



Leica 3D Disto

Application – Veranda / Conservatory

- when it has to be **right**

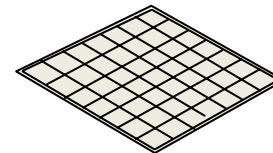
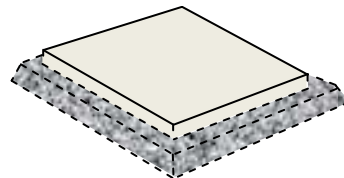
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Step by step using the 3D Disto

What do you need to know?

- 1) What position you are going to fit the Veranda in?
- 2) What is the height and width?
- 3) What is the length?
- 4) Is the wall straight between fixings?
- 5) Is the floor straight?

We assume in this tutorial that the floor for the veranda has been prepared and is flat.



If the floor is not flat then you need to utilise your reference heights during the post processing in software when designing your veranda. This is explained in the tutorial.

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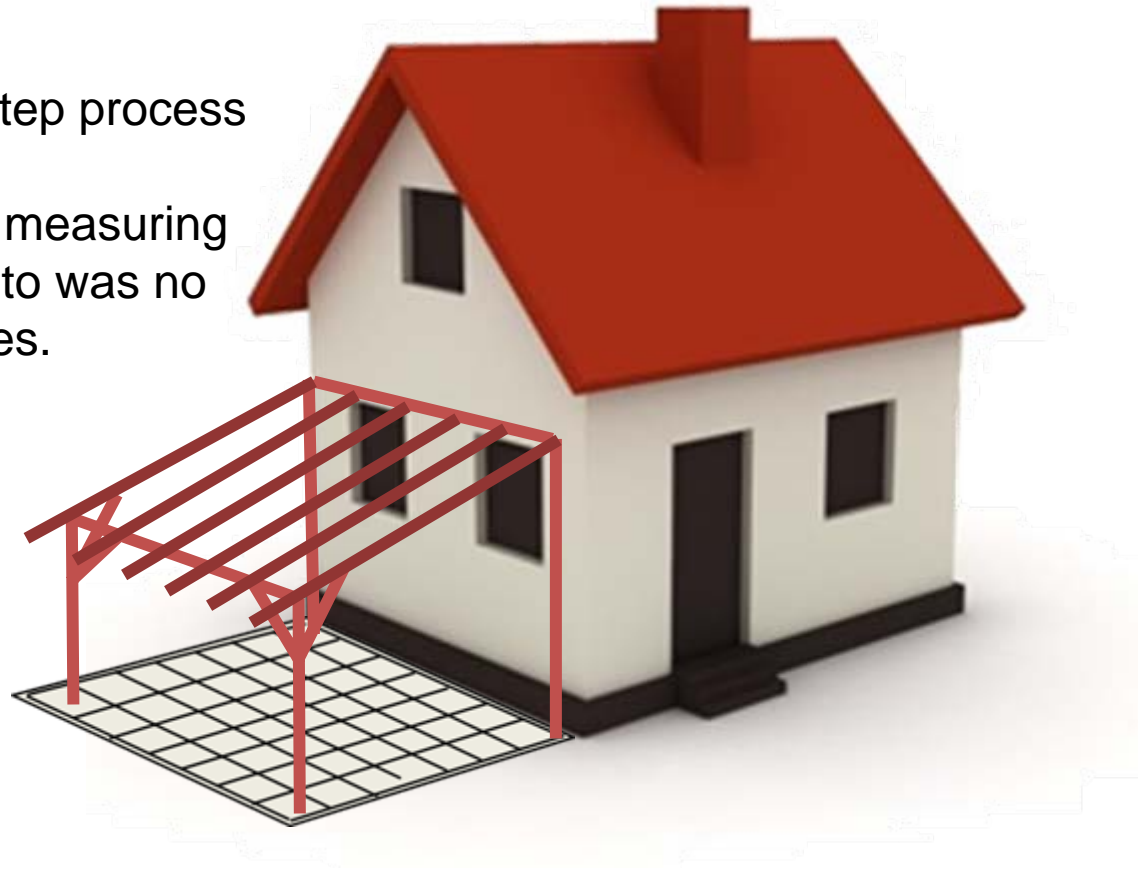
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We want to put a Veranda to an existing building

The process:

Follow the step by step process for the workflow.

In this scenario, the measuring time with the 3D Disto was no more than 15 minutes.



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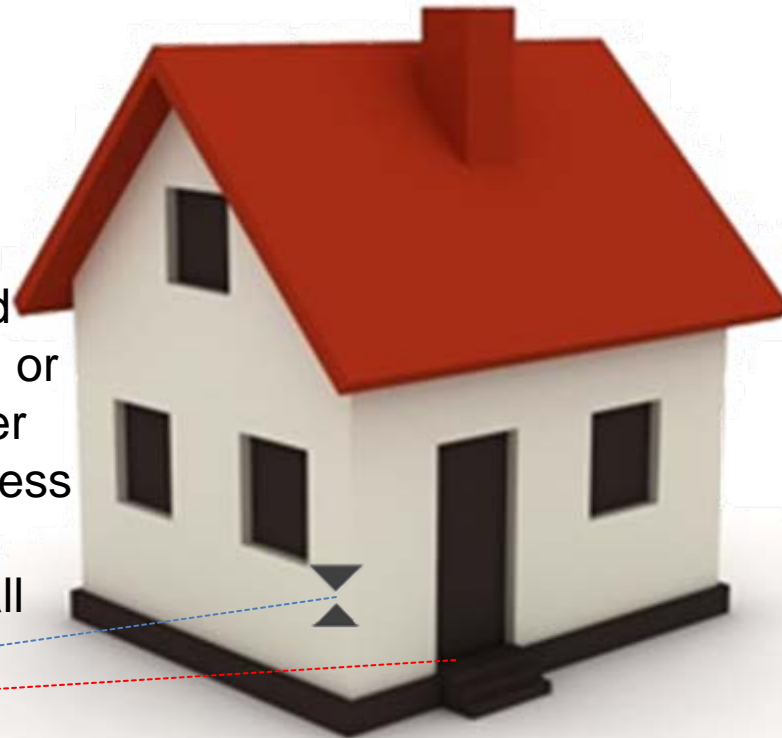
You need to measure your height reference

Step 1:

Menu – Applications – “Room Scan”

Step 2:

You will be asked to set your reference height, set to “0” and shoot to the finished floor level or set to a measured known meter mark and input the height – Press “OK”. This will reference your working heights in relation to all other measurements



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You need to measure the facade

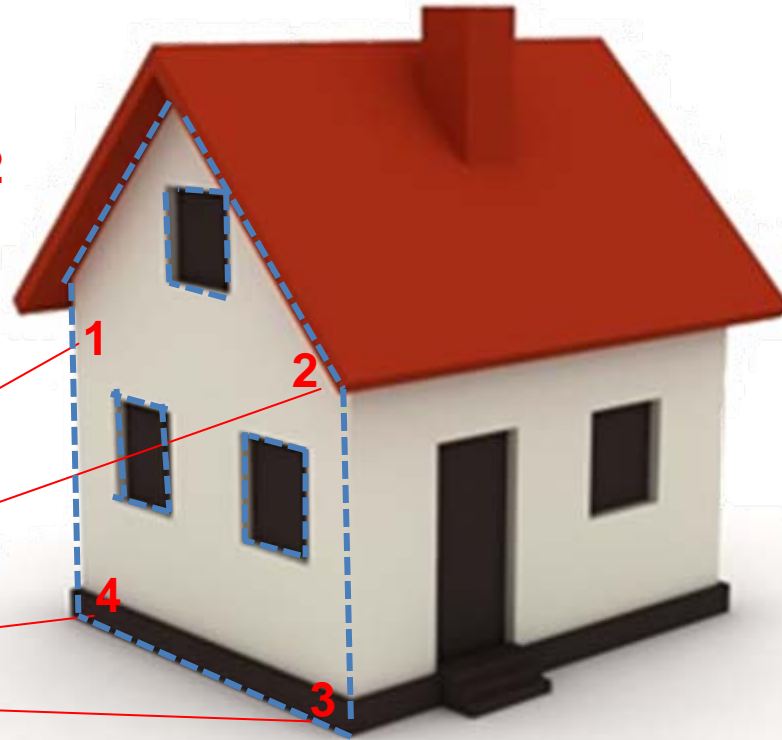


Step 3 :

Now measure the two height points for the Veranda – **1 & 2**

Step 4:


Measure to the floor from each point **3 & 4**



You can switch between views on the screen: select a horizontal line and press this key:



Options:

- measure up the complete façade area including the windows as per blue dotted line 
- save your measurement at any time into the “File Manger” using the house key on the top right hand corner of your Control Unit



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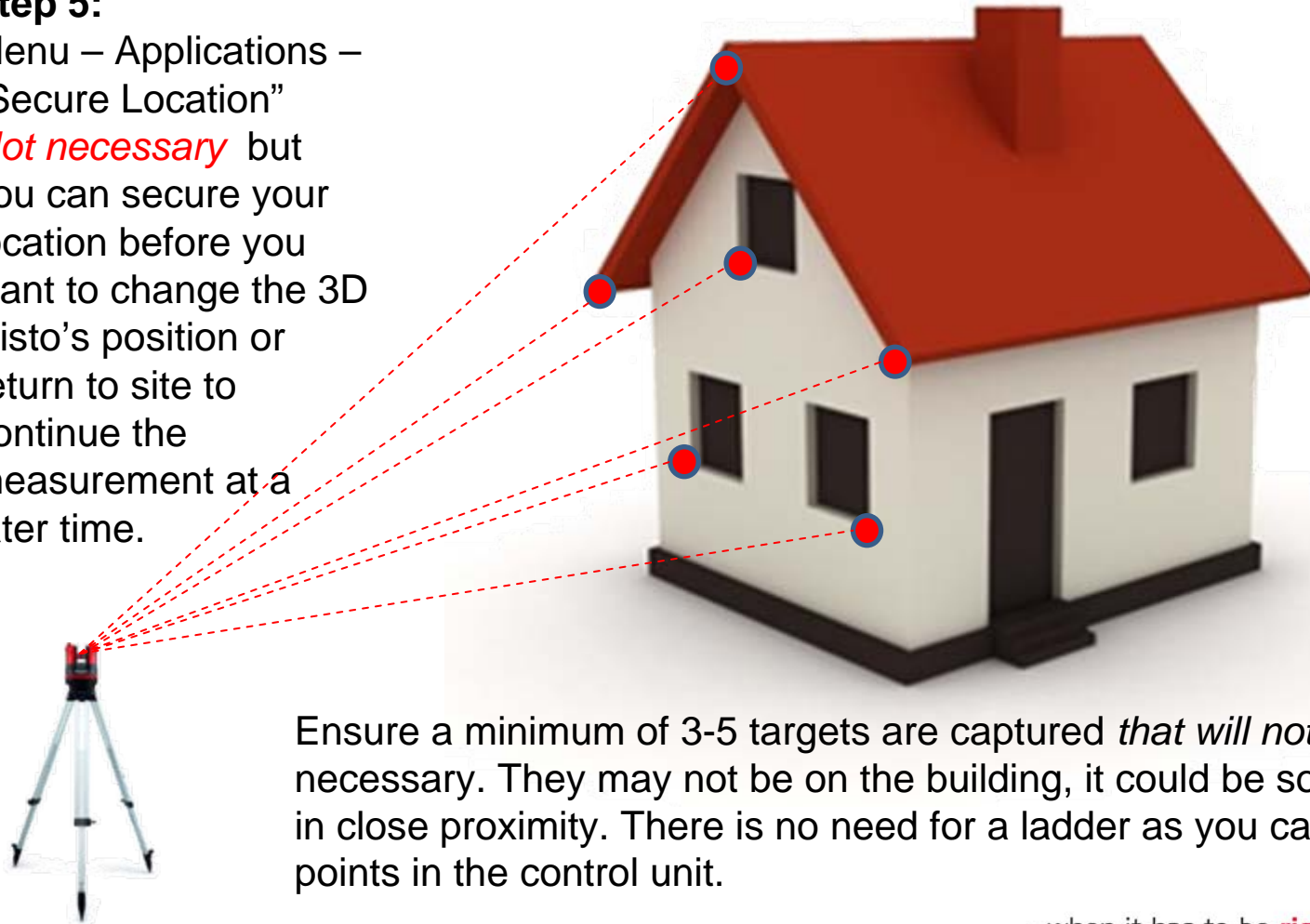
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Secure your location



Step 5:

Menu – Applications –
“Secure Location”
Not necessary but
you can secure your
location before you
want to change the 3D
Disto’s position or
return to site to
continue the
measurement at a
later time.



Ensure a minimum of 3-5 targets are captured *that will not move*. More if necessary. They may not be on the building, it could be something else in close proximity. There is no need for a ladder as you can see the points in the control unit.

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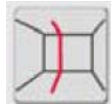
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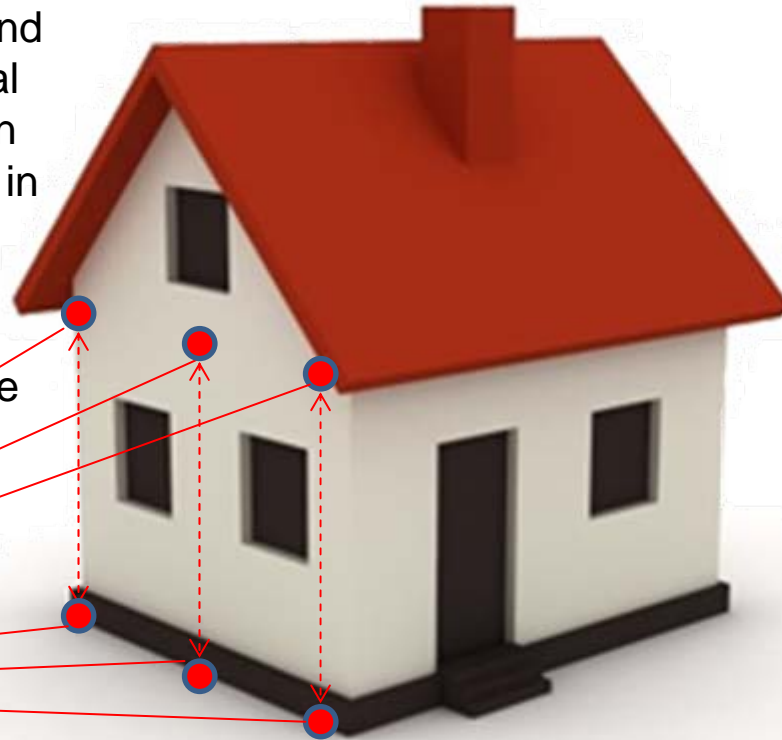
You need to know if the wall is straight

Step 6 :

Click the scan icon on the right hand side of the control unit. Use vertical scan to measure any differences in the surface on the face of the wall in three places.



Choose point to point and measure start point at the bottom and end point of scan at the top



Set scan interval to 25cms. The 3D Disto will automatically start scanning point to point



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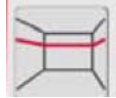
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You need to determine an uneven surface



Step 7 :

Once you have finished the vertical scan you can now do a horizontal scan to measure any differences in the surface on the face of the wall



Choose point to point and measure start point from one end to the other



Set the scan interval to 25 cms. This part is where your main fixing for support will go and where your construction must fit to the shape of the building.

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Step by step using the 3D Disto

You need to now measure your fixing points



Step 8 :

Your scans are now finished so you need to measure your fixing points. Still in room scan first measure **1 & 2** (the office assistant will inform you if they are measured already). Then measure along the same lines points **3 & 4**



Points **3 & 4** you will need to mark out manually how far you want the Veranda to come out to.



Snap to old points

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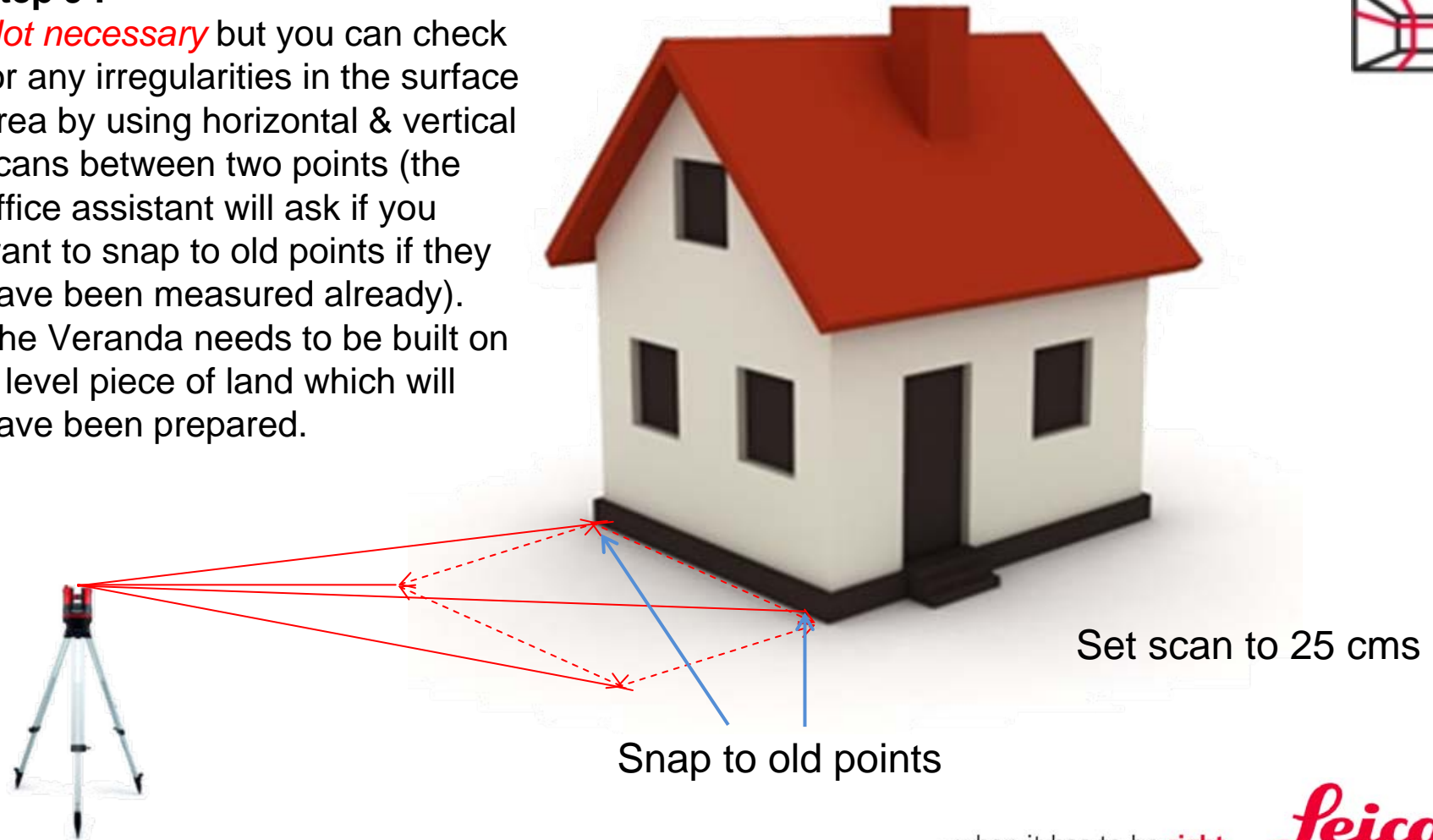
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You need to know if the floor is level

Step 9 :

Not necessary but you can check for any irregularities in the surface area by using horizontal & vertical scans between two points (the office assistant will ask if you want to snap to old points if they have been measured already). The Veranda needs to be built on a level piece of land which will have been prepared.



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This is what you should see

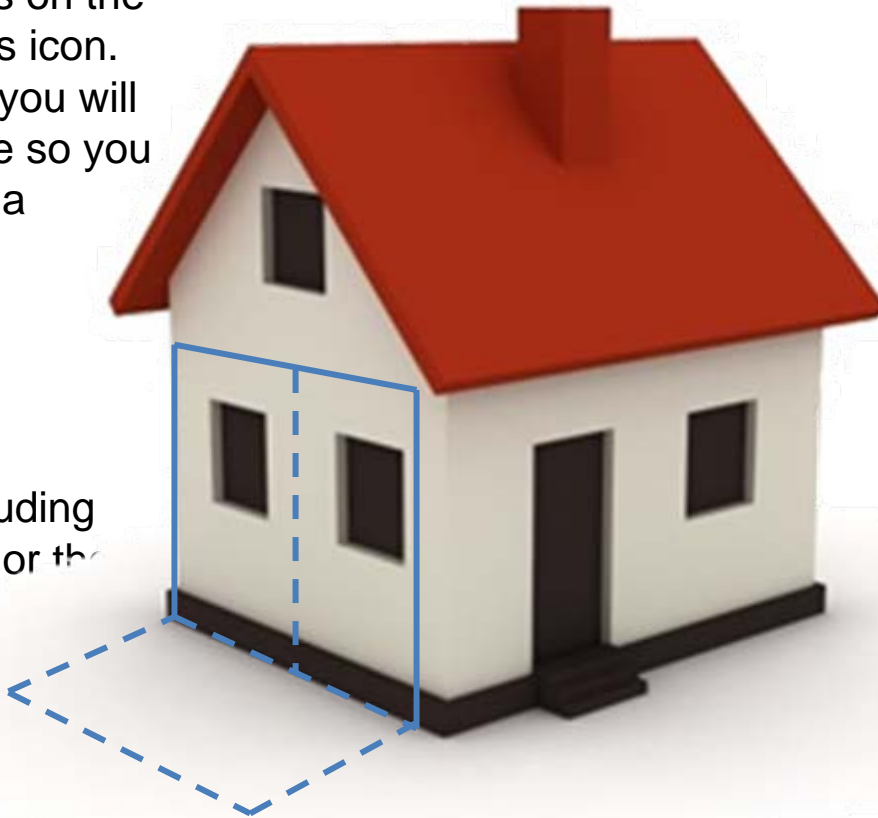


Step 10 :

You can switch between views on the CU to see the image using this icon. As you are measuring in 2D you will be looking down on the image so you can use this icon by selecting a horizontal line.



If you measured the facade including the windows you can see this or the floor plan depending on what you selected.



Make a long key press on a measured point or line in the screen to start CAD functions, like rectangle tool for doors & windows, line intersection, etc....

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Saving measurements for post processing

Step 11 :

Now save the measurement in the File Manager.

Press Home key, create a new work folder.

Once saved, export

Export: using a USB to AutoCAD or other software used for post processing: plug USB stick into Control Unit, select file or folder, press Export key (red arrow)



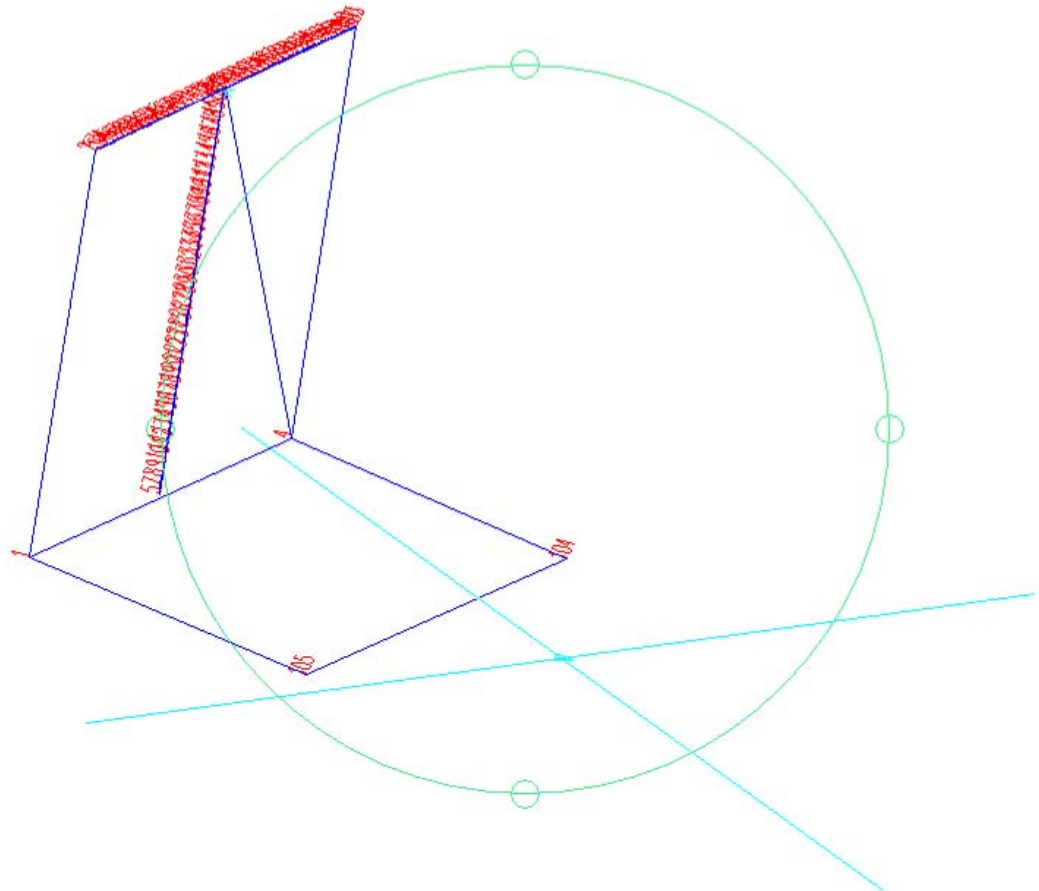
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Post processing in software for sending measurements to manufacturer

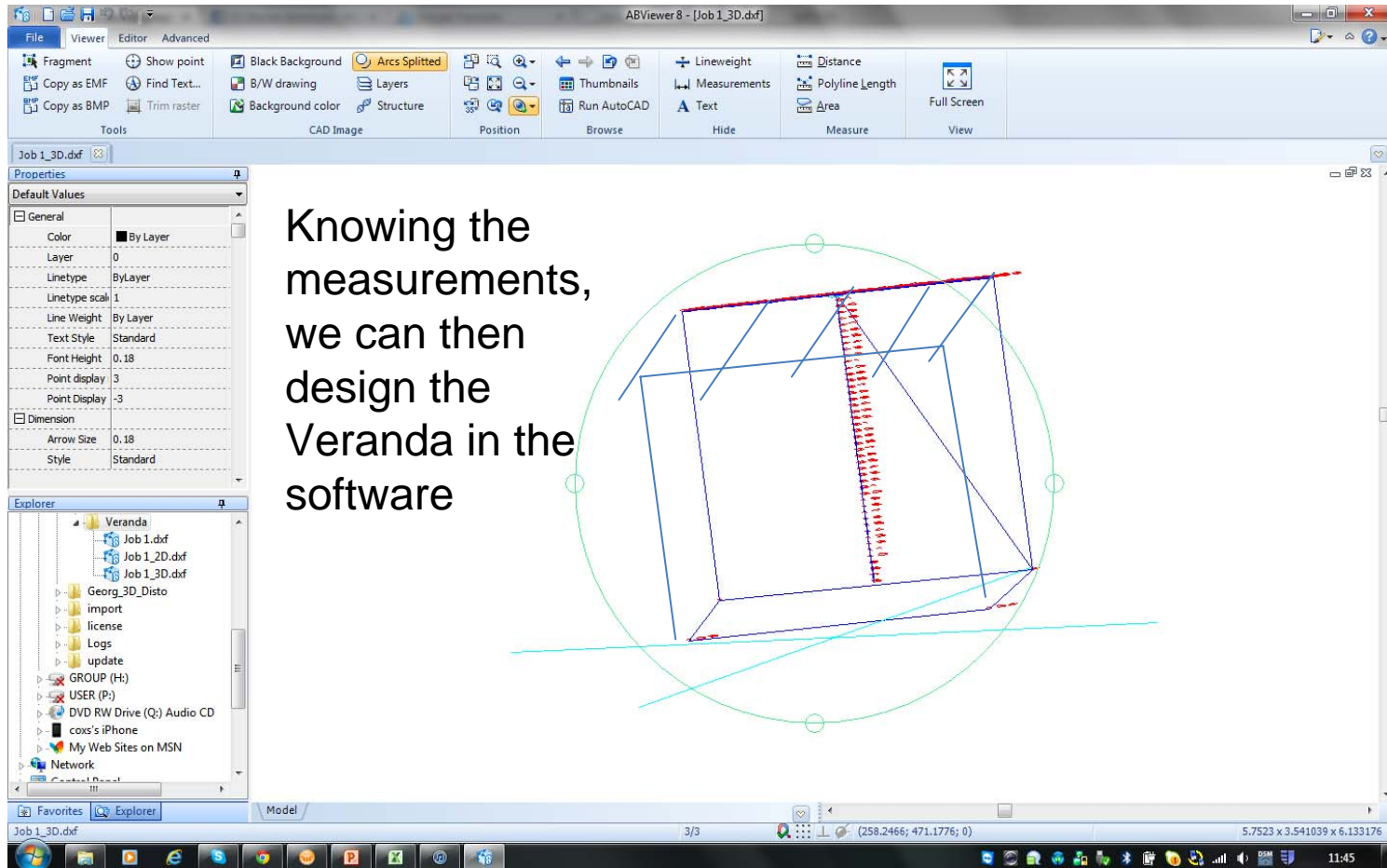
Whatever software you are using, you can check and alter the measurements and evaluate the data and finish off the drawing, then send this to the Veranda manufacturer for production.



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Post processing in software for sending measurements to manufacturer

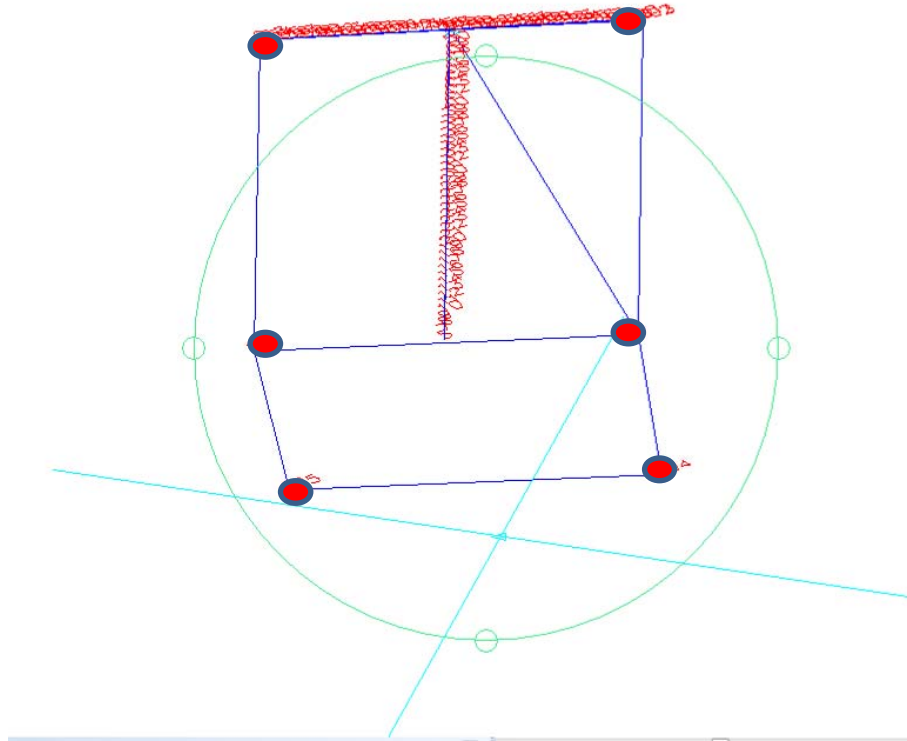


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Post processing projector function for fixings



You can design your fixings grid reference in AutoCAD or other software and import the dxf file and use Projector function. Create a DXF file with these fixing points for each surface (X/Y).

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Projector function for fixing

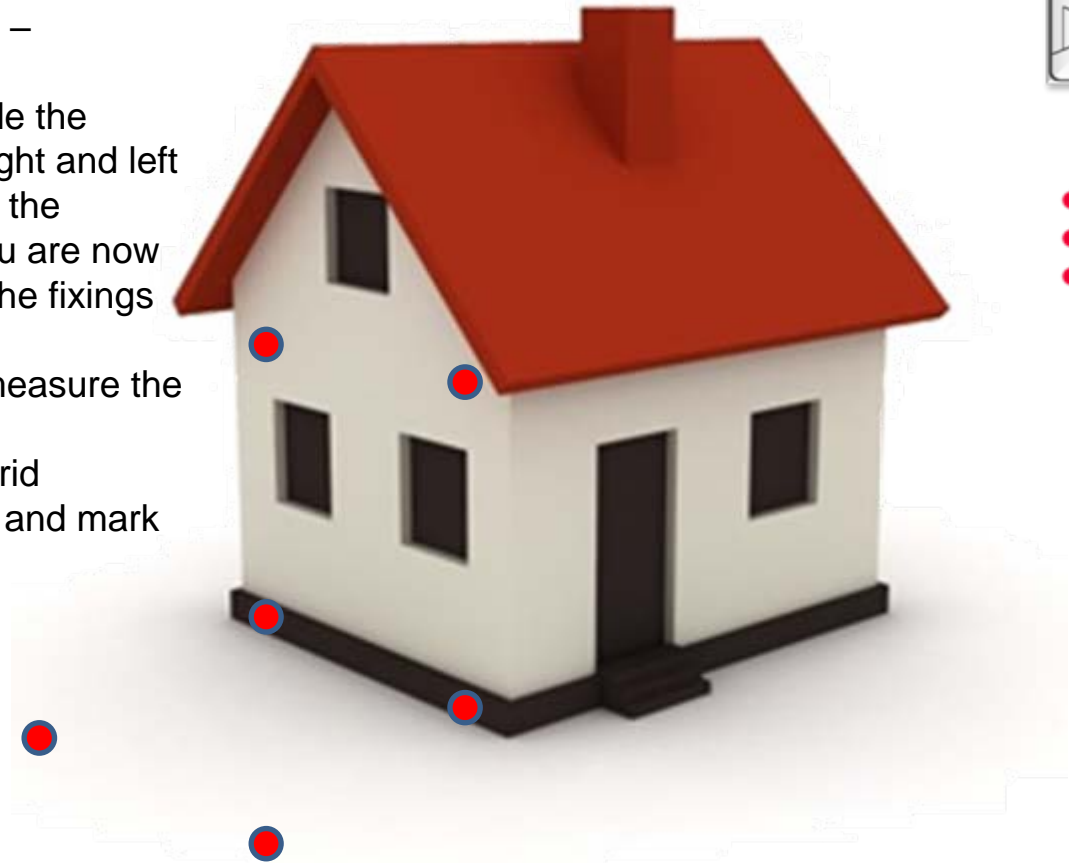
Step 13 :

Start projector function – “Menu” – “Projector”

Measure two points on the facade the veranda refers to, for example right and left corner of the house. Then follow the assistant for point projection. You are now going to *mark* the points where the fixings will go for your veranda.

Follow the office assistant and measure the area, upload your dxf file.

You will see the area and your grid reference. Shoot to these points and mark for your fixings.



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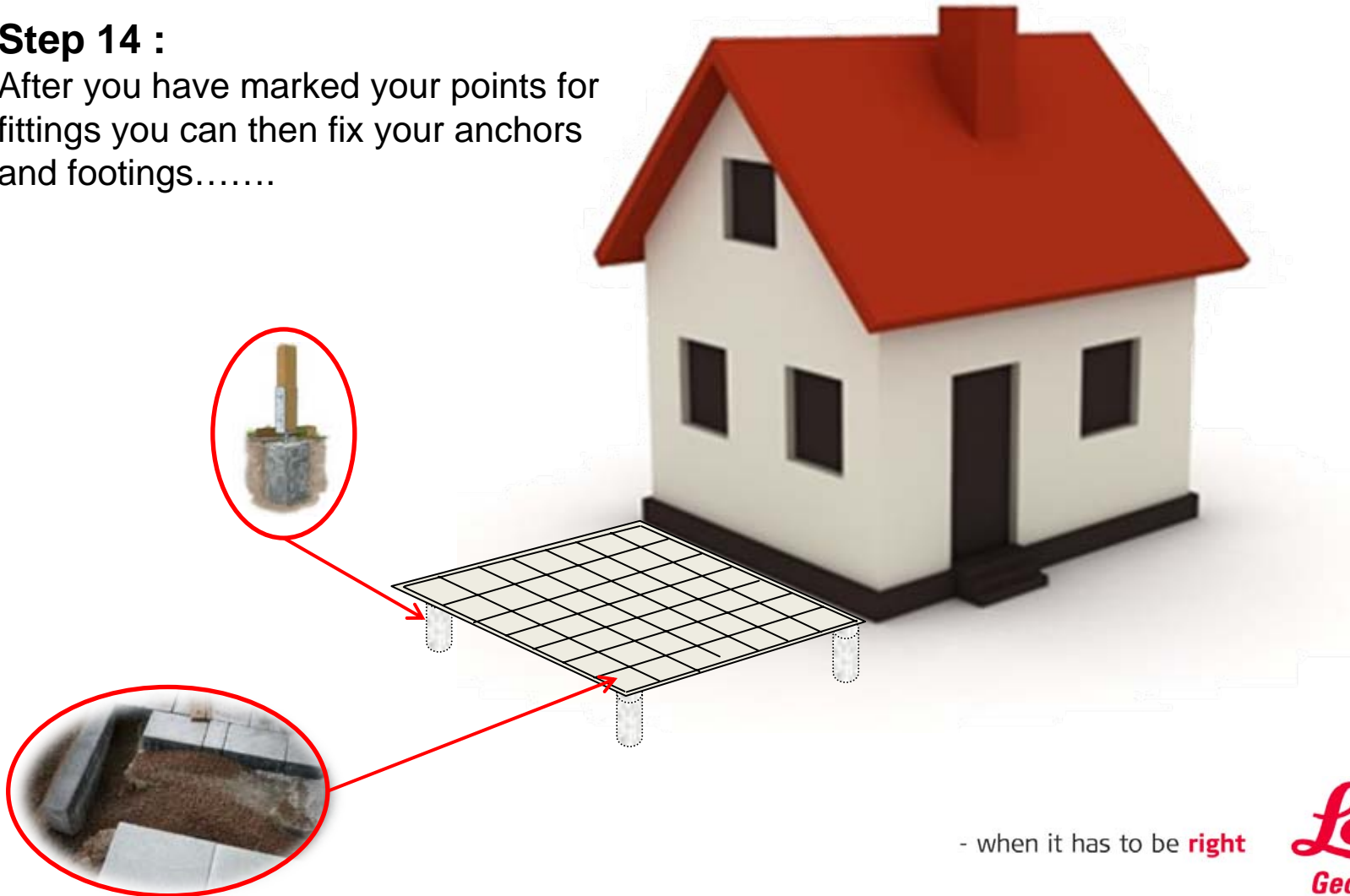
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Foundation and support

Step 14 :

After you have marked your points for fittings you can then fix your anchors and footings.....



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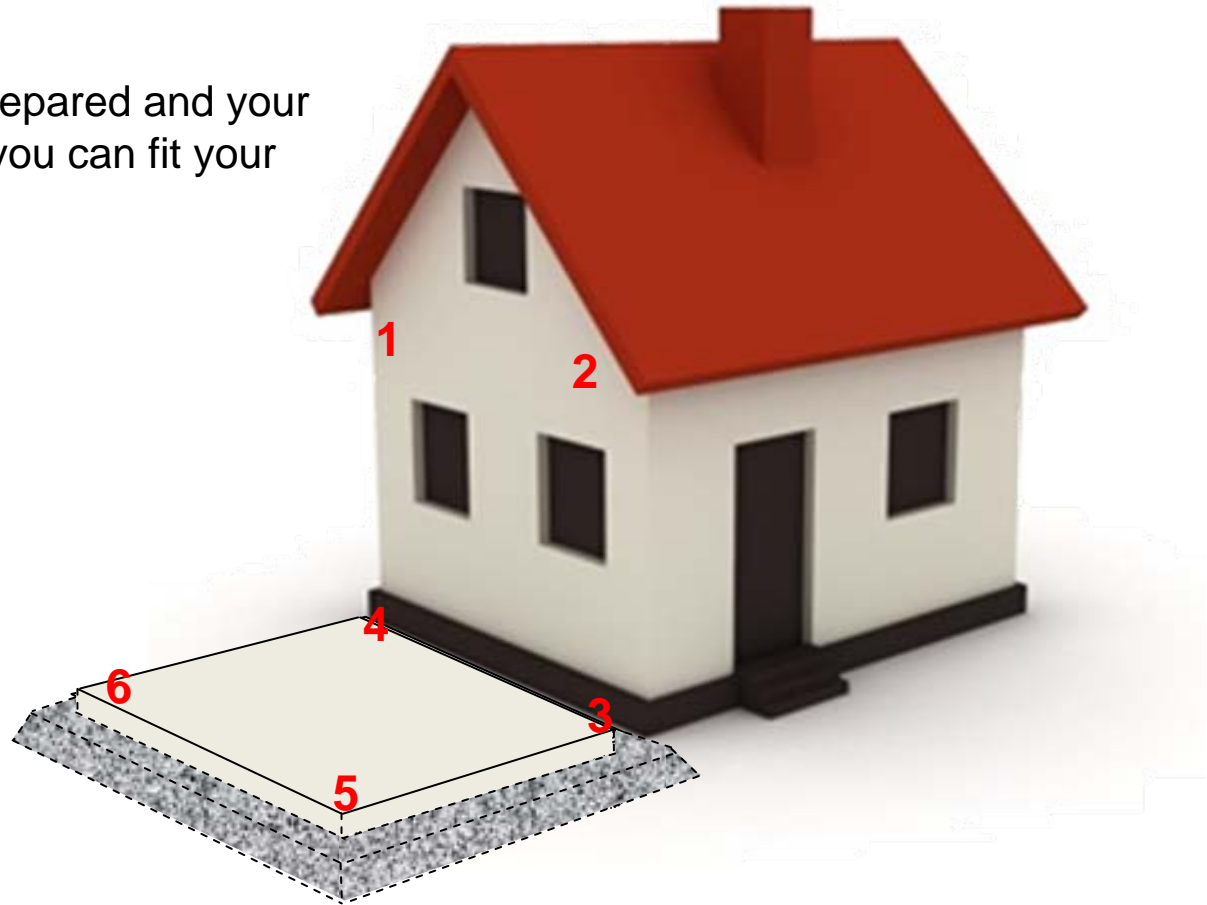
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Foundation and support

Step 15 :

When your floor is prepared and your fixings marked then you can fit your veranda.



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The finished product

Step 16 :

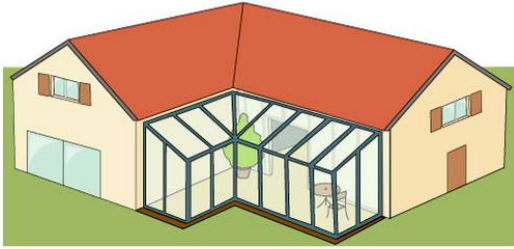
The fitting process. The Veranda is now finished



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With the 3D Disto.....anything is possible!



Between two walls



Around two walls



In the house



Between two houses



Between three walls



Between two houses



On masonry

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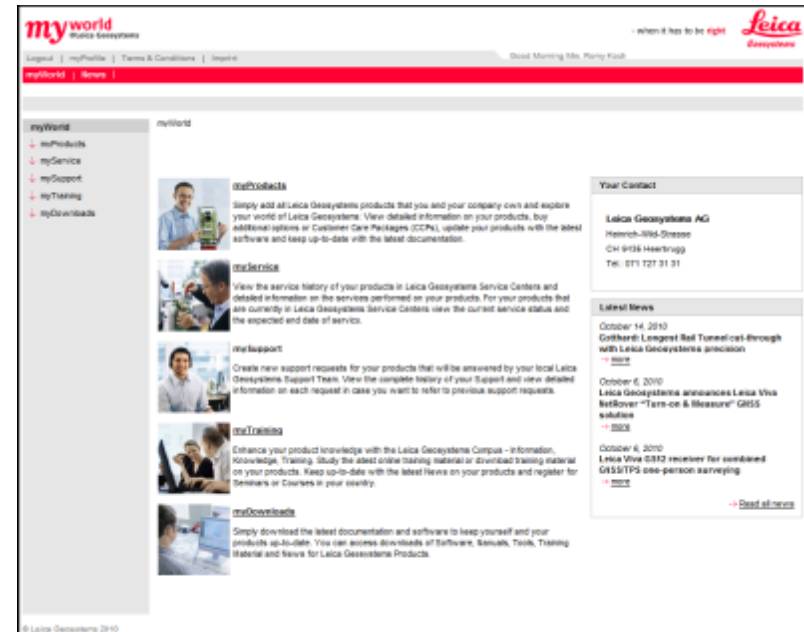
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