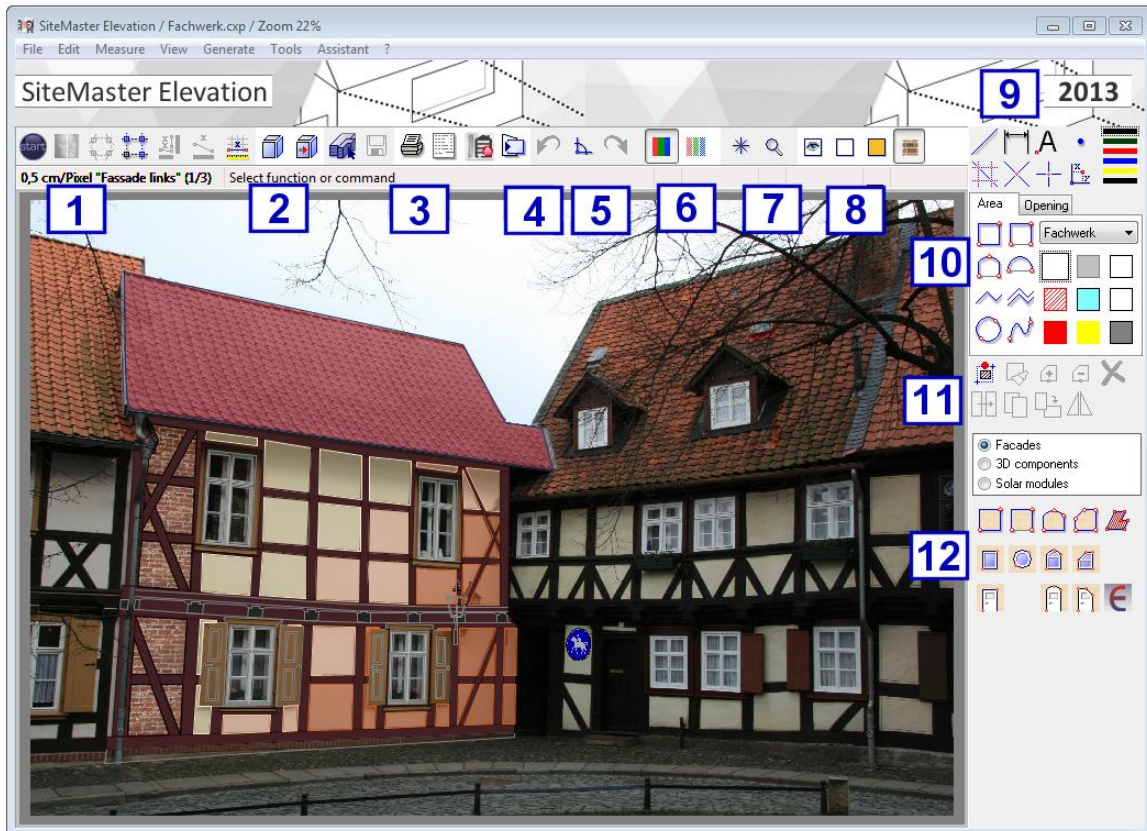
click **[OK]**

The annulled activation has been transmitted to the activation server. SiteMaster Elevation will be automatically closed.

Then the license can be transmitted to any computer by activating it. The prerequisite for the transmission of activations is the identical serial number of the SiteMaster Elevation versions installed.

3 Interface

The SiteMaster Elevation user interface is structured similarly to a standard Windows application. In the title bar of the window the program name, the loaded image or project file and the current zoom are displayed. The menu contains all SiteMaster Elevation commands. The buttons in the upper and right border area allow to select the most common functions.



The areas marked with blue numbers have the following meaning:

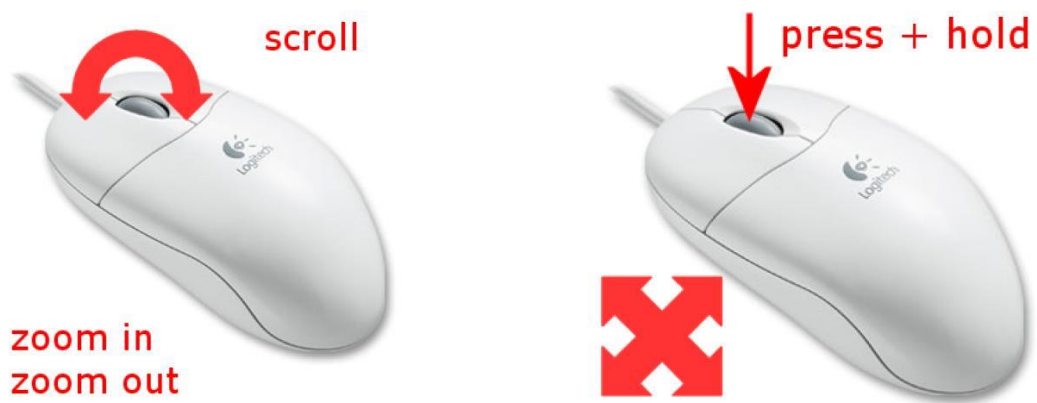
- 1 Assistant, image processing, Lens correction, Measuring plane and Calibration calibration management, shift across the calibrations**
- 2 Load and Save project**
- 3 Printing and Reports (CAD Export, image rectification, Excel)**
- 4 Redo and Undo, restore**
- 5 Orthogonal mode on/off**
- 6 Saturation**
- 7 zoom functions**
- 8 Display mode**
- 9 Construction elements**
- 10 Surface- / opening mode with mappings**
- 11 Element transformations**
- 12 Workspaces with specific elements**

4 Control

4.1 Mouse control

SiteMaster Elevation 2013 can be comfortably controlled by a mouse:

1. With the **left mouse button** you can select commands, drawn the image and select elements.
2. By scrolling the **mouse wheel** the display window can be enlarged or reduced depending on the scroll direction.
3. If the **mouse wheel** is pressed and held down, the display window can be moved.



In case the wheel's zoom function does not work properly, please check the mouse driver and the driver's settings.

4.2 Zoom buttons

As some users do not want or are unable to work with the zoom functions on the mouse wheel, the zoom in SiteMaster Elevation 2013 can be controlled using buttons.



Zoom of a window by clicking on two diagonal points



Every pixel equates to a pixel of display (100%).

4.3 Selection

4.3.1 Single and multiple selection

If there is no active command, you can individually select elements on the drawing surface using the left mouse button.

If there are several surfaces on top of each other, SiteMaster Elevation 2013 will always select the smallest surface. The status bar provides information on the selected element.

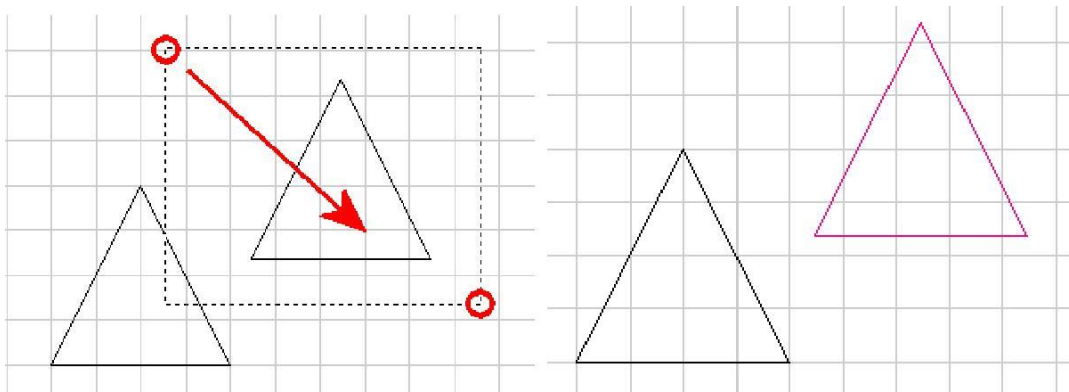
If you press the **[CTRL]** key during selection, several elements can be selected and already selected elements can be deselected.



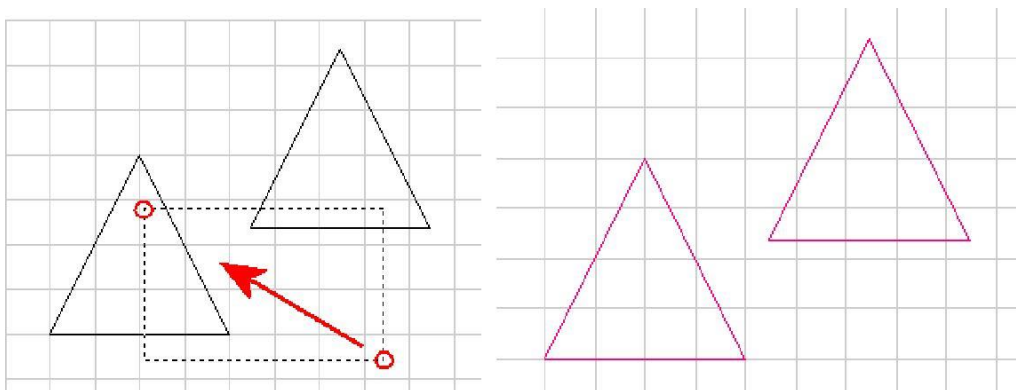
There is another option to select single or multiple elements in SiteMaster Elevation 2013: the rectangular selection.

There you create a rectangle consisting of 2 diagonal points. Depending on the selected points the function will select different elements.

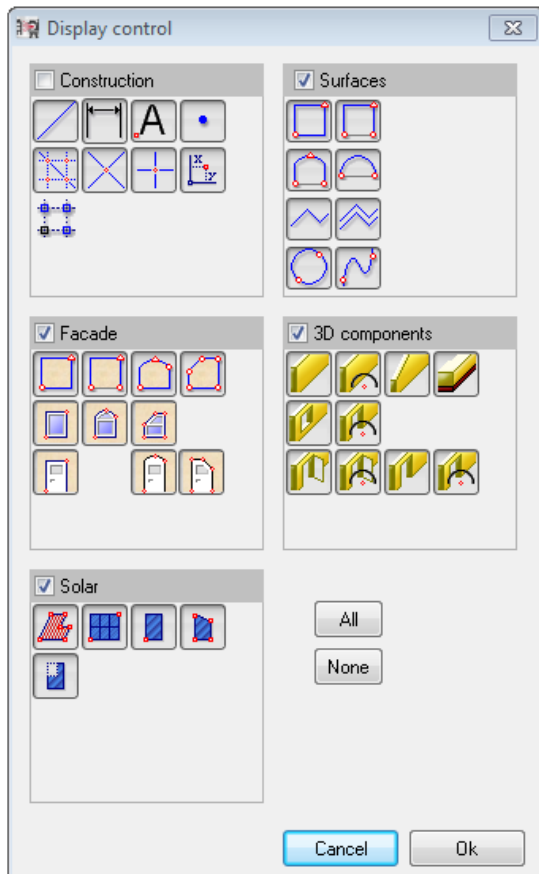
If the cut-out is made from left to right every element will be selected that is completely in the cut-out.



If the cut-out is made from right to left every element will be selected that is touched by the cut-out.



4.3.2 Display control




The display control gives an overview of the drawn elements. Furthermore, it can be selected which of the marked elements are to be displayed.

The selected elements will be listed in the report and are available for CAD export. The default setting shows all elements.

This selection controls the display of the elements only.

4.4 Representation modes

The display of the drawn elements is controlled by the selected representation mode:

 Line mode

In the *Line mode*, the frames of the drawn elements are displayed without surface fillings. In order to draw holes (openings) into surfaces it is recommended to change to the line mode. An automatic change can be activated and deactivated in the program settings (see Program settings).

 Color mode

In the *color mode* the drawn surfaces are displayed with the selected mapping features (border color and surface filling).

 Texture mode

In the *texture mode* the drawn surfaces are displayed with the selected texture.

4.5 Orthogonal mode



The orthogonal mode is an important function for paraxial drawing. After the program start it is automatically activated. The orthogonal mode is activated or deactivated with the button.

During an active drawing command the orthogonal mode can be switched over with the right mouse button. The effect can be immediately seen when the cursor is moved: In the orthogonal mode the next point can only be set in two directions, without orthogonal mode in any direction.

4.6 Undo / redo



Executed commands can be gradually undone with each click on this button. The corresponding selection list contains the last actions to be undone.








Undone actions are restored as long as no new actions have been added.

In case of active drawing commands, points already set are deleted and restored.

5 Basic functions

5.1 Snap functions

The SiteMaster Elevation 2013 snap functions offer a dynamic preview and facilitate the construction work. The following symbols are displayed when the mouse cursor points at one snap point for at least 50 milliseconds:

Snap point	Symbol	Remark
End point		snap on line or edge arises between construction lines
Central point		
Next point		
Intersection point		
Perpendicular		

5.2 Geometric functions

The element construction is supported by *Dynamic auxiliary construction lines*. If this program setting has been selected, (see Program settings), the drawing commands will generate horizontal, vertical and 45/135° auxiliary lines with each click point. Dynamic auxiliary construction lines form intersections with manually drawn construction lines.

If, for example, facades are redrawn, the window openings are to be adjusted vertically or horizontal to each other. For that, construction lines can be drawn to make the alignment or temporary construction lines can be created by pressing the keys **[F2]** and **[F3]**. 'Temporary' means that the lines are automatically deleted if you cancel or exit the drawing command.

In case of a high zoom level, a light spot is generated at the cursor, the so-called *Precision cursor*. The precision cursor exactly shows the point in which the next element will be generated. It can be adjusted in the program settings, from which zoom level on this precision cursor is to be displayed (see program settings).

When elements are drawn, boxes with information on the distance (in the selected unit) from the starting point set to the current cursor position are displayed at the cursor. This length information supports the element drawing with defined measures. The display of the mouse hints can be activated or deactivated in the program settings.

5.3 project features

Project features

Image name

Fachwerk.jpg

Image dimensions / file size

3888 x 2592 Pixel / 1002 kB

Image path

C:\Program Files\Graebert\Sitemaster Elevation\2013\project documents\

Project name

Fachwerk.cxp

Project path

C:\Program Files\Graebert\Sitemaster Elevation\2013\project documents\

Calibration (s)

	Name	Number elements
1	Fassade links	222
2	Dach links	1
3	Verkerszeichen rechts	1

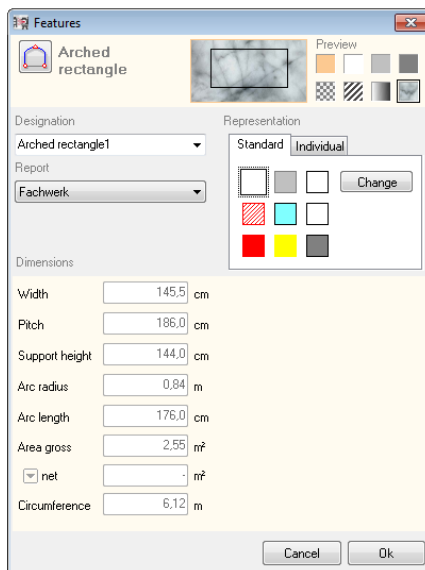
active calibration

1 - Fassade links

Finish

In the project features, information about the image and project are listed. Furthermore, all calibrations are represented with the respective designation and the number of elements.

5.4 Element features



The element features are opened by a double click in the element. The number of element features varies according to element type and work area. All elements features are shown and can be changed.

The element type is presented automatically and the label (name) of the element can be modified.

Representation (mapping)

The element has been provided with a mapping. Another mapping type can be selected in the list and assigned. A mouse click (right) into the dialog box Representation allows to change the mapping features.

To change a default mapping right click the mapping and select a new color, model or texture. In addition it is possible to provide every element with a individual mapping.

Evaluation

Surfaces can be assigned to groups. Surfaces of one group will be grouped together and summarized in the report

Wall type

For the 3d components you can additionally determine a wall type. This allows to select if the wall is a constituent-, new- or demolition- element.

Dimensions

The dimensions of the elements are shown and can be partially edited. (e.g. length and width of a rectangle can be manually entered).

6 The assistant

The Assistant allows a guided handling with images and plans for the use in SiteMaster Elevation 2013. It is automatically started at program start and can be closed at any time using the button [**Close Assistant**].

The Assistant guides the user to image and plan editing, lens correction, adjustment of the measuring plane and calibration. Subsequently, the plan / image can be measured by redrawing in SiteMaster Elevation 2013.

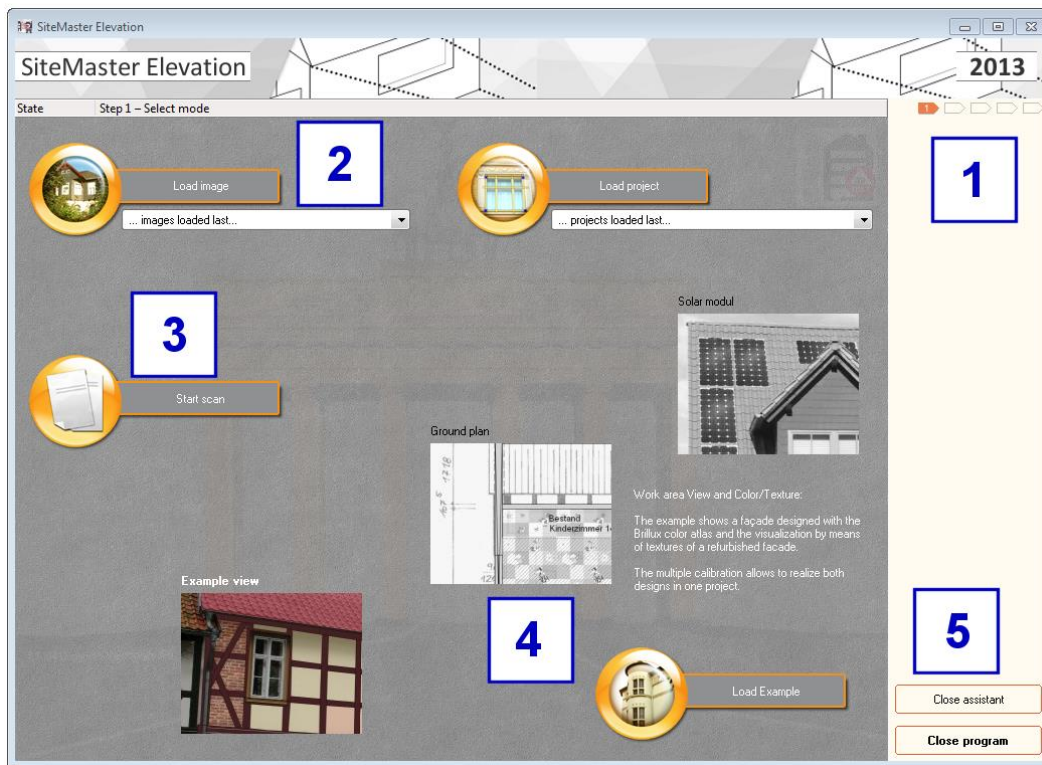
A progress bar in the upper right area indicates which steps have been carried out. There are four steps for images: image transformations, lens correction, adjust measuring plan, and calibration. There are two steps for plans: image transformations and calibration.



The Assistant can be accessed at any time using the button in the main program or via the menu item **Assistant**.

The Assistant can be switched on and off in the main program using the menu **Tools - Settings - Program - Use Assistant**. In case the Assistant is deactivated, the Load image button instead of the start button for the Assistant will appear in the main program.

6.1 Structure



The areas marked with blue figures have the following meaning:

- 1 **Progress bar**
- 2 **Images and projects loaded last**
- 3 **Load new project via image or start scan**
- 4 **Load examples**
- 5 **Close Assistant and SiteMaster Elevation**

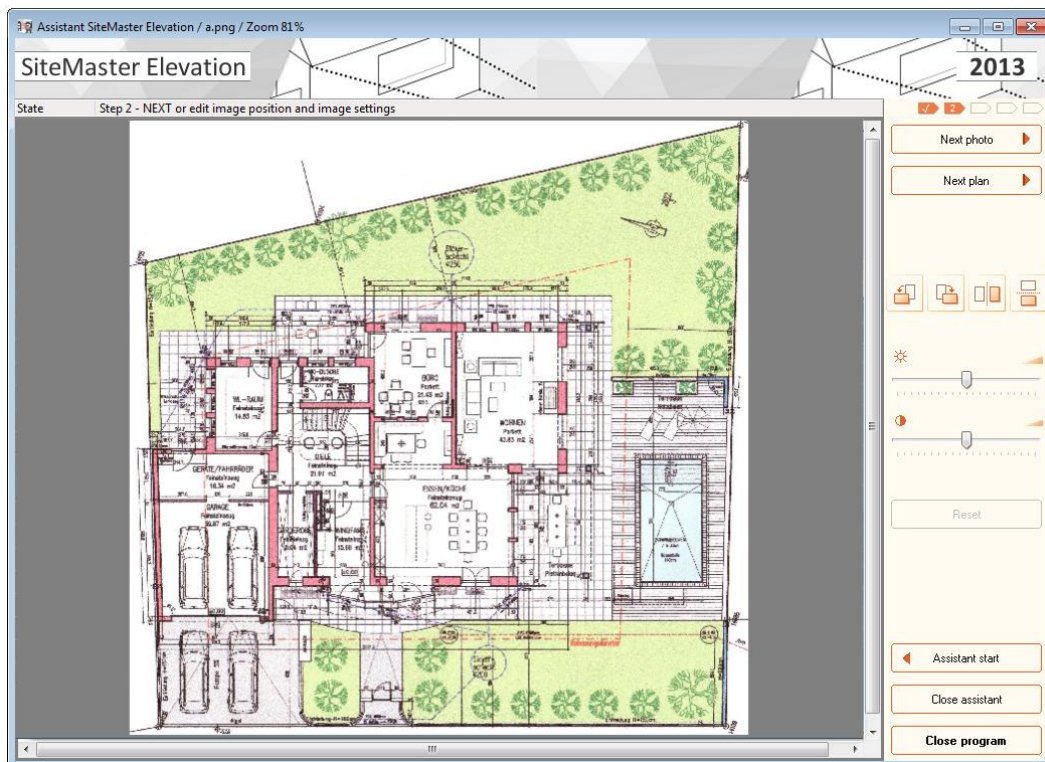
6.2 Create project

New projects can be created by loading an image from any medium or by scanning and transferring images or plans from a scanner.

When clicking on the button **[Load image]**, a dialog will open and the desired image can be selected and transferred to the Assistant.

When clicking on the button **[Start scan]**, the scanner will be selected. Then the scanned image is saved and transferred to the Assistant.

In the next step, the image can be edited. The brightness and contrast can be changed using sliders, and thus adjusted as desired. All changes can be undone by clicking on the button **[Reset]**.



Each click on the button allows to rotate images by 90° to the right or left.



rotates the current image by 90° to the left



rotates the current image by 90° to the right

It is also possible to mirror images. For this purpose, a horizontal and a vertical axis are distinguished.



mirrors the image at the horizontal axis

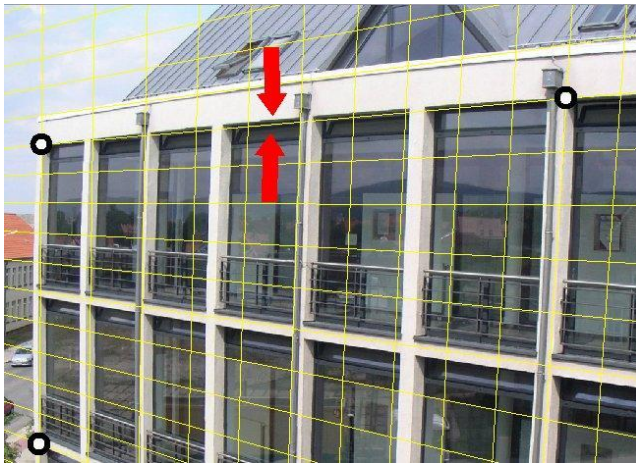


mirrors the image at the vertical axis

Depending on the start, the user can then either work on the image or the plan. In case it is not the correct image, clicking on the button [**Assistant start**] allows to return to the initial screen of the Assistant.

The lens correction is an optional editing step as only some images have a significant curvature. If, for example, a construction line does not correspond to the edges of a building, a lens correction is recommended.

Photos taken with digital cameras can contain distortions which let straight object edges appear with bulges in the image. The following photo shows a significant distortion.



These distortions are caused by camera lenses. They become more significant the smaller the distance between object and photographer is (maximum camera angle = smallest focal length).

Furthermore, the camera model has an influence on the distortion because certain optical devices increase or reduce this effect. Distortions can affect the precision of the reports and thus are to be corrected, if necessary.

A click on the button [**Lens correction start**] allows to start the command. The step size for the curve can be continuously adjusted within the correction. It can be adjusted using the slider. Also a click on the following buttons will curve the image.

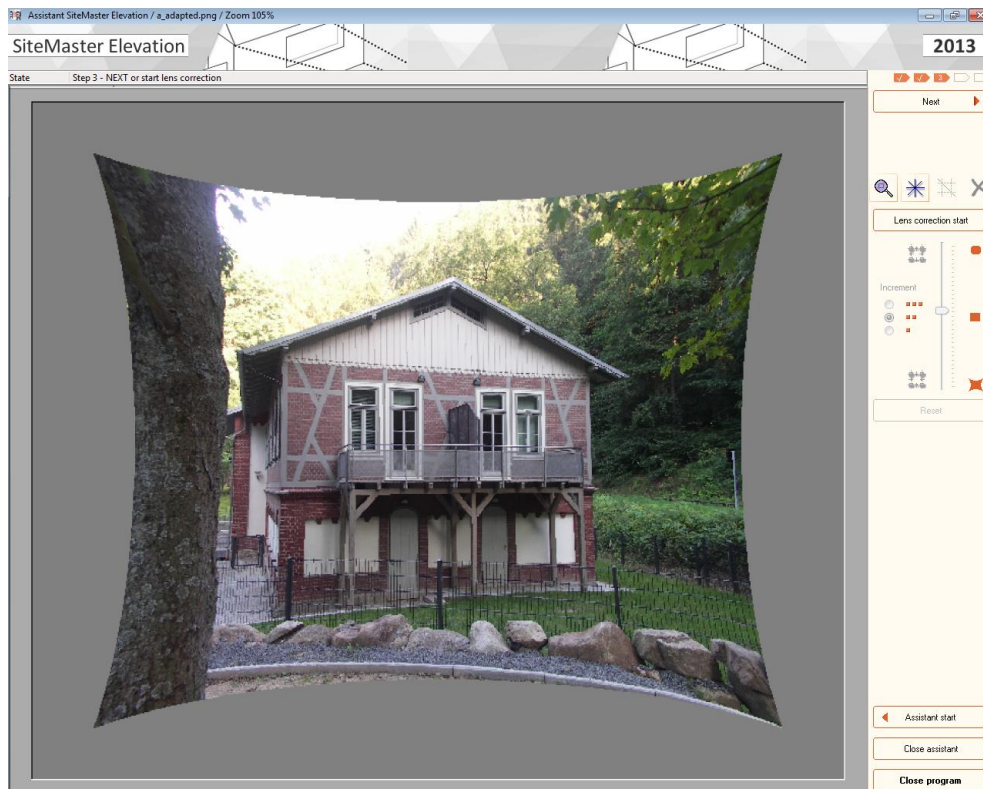


A click on this button increases the curve.



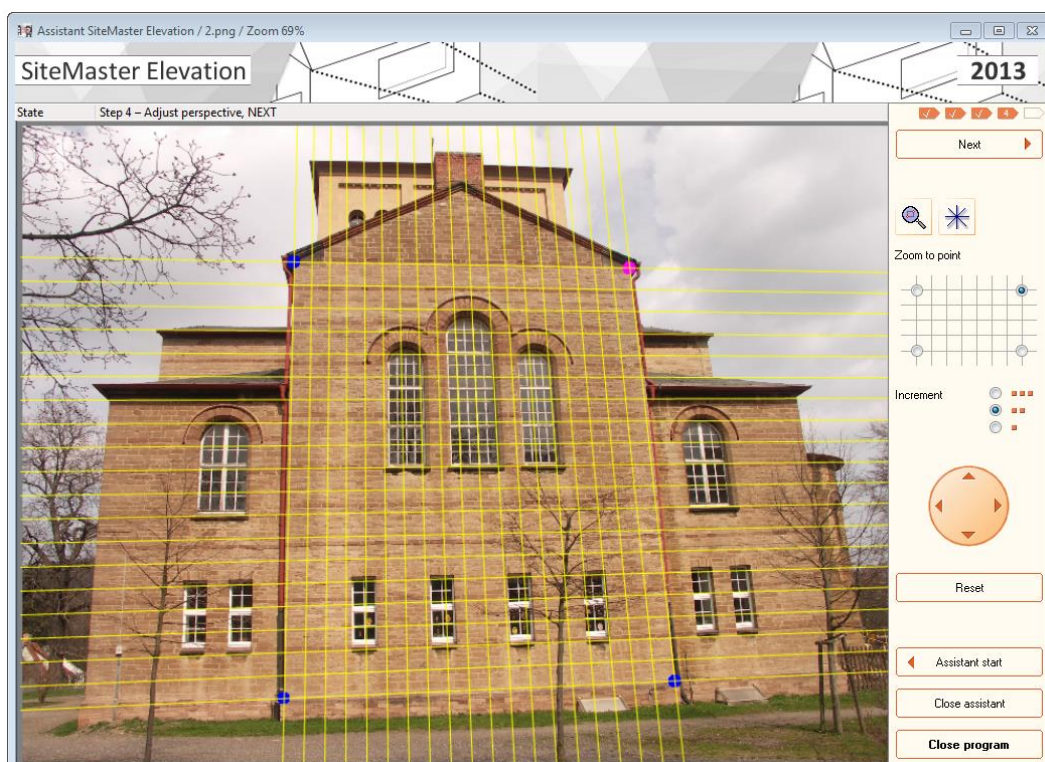
A click on this button reduces the curve.

By clicking on the button [**Reset**], all changes can be undone. The button [**Apply**] applies the adjusted correction parameters and calculates and corrects the lens error. The next step is the adjustment of the measuring plane.



The measuring plane is a grid of horizontal and vertical grid lines and adjusts the perspective of the image plane to be measured. The measuring plane is automatically placed on the image. The four points are at the same time the touch points of the measuring plane.

The touch points allow to move and adjust the measuring plane with the mouse (click on point and move with pressed left mouse button), the cursor keys (press the arrow keys) or the corresponding buttons. The grid lines are moved and adjusted until they are identical with the horizontal and vertical edges of the image.



A pixel-accurate orientation of the measuring plane can be performed by shifting between the touch points using the **[TAB]** key or the corresponding corner point in the grid in the vertical panel.

By clicking on the button **[Reset]**, all changes can be undone. The button **[Apply]** applies the adjusted correction parameters and calculates and corrects the lens error. The next step is the calibration.

Establishing the dimensional reference between the object (e.g. building) and the image is called calibration. SiteMaster Elevation 2013 has been provided with three calibration methods explained below.

Plan calibration is a recommendable calibration method for scanned plans without paper distortion. This method generates a grid, and the dimensional reference is established as follows:

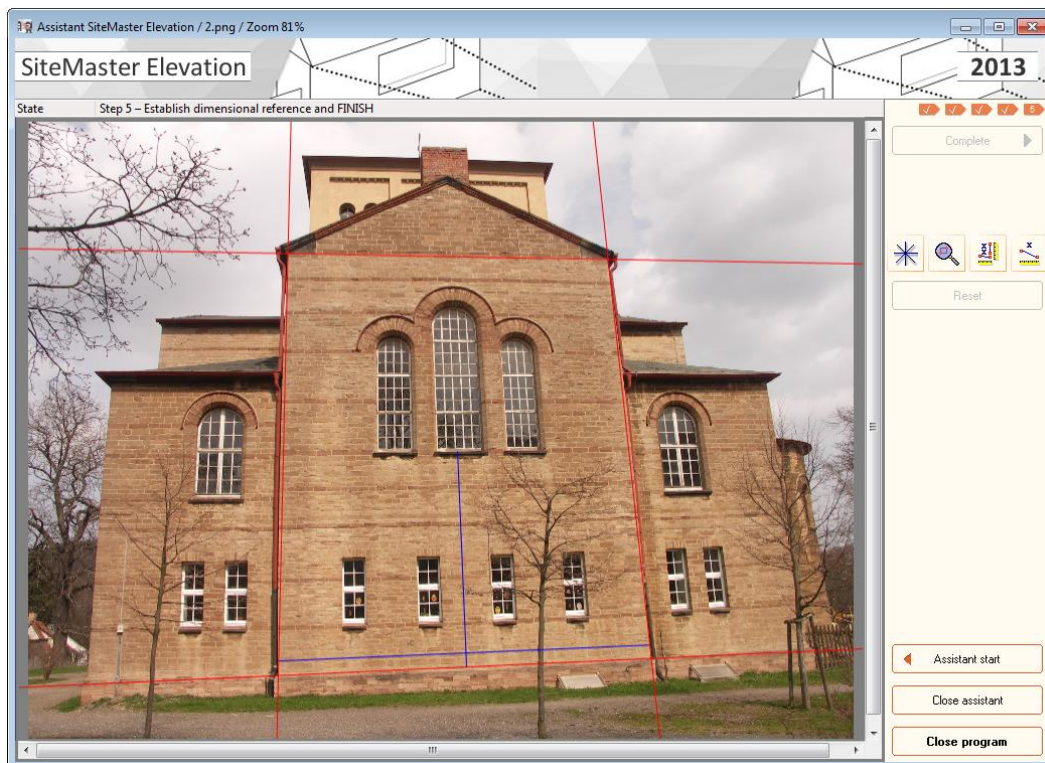
1. Draw an arbitrary reference length
2. Enter a calibration value

SiteMaster Elevation allows to establish a dimensional reference to surfaces that are difficult to reach, e.g. roof surfaces, using the calibration with a reference dimension.

First, the reference length (optionally horizontal or vertical) is drawn by clicking on the start and end point. Then the calibration value is entered via the keyboard and confirmed by a click on **[OK]**.

During the calibration with one reference dimension the second reference dimension is calculated by the program. The calculated reference dimension can differ from the actual reference dimension. The calibration with two reference dimensions is more accurate.

The precision calibration establishes the dimensional reference by entering two reference dimensions. The horizontal reference length is drawn by clicking on the start and end point. Then the horizontal calibration value is entered via the keyboard. In the next step, the vertical reference length is drawn by clicking on the start and end point. Subsequently, the vertical calibration value is entered via the keyboard.



The button [**Finish**] allows to transfer the plan / photo to the program to be edited further.

6.3 Load project

By clicking on the button [**Load project**], a dialog allowing to select a project from any medium will open. The selected project is then available in SiteMaster Elevation 2013.

6.4 Load example

Three examples have been provided. By clicking on the images, descriptions of the examples are shown. Select an example and press the button [**Load example**]. The selected example is then available as a project in SiteMaster Elevation 2013.

7 Load image

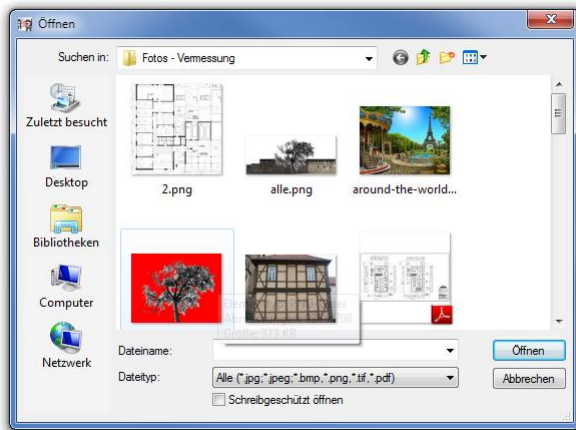
The output data for SiteMaster Elevation are digital images. They are generated by a digital camera or a scanner. SiteMaster Elveation can process the following formats:

JPG JPEG - JIFF compatible

PNG Portable Network Graphics

TIF Tagged Image File Format

BMP Windows/OS2 Bitmap

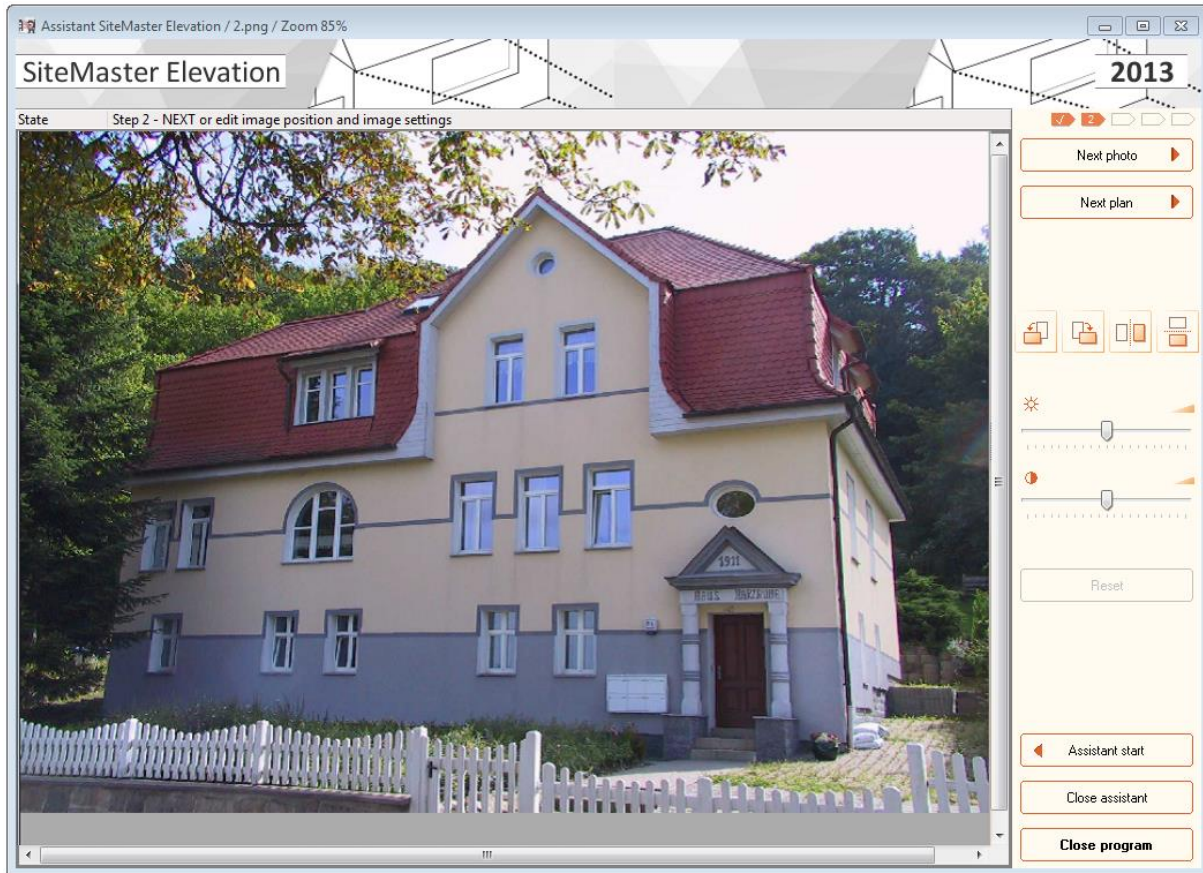


The resolution of the selected image is displayed above the preview window. JPG and BMP files are shown in the preview window. The image resolution is shown above the preview window. A double click on the selected image or a click on **[Open]** allows to load the image.

The preview can be enlarged by double-clicking on the preview image.

7.1 Adjust image

When clicking on the button **[adjust image]** the following dialog appears:



The contrast and brightness of images can be changed using the two sliders. Besides, the orientation of the image can be changed. It can be rotated and/or mirrored.



rotates the current image by 90° to the left



rotates the current image by 90° to the right



mirrors the image at the horizontal axis



mirrors the image at the vertical axis

7.2 Hide image

The optical contrast between the image and the drawn elements can be increased by the 'reset' of the image. These buttons allow to directly select the image contrast:



Original image 100%



Hide image: Saturation 33%

8 Lens correction

see Assistant - Lens correction

9 Measuring plane



see Assistant - Measuring plane

10 Calibration

see Assistant - Calibration

10.1 1-value calibration



see Assistant - 1-value calibration

10.2 2-value calibration



see Assistant - 2-value calibration

10.3 Plan calibration



see Assistant - Plan calibration

10.4 Calibration change

A click on the button **[Change calibration]** allows to switch between the calibration planes. The current calibration plane is shown in the status bar. When changing to another calibration plane, only the active plane is displayed. Additional planes can be added in the calibration management (visible, active).

10.5 Calibration management

In the calibration management, all calibrated image planes are listed. A click on the button **[Calibration management]** opens the calibration management.



The dialog contains the following information on controlling the work with several calibrations:

The designation of the calibrated plane

A double click on the standard designation e.g. 'Calibration 1' allows to enter a name for the calibration, e.g. 'Facade right'. A distinctive name for the calibration enables a quick navigation through the different calibrations of a project.

The elements

Die Anzahl der gezeichneten Elemente innerhalb der Kalibrierungsebene wird gelistet.

The visibility

If a calibration has the status visible, the elements will be displayed in the line mode. This gives a clear overview of the calibrations in the project during the work in the current calibration. The visible elements cannot be modified.

The type

The method used to establish the dimensional reference is displayed.

The calibration values

The calibration values are displayed for the selected calibration plane and can be edited. The values for the X and Y direction can be changed by clicking on the button **[Change width and height]**.

11 Working areas

11.1 General drawing functions

11.1.1 Construction

General drawing functions can be accessed at any time after a successful calibration.



The line is a straight line between starting and end point.



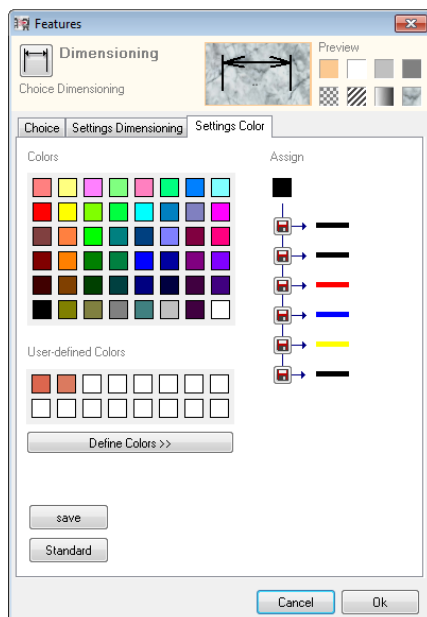
Image elements and drawn elements can be measured. For this purpose a dimension line with a measured value is drawn. The distance to be measured is defined by clicking the start and the end point. A third click point marks the distance between the object and the dimension line. The dimension figures can be transmitted to Excel via the Excel online interface. Thus individual calculations can be generated. The image can be printed with the dimensioning.



The text function allows to individually label the marked elements. The command is started via the button. The dialog for text entry will open. The button **[Text]** opens the dialog for formatting the text. A click on **[Ok]** confirms the entries. The text is now positioned by clicking on a starting point and in the desired direction.



A single point in the form of a small circle is drawn.



For representing the respective drawing function, one of the six favourite colours can be selected. In case these colours do not match, they can be changed by clicking on one of the favourite colours using the right mouse button.

First, a colour in the left area is selected. Then the colour is allocated to the respective favourite on the right side.



The construction line is a straight line through two points. The construction line runs over the whole image. Construction lines form intersection points.



Creates a cross of two diagonal construction lines which are in the measuring plane's perspective.

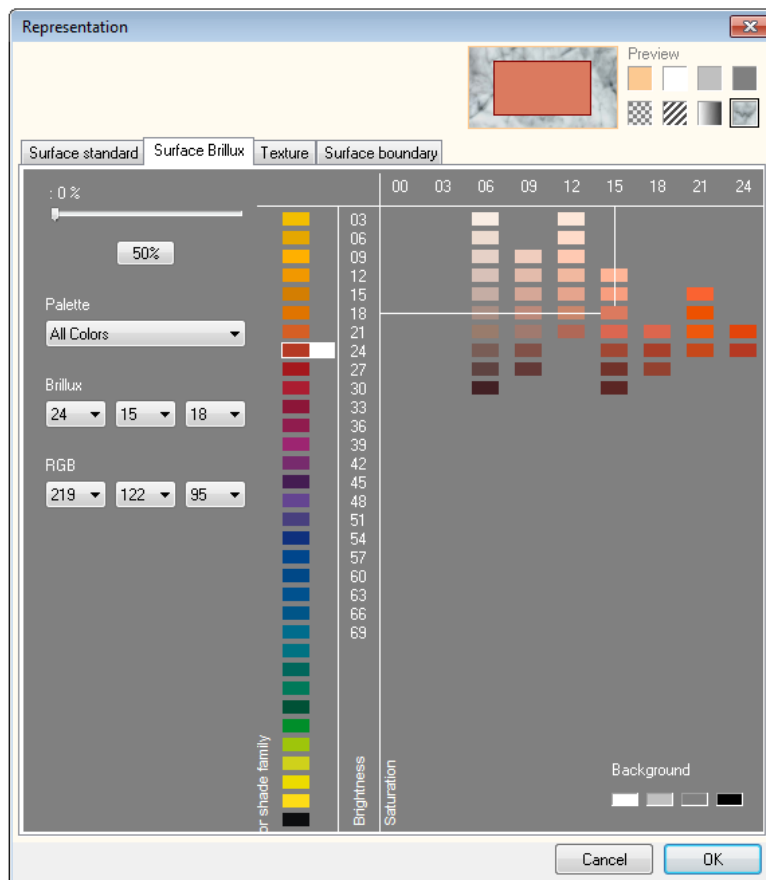


Creates a cross of two construction lines which are perpendicular and in the measuring plane's perspective.



In order to exactly position another element, a measuring point can be defined. The subsequent dialog allows to enter the horizontal (x-axis) and vertical (y-axis) distance between the reference point and the insertion point.

11.1.2 Surfaces and openings



One of nine favourite colours can be chosen for every surface. If none of these colours is suitable, another colour and/or texture can be selected. Click on the favourite colour by using the right mouse button. Then a dialog with different colour and texture settings will open.

You can, for example, choose between standard and Brillux colours, or use a texture. In addition, the surface boundary can be changed and the representation's quality adjusted.

Surfaces can be allocated to arbitrary groups. They are then grouped and evaluated in the report.



The rectangle is drawn through two diagonal points.



The rectangle consists of two basis points (width) and one height.



The arched rectangle is composed of a rectangle and an arc. This element allows to effectively redraw semicircular windows in views. The arched rectangle is diagonally drawn by clicking on two points, the third point defines the arc.



An arc consists of two basis points and one arc point.



A polygon consists of several successive lines.

closed polyline = click on first point or **[ENTER]**
open polyline = **[SPACE]**



A parallel contour is drawn similarly to a polyline. After drawing the polyline, the distance is determined.

closed parallel contour = click on first point or **[ENTER]**
open parallel contour = **[SPACE]**



A circle is drawn using two points for the diameter of the circle.



The spline consists of several successive points, The points form a curve.

closed Spline = click on first point or **[ENTER]**
open Spline = **[SPACE]**

Polylines and splines are suitable for redrawing areas and cracks. Polylines are suitable for redrawing areas with straight edges; splines for 'organic', round forms. Polylines can be transformed in splines and vice versa. Thus you can verify which form is better suited to your work.

Splines calculate a curve by means of the click points on the image. The click points are to be set in regular distances, if possible. Otherwise the curve can run unexpectedly. SiteMaster Elevation calculates four line sections between each click point. This setting can be changed in the additional settings.

11.1.13 Automatic surface finder

The surface finder is started via the menu **Tools - Surface finder**.

The surface finder supports the automatic recognition of surfaces with the same color features within one or several search areas.

A search area is determined by a polyline. Based on the search color selected and the color and brightness tolerance set, SiteMaster Elevation 2013 tries to automatically find the surfaces. SiteMaster Elevation 2013 can find surfaces in lit and shady areas.

The surfaces found are polygons with a circumference and an area. The number of limitation points is optimised. Each limitation point can be changed, if necessary.



The search area is drawn using a polyline. In this area the selected color is searched.

If a color is to be automatically searched within an already drawn element, this element must be selected and applied as search area by clicking on the button **[Define search area]**.



Click on the color to be searched for using the color picker. The exact search color appears in the preview window inside. In the outer area the settings for the brightness and color tolerance are displayed.

Subsequently, the group to which the surfaces are to belong for the report is selected. Then the mapping can be changed and/or selected.



A click on the button **[Find surfaces]** starts the search process. The command remains active until all surfaces found have been redrawn with this color.

To optimize the result, the search process can be stopped and restarted with varied settings (Color and/or brightness tolerance) at any time by clicking on the button **[Find surfaces]**.

The search is started. To optimize the search result, the search process can be stopped at any time and restarted with varied settings.



The surfaces found are not applied, the automatic surface finding process is finished.



The surfaces found are applied, the automatic surface finding process is finished.

All surfaces inside are deducted from the largest surface.

The surface finder also recognizes nested surfaces. Depending on the image situation many small surfaces may arise which are not desired. These surfaces can be selectively deleted based on the surface size. The slider allows to adjust the size of the surface.

The button **[Ready]** allows to close the surface finder.

11.1.4 Element transformations



This button allows to transfer the mapping (colour, texture) of the current element to another one which is selected with the left mouse button.



When the function [**Add point**] has been selected, click on the side of an element which is to be provided with an additional corner point. The second click point will set the new point.



For deleting a corner point, first select the function [**Delete point**]. Then the corresponding corner point is snapped with the snap function corner point and deleted by a mouse click.

Selected elements can be deleted, moved, copied, rotated, and/or mirrored by clicking on the desired button.



Click on the elements to be deleted.



By one click the selected element is moved from one point to another.



The selected element is copied by clicking on the starting point (reference point) and the aiming point.



The selected element is rotated by clicking on the center of rotation, the output angle and the end angle.



An axis of reflection is defined by two click points. The selected element is mirrored at the defined axis.

Multiple selections can also be moved, rotated or mirrored. The point selection is supported by the snap functions (end point, central point ...).

11.2 Facade

11.2.1 Elements

The heat-transmitting enveloping surface of a building is a value for the energetic calculation of a building.

For redrawing surfaces, different surface types can be selected: Wall surfaces, window surfaces and door surfaces.

The drawing function for enveloping surfaces are the same as under general drawing functions.



Rectangular wall (2 points)



Rectangular wall (3 points)



Wall with semicircular arc



Free wall



Free roof surfaces



Rectangular window



Semicircular window



Free window shape



Round window



Rectangular door



Semicircular door



Free door

All redrawn elements are compiled in a survey list and can be directly transferred to the 'Energieberater' of company Hottgenroth.

11.2.2 Energieberater Export

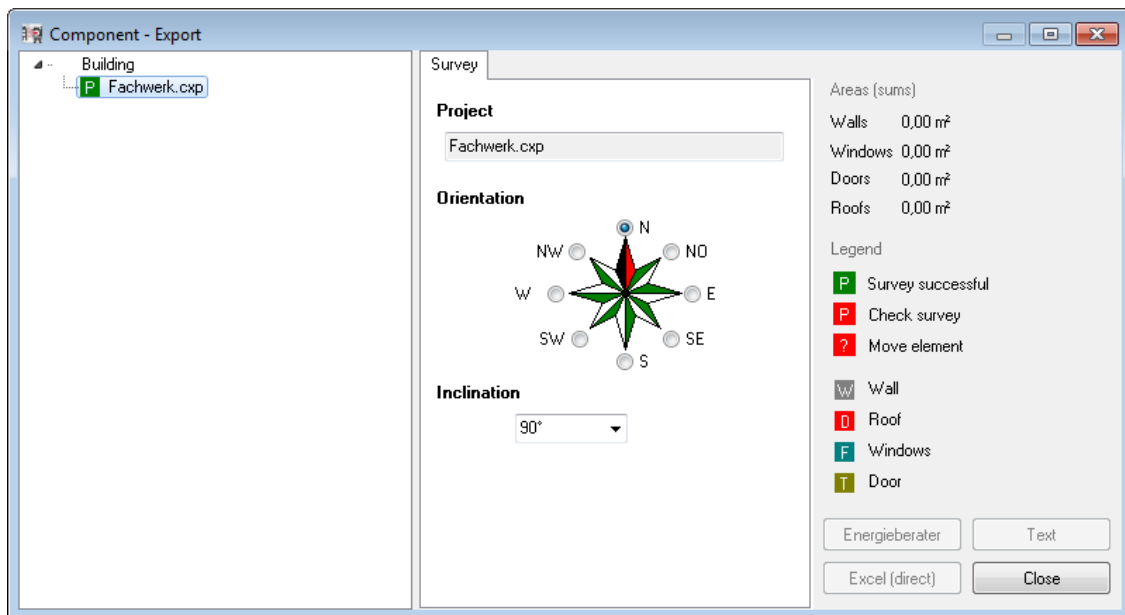
Each measured image represents a survey. All elements of a survey (walls, windows, doors) are indicated in a list.

In order to transmit the data to the 'Energieberater' of company Hottgenroth, an export list is generated from the survey.



By clicking on this button the list of measured elements will be opened and displayed.

On the left side the survey elements are shown in a tree structure. SiteMaster Elevation automatically assigns the windows and doors to the right wall. After the element name the element number is indicated in brackets.



By clicking on an element, the element information will be displayed on the right side. The elements are provided with colored symbols.

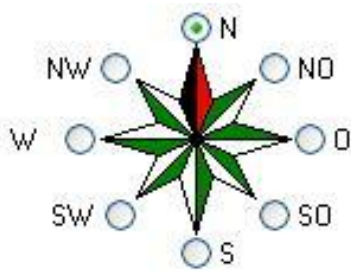
Within the structure, elements can be manually assigned. Support is provided by SiteMaster elvetaion with colored markings.

The *red P* in front of the survey name indicates that there are opening surfaces in the survey which cannot be assigned to any wall surface.

The non-assigned surfaces are marked with a question mark and can be assigned to a wall surface by moving.

By clicking on the element and pressing the left mouse button, the element will be assigned to the wall surface in which it is located. The *green P* means: The survey is okay.

The survey is marked within the structure list by clicking on the survey name. The survey features are shown on the right side:



Orientation:

In which direction is the survey located? Click on the corresponding direction.

Inclination:

Which is the inclination of the survey? Select an angle from the list or enter a value. Ex.: Facade 90°, floor plate 0°, roof surface 45°

Element features The features of the survey's individual elements can be changed.

If you click on an element in the survey structure, the selected element will be displayed in the survey project.

The element features are shown on the right side of the dialog:

Name:	The element name ('window4') is indicated. A new name can be entered. The new name is automatically written into the new survey project.
Dimensions:	Width and height of the element
Area:	Area of the element
Circumference:	Circumference of the element
Number:	It is indicated how often this element can be found in the current survey. After the element name the number of elements is indicated on the left side of the structure.
Change type:	The element type can be changed. The same element types as in the 'Energieberater' are available. By clicking on the arrow, a selection list is opened and a type can be selected and assigned.

Text file Export:

On-Site Photo 2010 - Auswertung

Projekt: Beispiel Huellflaeche.cxp
 Bildname: Beispiel Huellflaeche.jpg
 Bildgroesse: 1936 x 1418 Bildpunkte
 Aufnahme vom: 29.02.2008 11:21:52
 Kalibrierungsmaesse: 17,27 x 3,91 [m]
 Genauigkeit: jeder Bildpunkt entspricht ca. 1,2 cm
 Auswertungsdatum: 14.03.2008 09:39:27

Ausrichtung: N
 Neigung: 90°

Element	Form	Abmessung [m]	Umfang [m]	Fläche [m²]	Anzahl	Summe [m²]	Typ
Sockel	Polylinie	0,00 x 0,00	35,73	7,47	1	7,47	WA
						Zwischensumme	7,47
Außenwand	Polylinie	0,00 x 0,00	55,54	126,41	1	126,41	WA
- Rechteckiges Fenster 1	Viereck	0,83 x 1,62	4,91	1,35	1	-1,35	FA
- Eingangstür	Viereck	1,07 x 2,16	6,44	2,30	1	-2,30	FA
- Rundbogenfenster 1. Geschoss	Rundbogen	1,97 x 1,77	6,63	3,07	1	-3,07	FA
- Elliptisches Fenster 1. Geschoss	Polylinie	0,00 x 0,00	2,67	0,55	1	-0,55	FA
- Rechteckiges Fenster 2	Viereck	0,85 x 1,65	5,01	1,41	1	-1,41	FA

Fertig

Excel table Export:

On-Site Photo 2010 - Auswertung

Projekt
Bildname
Bildgroesse
Aufnahme vom
Kalibrierungsmaesse
Genauigkeit
Auswertungsdatum

Beispiel Huellflaeche.cxp
Beispiel Huellflaeche.jpg
1936 x 1418 Bildpunkte
29.02.2008 11:21:52
17,27 x 3,91 [m]
jeder Bildpunkt entspricht ca. 1,2 cm
14.03.2008 09:39:27

Ausrichtung
Neigung

N
90°

Element	Form	Abmessung	Umfang	Fläche	Anzahl	Summe
		[m]	[m]	[m²]		[m²]
Sockel	Polylinie	-	35,73	7,47	1	7,47
Zwischensumme						7,47
Außenwand	Polylinie	-	55,54	126,41	1	126,41
- Rechteckige Viereck		0,83 x 1,62	4,91	1,35	1	-1,35
- Eingangstür Viereck		1,07 x 2,16	6,44	2,30	1	-2,30
- Rundbogen Rundbogen		1,97 x 1,77	6,63	3,07	1	-3,07
- Elliptisches IPolylinie		-	2,67	0,55	1	-0,55
- Rechteckige Viereck		0,85 x 1,65	5,01	1,41	1	-1,41
- Rechteckige Viereck		0,84 x 1,72	5,31	1,61	1	-1,61
- Rechteckige Viereck		0,86 x 1,74	5,39	1,66	1	-1,66
- Rechteckige Viereck		0,83 x 1,72	5,29	1,59	1	-1,59
- Rechteckige Viereck		0,83 x 1,67	5,00	1,39	1	-1,39
- Rechteckige Viereck		0,85 x 1,65	5,01	1,40	1	-1,40

Generate export list:

Speichern unter

Speichern in: HS Foto-Aufmaß

Videos

settings.xml

Zuletzt verwendete D...

Desktop

Eigene Dateien

Arbeitsplatz

Netzwerkumgeb

Dateiname:

Datentyp: XML-Dateien (*.xml)

Speichern

Abbrechen

Import the export list in the 'Energieberater':

To import the export list in the 'Energieberater', the following steps are required:

- Start the 'Energieberater'.
- Select **[Import building data]**
- Select data import from planning software
- Select SiteMaster Elevation from the list and click on **[Apply data]**

Select the XML export list of SiteMaster Elevation.

11.3 3D Components

11.3.1 Elements

For redrawing scanned ground plans SiteMaster Elevation provides 3D Components. Scanned plans do not contain a perspective, but SiteMaster Elevation takes into account an oblique-angled position of the scan as well as a possible paper distortion.

For establishing the dimensional reference, the plan calibration is recommended.

The 3D drawing functions for scanned ground plans are **walls, windows, doors, passages** and **panels**.

For these elements the ground plan is provided with preset grid values and additional height information. If the values 11, 15, 20 and 24 cm are set for the wall thickness, SiteMaster Elevation will only draw walls with these thicknesses.

A 3D wire frame representation is generated from the drawn ground plan elements. This model is shown in the 3D preview.

The ground plan is exported three-dimensionally to CAD using the CAD interfaces. The 3D elements have a volume which supports the analysis of ground plans.

After the calibration of the scanned ground plan the work starts with the drawing of walls.

Walls are drawn with a defined height. The wall height is taken from the selection list, or a new value for the wall height is entered in the dialog field. A newly entered height value is saved in the selection list.



The wall is generated by clicking three points. The first two points form the basis of the wall and the third point the wall thickness. As regards the third point the mouse cursor always 'snaps' on a preset wall thickness.



A gable wall is a wall element which is constructed with two defined height values. The gable wall is also generated by three click points. (See Wall) Gable walls can be extended, but not automatically intersected.



The arched wall is drawn by clicking on 4 points: 2 basis points, the 3rd point defines the arc lines and the 4th point defines the wall thickness. The 4th point for the wall thickness also snaps on preset wall thicknesses.

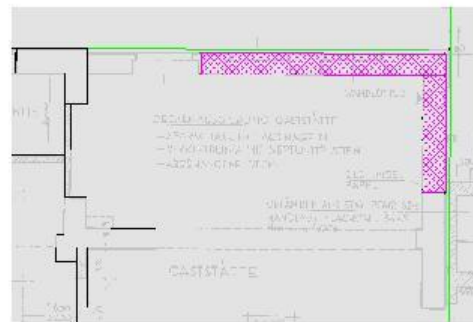
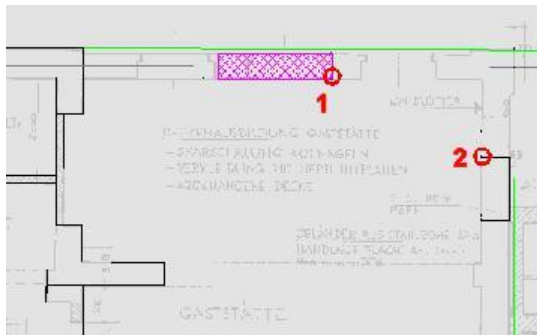
If you want to draw wall thicknesses that do not correspond to the preset wall thicknesses, press the **[CTRL]** key when placing the third wall point. Thus the 'snap function' is temporarily deactivated - the walls drawn this way take into account the set rounding.

We recommend to draw wall sections where the wall edges are well visible in the scan. Click in the center of the wall edges to achieve a good result.

To redraw this ground plan, only some short wall sections that are intersected during the further processing are needed.



Click on the walls to be intersected. We recommend to intersect the 'long' continuous walls first and then the short inside walls. At the same time this function is used to extend/shorten walls, if no wall intersection is performed.



The wall heights are absolute values, the bottom edge of the walls is +/- 0 and cannot be modified. In case the bottom edge of the panel is defined with a value ≤ 0 , the panel is a floor panel drawn below the walls. In case the upper edge of the floor panel is more than '0', it is recommended to draw the panel between the walls. In case the bottom edge of the panel is > 0 , the panel is regarded a ceiling plate, and is situated above the walls.



Panels form the lower and upper end of a storey. When redrawing a ground plan, panels in the form of a polygon can be redrawn with a defined bottom edge and panel thickness.



The window has three click points. The values for the window width and the rabbets are also preset.



The semicircular window has three click points. The values for the window width and the rabbets are also preset.



Doors have the particularity that the first click point indicates the door rabbet as well as the opening side.



Doors have the particularity that the first click point indicates the door rabbet as well as the opening side.



The passage width is drawn by means of 2 click points.



The passage width is drawn by means of 2 click points.

These drawing functions allow to effectively and exactly redraw ground plans.

11.3.2 3D preview



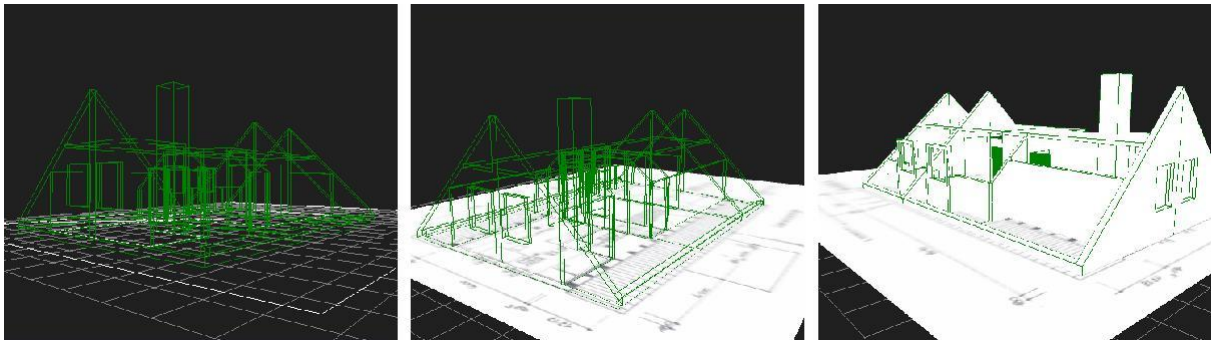
A 3D preview of redrawn 3d elements shown as a wire frame.



A 3D preview of redrawn 3d elements shown as a wire frame with a picture underneath.



A 3D preview of redrawn 3d elements shown with filled areas and a picture underneath.



The preview is controlled using the following mouse functions:

Press left mouse button and move

3D preview rotates

Scroll mouse wheel

3D preview is enlarged or reduced depending on the direction of rotation

Press right mouse button and move

3D preview is moved

11.4 Solar modules

The Solar module provides drawing functions for the digital planning and representation of thermal solar collectors and photovoltaic systems. An extendable library offers quick access to the modules.

11.4.1 Elements



This function allows to redraw roof surfaces. The roof surface form is measured by drawing a polygon through several click points.

Three favourite mappings are available for drawing the roof surfaces. An existing filling can be changed in the element features using a double-click.

The favorite list gives quick access to frequently used module types. A click on the triangle of the preview window opens the favourite list. A module is selected by clicking on it with the left mouse button. The selected module is now shown in the preview window and can be used for drawing.

The length and width of the selected module are displayed (not editable).

Each module type can be rotated by 90_ by clicking on **[Module standing]** / **[Module lying]**.

The horizontal (x) and vertical (y) distance between the modules is manually entered in the corresponding dialog fields (entry in m).



This command generates a module group based on the selected module parameters and the entered module distances.

A module group is drawn diagonally. The first click point defines the starting point. With the aid of the Schleppfigur, the possible expansion of the group can be planned. The second point is set diagonally to the first one and defines the group size.



This command generates a single module based on the selected module parameters. The single module with the defined insertion point is attached to the cursor and can be positioned on the image by clicking with the left mouse button.



This command generates a single module with an arbitrary outline. For this purpose, a polygon consisting of polylines is drawn and closed.

Three favourite mappings are available for drawing the modules and/or module groups. An existing filling can be changed in the element features using a doubleclick.

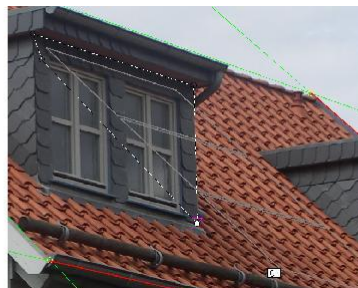


This command deletes single modules of a module group, e.g. in case there are elements within the roof preventing the positioning of a module.



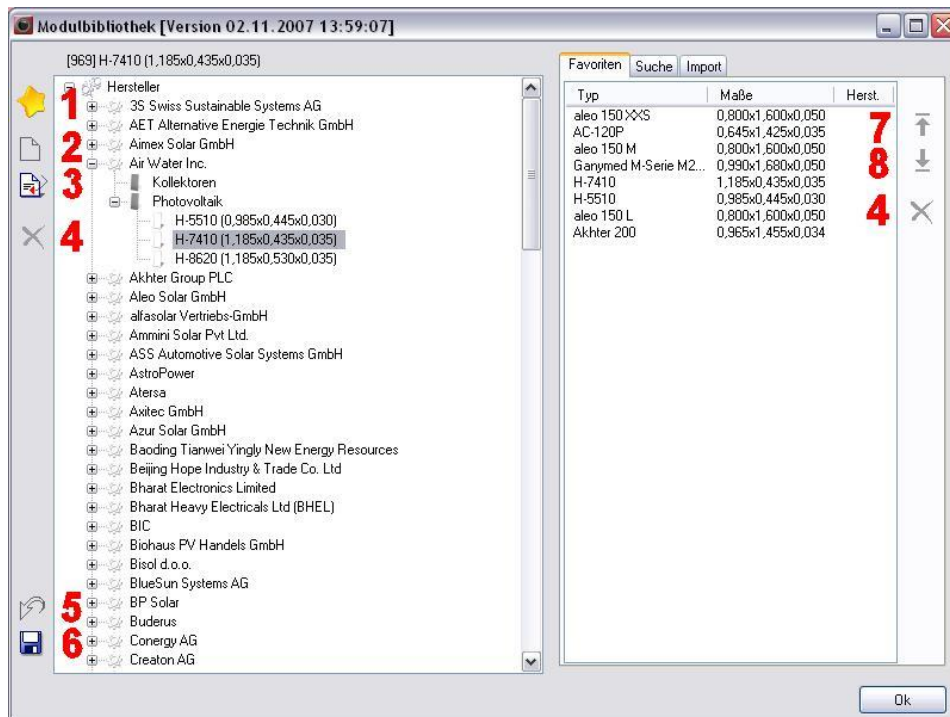
Images can contain elements, e.g. dormers, which obstruct the view to the roof. This function allows to visually redraw the elements obstructing the view to the modules..

The modules are cut out at the covered positions and placed in the background, i.e. they continue to exist, but are not visible.



11.4.2 Module library

The module library manages the collectors and photovoltaic elements according to manufacturers.

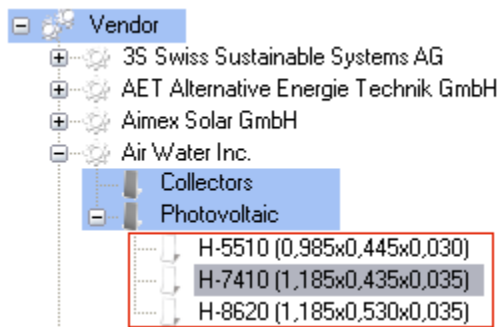


- 1 Add to favorites...
- 2 Insert
- 3 Edit
- 4 Delete
- 5 Undo a deleting operation
- 6 Save library; Changes in the library are also saved at the end of the program.
- 7 Move favorite in the favorite list upward (sort)
- 8 Move favorite in the favorite list downward (sort)

The library consists of a list with manufacturers. The manufacturer names are alphabetically listed in the register *Vendor*.

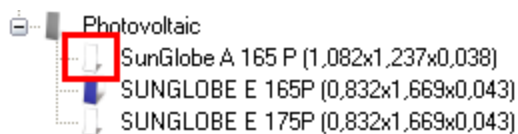
For each manufacturer the modules are divided into the *Module kinds* Collectors (thermal solar collectors) and Photovoltaic (photovoltaic modules).

The single *Module types* are listed according to the manufacturer under the corresponding module kind.

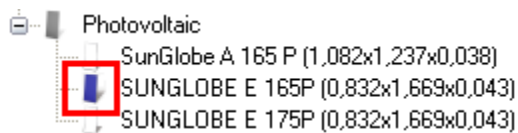


Images for a photorealistic representation can be assigned to the module types.
The symbol in front of the module type name indicates the status of the image allocation:

- Symbol without filling: no image assigned

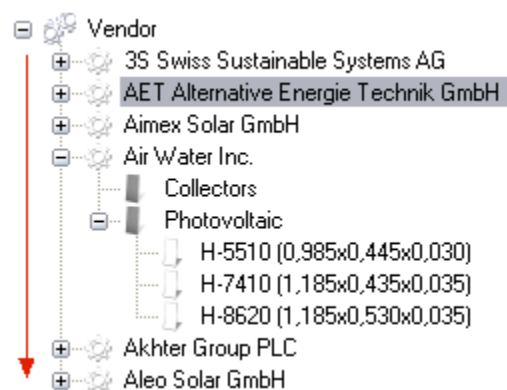


- Symbol with filling: an image has been assigned to the module type



By default SiteMaster Elevation contains a standard library with manufacturers of PV modules and thermal solar collectors. The entries of this standard library cannot be deleted; the module parameters can only be edited to a limited extent.

A quick navigation within the library's structure levels is ensured by entering an initial letter.



The first manufacturer listed with this letter is then displayed in the structure level *Vendor*. In case a manufacturer has already been opened, the search is performed analogously, but within the opened manufacturer.

A double click with the left mouse button opens the selected structure unit.

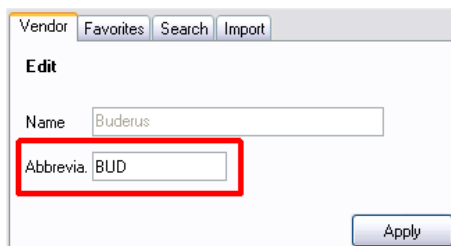
A click with the left mouse button selects a structure element. (selected)

A click with the right mouse button on a structure element opens the menu with the possibility to select more functions.

The manufacturers and module types of the standard library cannot be deleted.

The standard library can be edited as follows:

1. Abbreviation for manufacturer name:



An abbreviation for the manufacturer name can be assigned to each manufacturer. The abbreviation is attached to the module type name.

A click on the **[Apply]** will transfer the abbreviation to the manufacturer list. The transferred data are shown in the list structure.

If such a module is selected for the favorite list, the manufacturer's abbreviation will be additionally displayed.

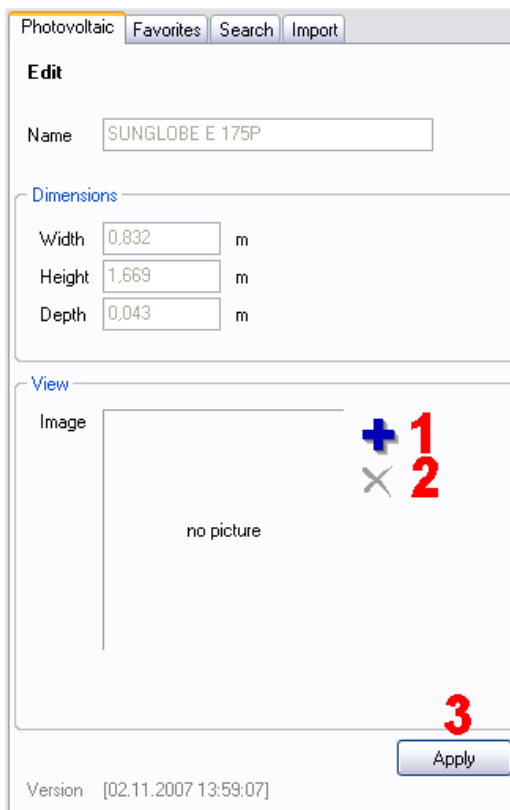
The original state of the standard library can be manually restored at any time. For this purpose, the standard library is copied from the installation path of SiteMaster Elevation into the user's work path.

2. Assign image:

For displaying the module in the representation mode *Texture*, an image can be assigned to each module type.

A double click on the module type name opens the dialog Edit.

An image of the user's file system can be assigned as follows:



A click on the button **[Assign image]** (1) opens the dialog for the image selection. The selected image is shown in the preview window of the dialog Edit by clicking on **[Open]**.

A click on **[Apply]** (3) transfers the image allocation to the module list.

The filled symbol in front of the module name indicates the status image added.

A click on **[Delete]** (2) allows to cancel an existing image allocation, but does not delete the image itself.

During the transfer of the module library, the links to the module images can get lost, if they are not 'transferred', too. Links to images get lost if the images themselves are deleted in the file system.

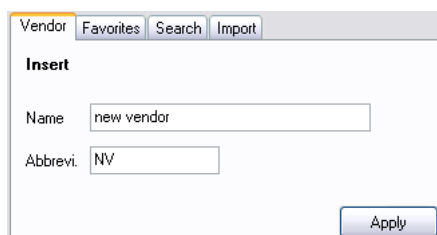
Extend the standard library

The standard library can be extended by new manufacturers and module types. The module lists of manufacturers can optionally be extended.

Depending on the place in the list structure, the library can be extended as follows:

1. create manufacturer

A click with the left mouse button on the manufacturer list and subsequently on **[Insert]** opens the dialog *Insert* of a new manufacturer.



Enter the manufacturer's name and an abbreviation (optionally).

A click on **[Apply]** transfers the new manufacturer to the manufacturer list. The module kinds:

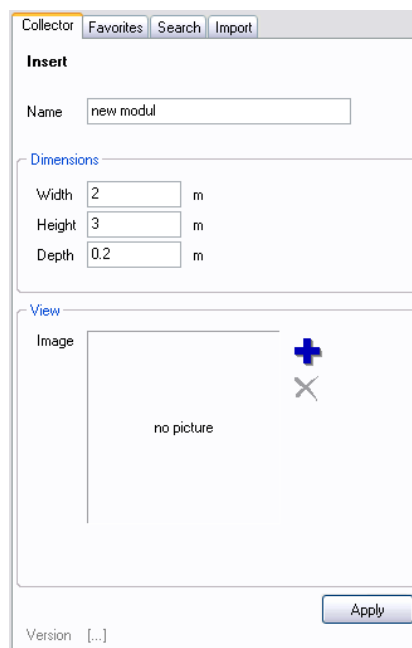
- Collectors (thermal solar collectors) and
- Photovoltaic (photovoltaic modules)

are automatically inserted below the manufacturer.

2. Create module type

A double click on the manufacturer's name opens this structure level. Now, the module kind to which a new module type is to be assigned can be selected.

A double click on Collectors or Photovoltaic opens the dialog *Insert*. The data of the module to be added to the list are entered in the corresponding fields.



The collector or the PV module is defined by:

- the module designation(name)
- the module dimensions width, height, depth in m
- an image for displaying the module in the representation mode texture (see Edit standard library)

A click on **[Apply]** transfers the newly created collector, or PV module to the module lists Collector or Photovoltaic. Newly created modules are shown in green font color.

The favorite list

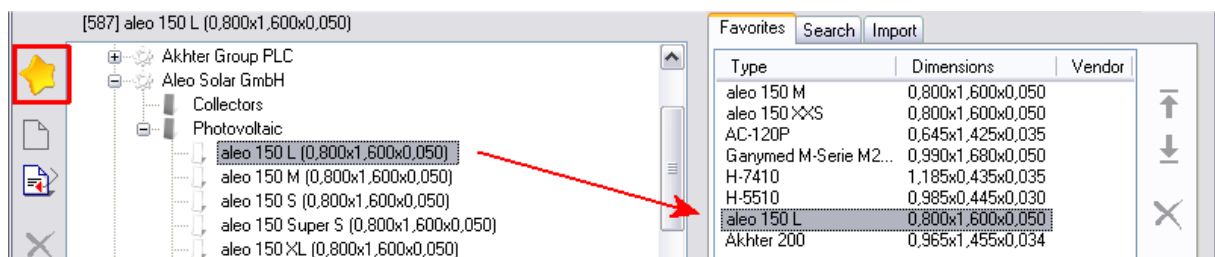
Frequently used module types can be indicated in a favourite list. The favorite list offers quick access to the modules from the main form.

The favorite list is saved locally and thus is available irrespectively of the opened project.

The entries in the favorite list consist of:

- the module type designation,
- the dimensions of the module type and possibly
- the abbreviation of the manufacturer's name.

For selecting the module type, the manufacturer is opened by double clicking on the manufacturer's name. Then the module kind is selected. A double click on Collector or Photovoltaic opens the corresponding list of module types. A module is selected in the opened module list and marked by clicking on it with the left mouse button. The marked module is transferred to the favorite list by clicking on **[Add to favorites]**.



A completely configured favorite list is thus available for all projects and ensures quick construction. The context menu allows to edit the features of the modules.

The order of the module types in the favorite list can be changed using the arrow keys:

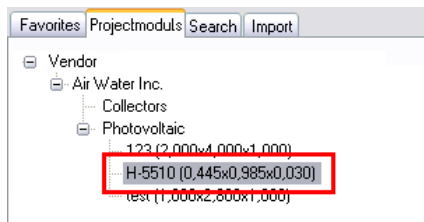
A selected module of the favorite list is moved one line higher by clicking on the button **[Move favorite upward]**.

A selected module of the favorite list is moved one line lower by clicking on the button **[Move favorite downward]**.

A selected module of the favorite list is deleted by clicking on the button **[Delete]**.

The deletion only deletes the favorite entry, but not the module itself in the library.

Older projects containing module types which are not available in the current library can be loaded during work. When the old project is loaded, however, all module types used are recognized and integrated in the library.

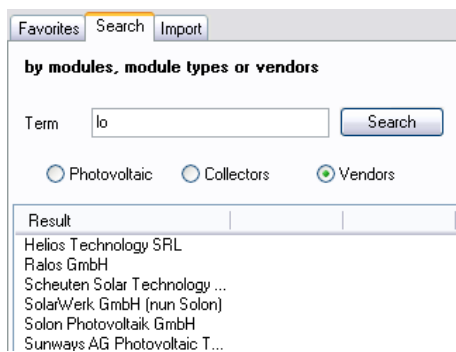


A module which is not part of the current library is immediately written in the project module list with its module data. The manufacturer's name or the module type can be transferred from the project module list to the library list by a double click.

Project-specific modules are marked green in the favorite list. This module which is not part of the current library, can be added to the current library and thus also as a favorite via the context menu.

Type	Dimensions	Vendor
aleo 150 M	0,800x1,600x0,050	
aleo 150 XXS	0,800x1,600x0,050	
AC-120P	0,645x1,425x0,035	
Ganymed M-Serie M2...	0,990x1,680x0,050	
H-7410	1,185x0,435x0,035	
H-5510	0,985x0,445x0,030	
aleo 150 L	0,800x1,600x0,050	
H-5510	0,985x0,445x0,030	

Search for module kind, module type or manufacturers



Depending on the selected search area:

- collectors
- photovoltaic modules or
- manufacturers

the entered search term is searched for in these structure levels of the library list.

The search term can consist of one or several letters or names.

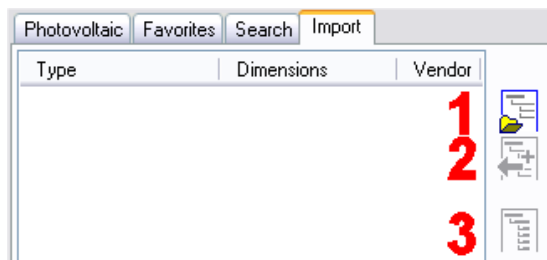
Upper and lower case letters are to be respected for the search term. A module designation with an upper case initial letter cannot be found if the search term was entered with a lower case initial letter.

The search result based on the entered search criteria is shown in a list.

Parameters within the module name, e.g. a module dimension allowing the selection of identical modules from different manufacturers can be an additional search criterion.

A double click allows to directly switch between the search result list and the library list.

Data import - library update



- 1 Load library
- 2 Transfer selection to library
- 3 Select all modules

Data import:

1. A click on [**Load library**] allows to select and open the provided import library (xml).
2. The new modules for the existing library are displayed. Modules can be selected in this list and transferred to the library list by clicking on the button [**Transfer selection to library**].
3. A click on the button [**Select all**] allows to select all modules of the import library.

A click on [**Transfer selection to library**] transfers the whole import library to the library list.

11.4.3 Solar report

The report shows and utilizes the drawn elements in a list. Calculated surfaces are totalled for each module.

The report list is structured as follows:

Short text

The short text offers the possibility to enter a project designation.

A click with the left mouse button selects the placeholder for the text information. Now the text can be entered.

Listing of drawn roof surfaces

The gross roof area with the single areas totalled.

The inclination of the roof can be manually entered. The calculated value is displayed.

Attention: The calculated value for the inclination is not the real value, but additionally includes the inclination of the camera.

The designations of the roof surfaces in the report list are linked. By clicking on the designations, this roof surface will be highlighted in the project.

A click on the button [**Direction**] opens the dialog for entering the orientation.

Listing of drawn modules

The drawn modules are utilized and sorted in the list according to manufacturers and module kind. The following data are utilized:

- Dimensions of the module
- Number of modules of this type in the project
- Gross area in m²
- horizontal distance between the modules
- vertical distance between the modules

These distances are indicated when the module group is positioned.

- dimensions of module group

The dimensions of the module group are taken from the minimum/maximum surrounding rectangle.

- occupied roof area in m²

The module designations in the report list are linked. By clicking on the designations, this module or this module group will be selected in the project.

Print preview

The selected representation mode is displayed as print preview in the report list.

The print preview contains:

- time information for creating the report list
- the utilization accuracy
- information on size and resolution of the image

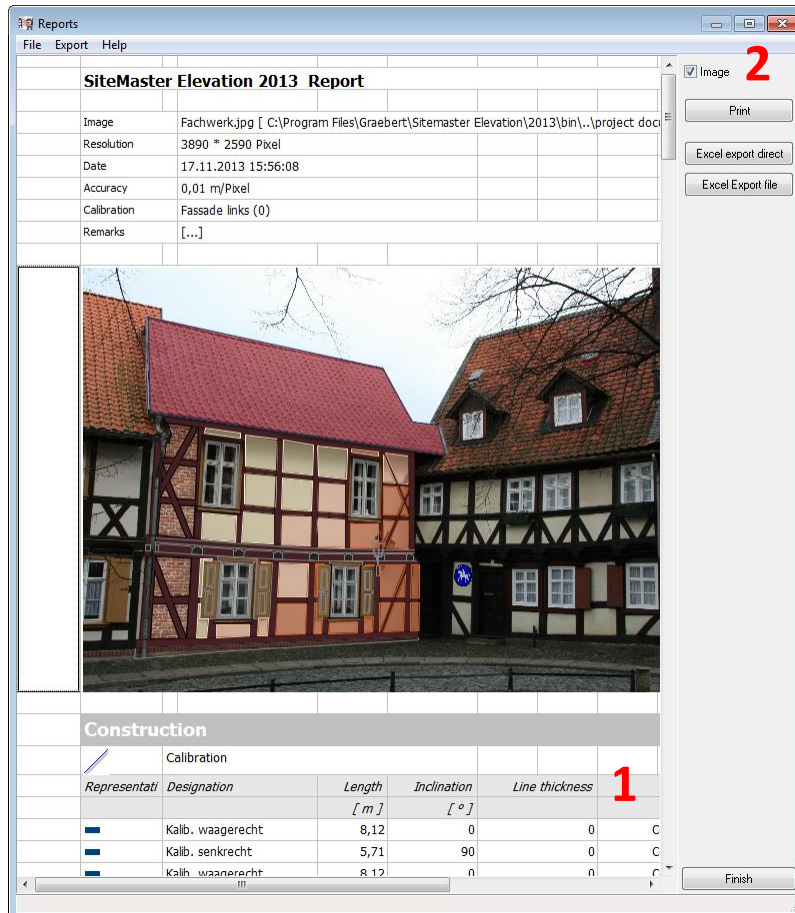
A click on the button **[Print]** opens the printing dialog. The report list is printed.

12 Reports

12.1 Report list



The list with reports of all drawn elements is opened by clicking on the button.



The report list is structured and analyzed according to the work areas.

1 Structure:

- representation - display of color or texture
- length
- inclination
- line width
- font style
- font size
- line style
- X-/Y-axis
- width
- height
- circumference
- area
- distance
- volume
- diameter
- midpoint
- count

2 The display of the report list can be controlled user-specifically:

- Display of the **Image**

The project image is displayed with the drawn elements.

Report list can be exported as follows:

- **[Print]**

The report list is printed with the selected settings.

- MS **[Excel Export]** in document

The report list is directly exported to MS Excel, into a new workbook.

- MS **[Excel Export]** as file

A dialog opens *Save as...*, and the report list will be saved as Excel file.

12.2 CAD Export



The CAD Export will be open by this button. The CAD export provides the following functions in a dialog:

The actual shown calibration plane will be exported.

Options:

rectified:

Drawn elements are rectified and exported in a front view.

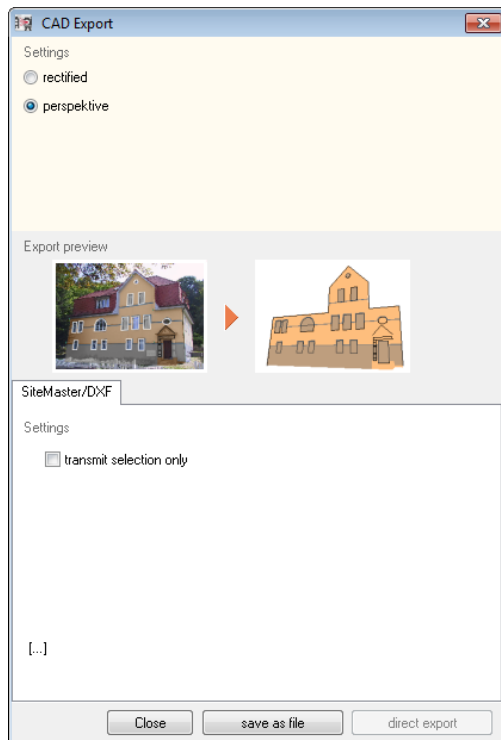
perspective:

Drawn elements are exported in the perspective view.

Transfer with image:

The elements drawn are exported together with the rectified image / the image section.

Optionally the whole image or a selected image section can be exported. An additional value is the resolution of the rectified image. The presetting is one pixel per m. This setting provides the best results in CAD. The image size of the rectified image will be displayed.



Export preview

Shows the result of the chosen export option with the help of an example.

Select export format:

SiteMaster/DXF

DXF file format:

- **Transfer selection only:** The selected elements are exported.

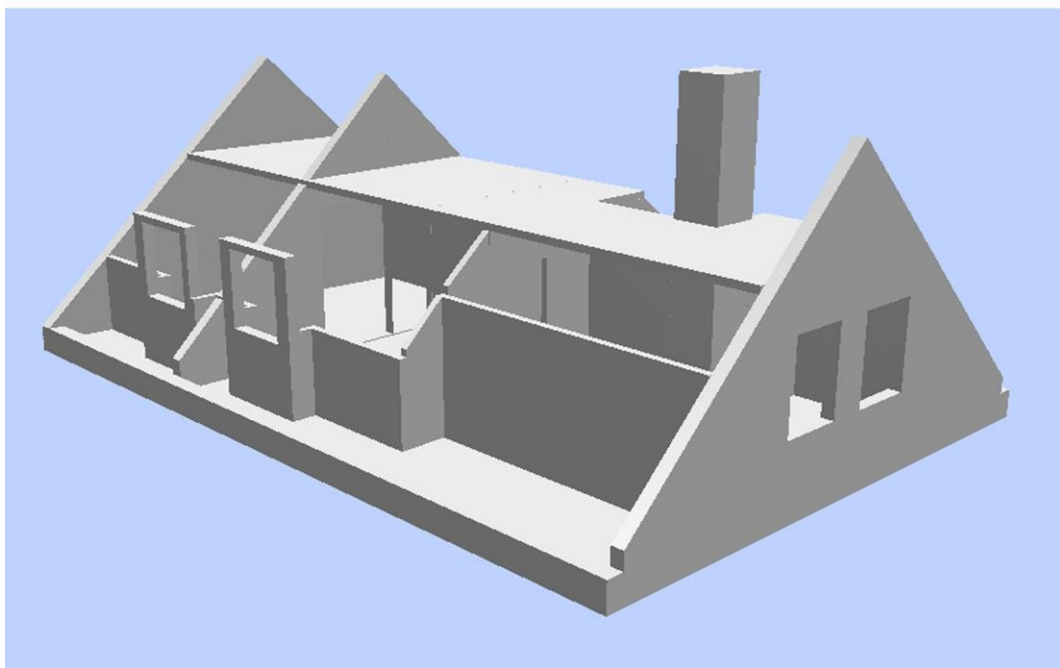
[Save as file]

A dialog opens and the project data can be saved in a file.

[Direct export]

Direct export: The drawn elements are directly exported to the selected interface.

Depending on the selected representation mode, lines, colors or textures can be exported.



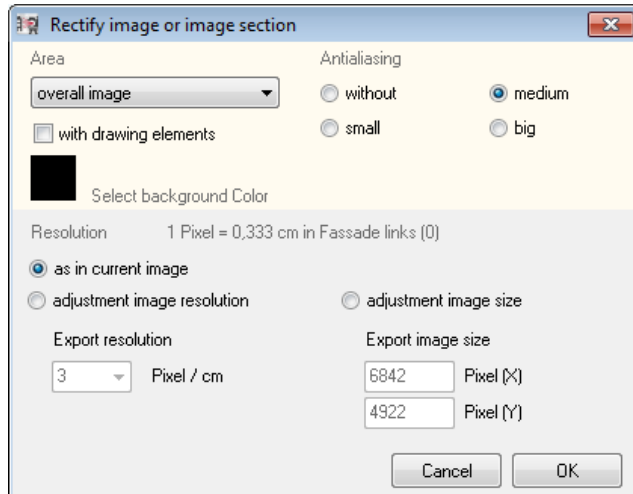
In case the export under Windows Vista causes problems, please switch off the User Account Control. The Windows Vista User Account Control can be activated and/or deactivated via Start - System Control - User Accounts - User Account Control.

12.3 Image rectification



For the work with textures in the plan design or in 3D it is important to rectify images or image sections. The image rectification is started by this button.

In SiteMaster Elevation 2013 an entire image or a selected image section can be rectified. Image sections are defined and designated by redrawn elements. The image section is selected in the project. The image or an image section can be chosen from the selection list.



The image / image section can be optionally rectified with the drawn elements.

SiteMaster Elevation 2013 cuts out the rectified image. Possible empty areas are filled with a selectable transparency (**Background color**) color.



The **anti-aliasing** can be set to low, medium or high.

There are three possible settings for the image export:

- **current image resolution in the image**

The image resolution and size of the original image and/or image section are taken.

- **image resolution**

A new image resolution can be adjusted for the exported image. The image size

- image size

The exported size of the image / image section can be indicated.

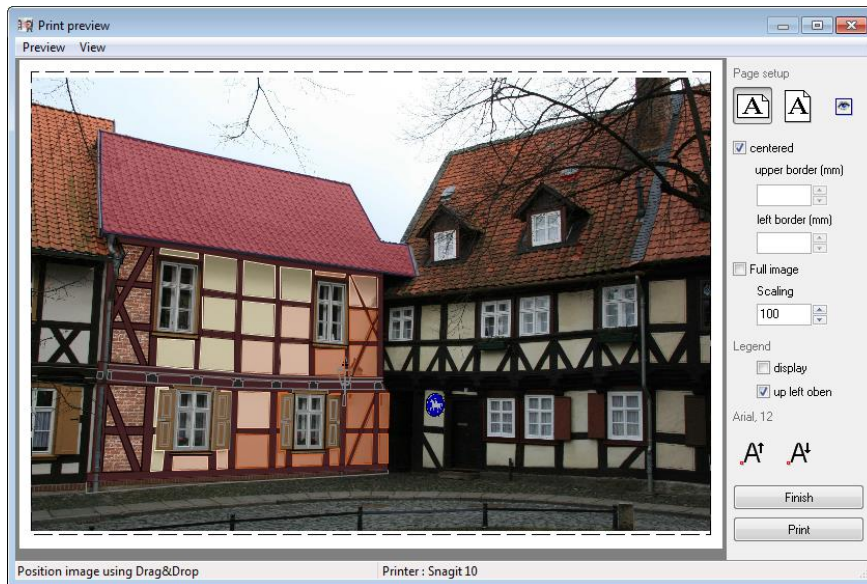


A click on **[OK]** confirms the settings; a dialog for saving the rectified image opens.

12.4 Printing



The print command is started in the menu **File - Print**.



The following printing options are available:

- 1 Orientation: Portrait or landscape
- 2 Print position: Image centered or with border setting
- 3 Image size: Full screen or scaling (scale)
- 4 Legend
 - **display** yes/no
 - **font size** increase/reduce
 - **in position** yes: The legend is positioned in the upper left corner.
 - **in position** no: The legend can be positioned as desired by keeping the left mouse button pressed.
- 5 The currently installed printer is shown in the status bar.
- 6 The *Display control* can be activated in the menu **View** of the print preview or by using the button. Thus, the print preview can also be modified.

Depending on the selected representation mode, the project data will be printed with lines, colors or textures.

We wish you much success with SiteMaster Elevation 2013!

We would be grateful for your recommendations to improve the software and this manual.

14 Shortcuts

Taste	Funktion
ESC	1x Cancel drawing 2x Cancel function
ENTER	Close polyline / spline repeating key for drawing elements
Space	Stop polyline / spline construction (not close) repeating key for drawing elements
Right mouse button	Switch over orthogonal mode
Ctrl+left mouse button	Multiple selection mode – Selection / Deselection
Del	Delete selected element
Ctrl+O	Open project
Strg+S	Save project
Alt+F4	Exit program
Ctrl+Z	Undo
Ctrl+Y	Redo
Ctrl+X	Cut out
Ctrl+C	Copy
Ctrl+V	Paste
Ctrl+M	Move
Strg+R	Rotate
F1	Online help
F2 / F3	Geometric function
F8	Orthogonal mode on/off
B	Draw arc
L	Draw line
K	Draw circle
R	Draw rectangle
P	Draw point
H	Draw construction line
Y	Draw polyline
S	Draw spline
T	Draw door
D	Draw passage
F	Draw window
W	Draw wall
O	Draw arched wall
V	Intersect 2 walls