

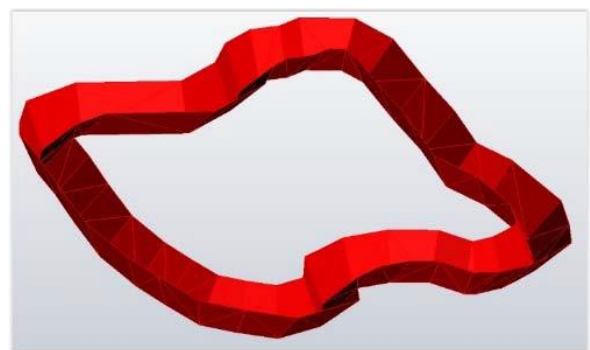
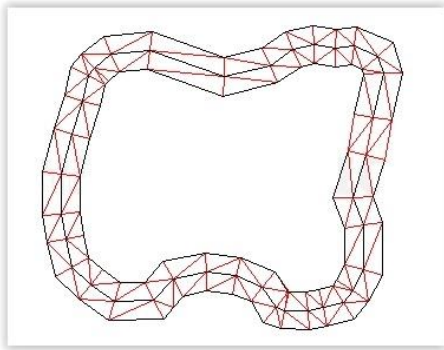
## Importing DTM Data

### Uploading DTM Data:

Digital Terrain Models (DTM) are a network of 3D points joined together to create triangles. If the level at one corner of a triangle is for example, 22.00m and the level at another corner of the same triangle is 24.00m then the level half way between the two is 23.00m. Repeat this over all the points and associated triangles and you have a design! Here is the design we are going to use – part of an ongoing plan to build my children a play fort in the garden.

These guides cover the process from start to finish. I am using a TS16/CS20 combination to set out the structure itself. This guide covers the uploading of the moat in DTM form.

Let's have a look at it:



Here are two views of the moat DTM taken without the fort. The picture on the left shows the DTM in plan view. All the triangular surfaces are shown. Each corner of each triangle represents a point in the DTM. It is important to note that with a DTM, each triangle is a solid shape or surface.

The picture on the right is slightly harder to see. Stare at it in colour for a while and hopefully you will be able to start to see what is happening. The picture shows a 3D view of the DTM taken slightly from the top and off to one side.

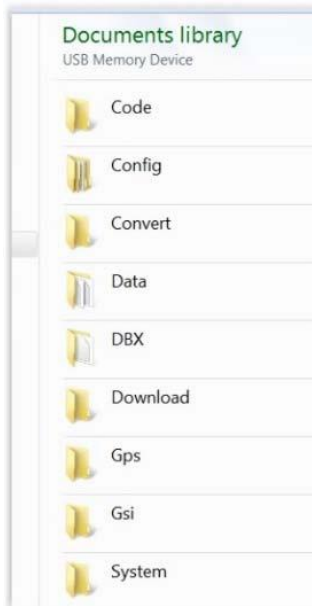
My very simple design is a straightforward V shaped trench. You can see the three lines on the first picture and in the 3D view once you know what you're looking for. I am going to import the DTM as part of a DXF file. Captivate is clever enough to look at a DXF being imported as a DTM and determine which layer the 3D triangular surfaces are on. It will then import only that layer.

This avoids clogging up a job with unnecessary data.

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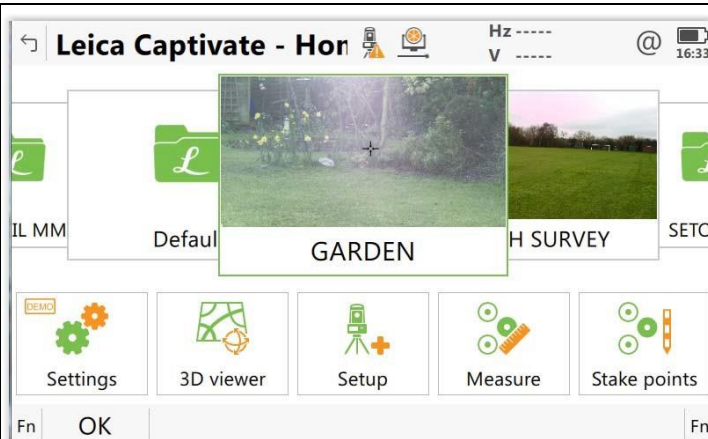


As with any form of data, you need to copy the DXF containing the DTM into the Data folder of either an SD card or a USB memory device.

As you can see, I am using the USB option.

You can also see the DBX folder. This is where you need to put all of the files created when you create a DTM job for Leica in LSS. If you have done, this, use the SD card option rather than the USB stick.

1



Although I am tapping my working job with the stylus, I will not physically be importing the data into it. DTM data acts a bit like Road data in as much as it ends up with a job all to itself. You then select which DTM job you wish to use when entering the program.

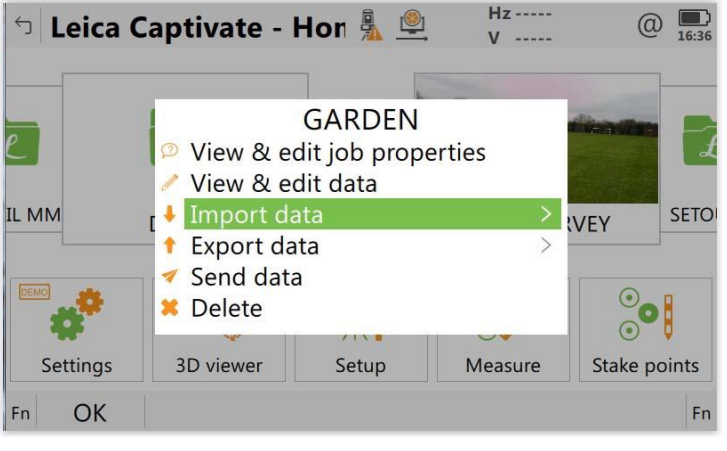
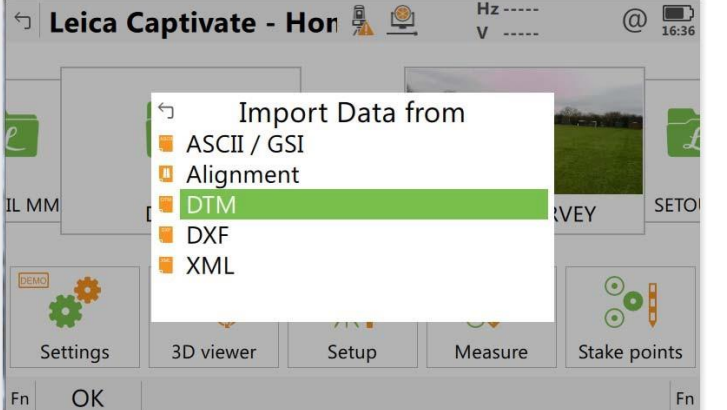
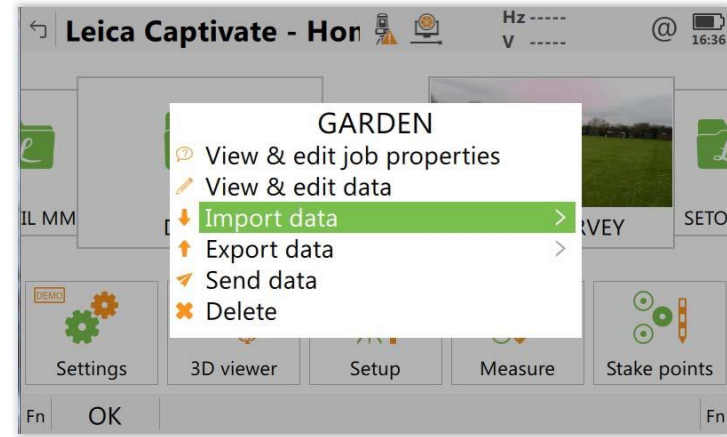
Any points you record within the DTM program will go into your currently open working job.

Tap the working job tile you are going to use.

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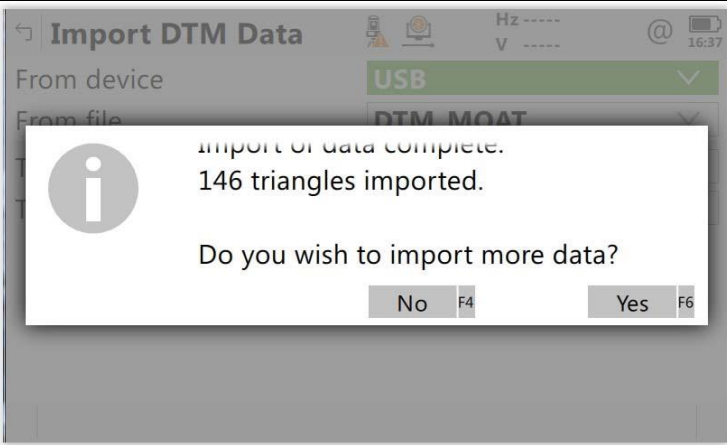
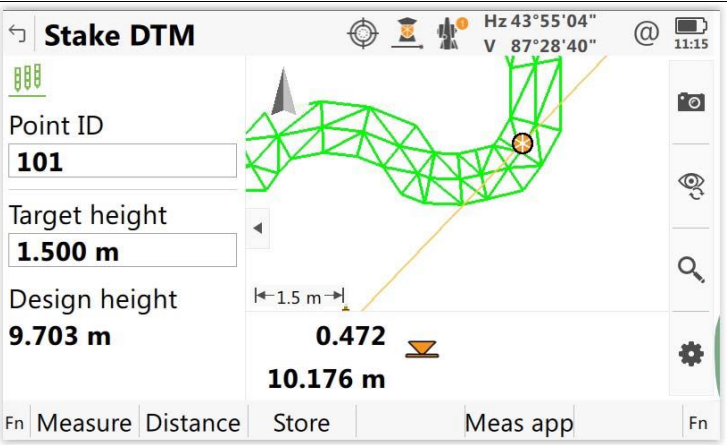
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	<p>Select <b>Import data</b> from the list.</p>
	<p>Select <b>DTM</b> from the list of import options.</p>
	<p>Now find your data.</p> <p><b>From device.</b> Which memory is your DXF in? Mine is on the USB stick.</p> <p><b>From file.</b> Select the file!</p> <p><b>To job.</b> As I mentioned, a DTM job is required. Captivate will simply suggest using the file name as the job name!</p> <p><b>To device.</b> Where are you going to store the DTM job? Do not use the USB option. If you do, you will have to keep the USB stick in the whole time. Not a good idea if you are working robotically or with GNSS.</p> <p>If you press <b>Fn</b>, <b>Settings</b> will appear over <b>F1</b>. The only setting available is for <b>units</b>. Press <b>F1 (OK)</b>.</p>

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		<p>The data will now import. Once complete, a summary screen will appear.</p> <p>As you can see, I have imported 146 triangles. The data is now ready to use as part of the <b>Stake DTM</b> program.</p> <p>Press <b>F4 (No)</b> to return to the <b>Home</b> menu.</p> <p>We'll have a quick look at the data in action...</p>
		<p>The actual <b>Stake DTM</b> program itself is incredibly easy to use. Tap on the program and select the DTM job you want to use.</p> <p>Once in the program screen, make sure to set your <b>Target height</b> correctly. This is very important as any wrong target heights will cause an equal error! I have set a <b>Point ID</b> in case I want to record any points for appraisal later.</p> <p>The DTM is shown on the screen in a rather fetching green here. You can see the target is inside the design. The 10.176m is the current ground level. The <b>Design height</b> calculated for the target position is shown on the right hand side of the screen. You can see that to reach the design level, we need to cut down 0.472m. Easy!</p>

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