

## Mapinfo Professional 9.5

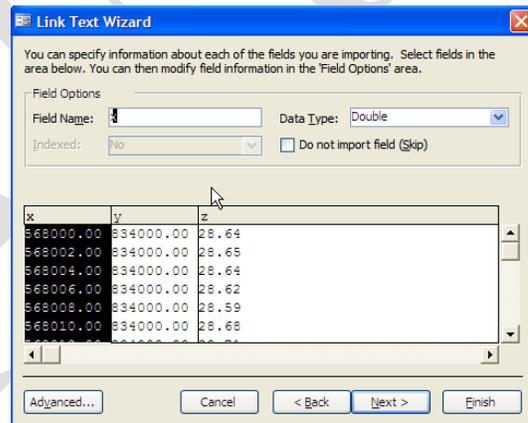
Mapinfo Professional is a commonly used desktop GIS software package produced by the MapInfo Corporation. It offers a set of tools to perform mapping, data visualisation and GIS functions along with allowing the importing and exporting of many data formats.

### Displaying Lidar DTM data.

1. Open the DTM file [*“OSI\_LIDAR\_2m\_Sample\_ITM.xyz”*] within textpad and save as a *“.txt”* file.
2. Open this txt file in MS Access and convert it to an *“.mdb”* file.
  - a. Open Access.
  - b. Open File-Select *“Text Files”* in the *Files of Type* drop down list.
  - c. Select and open the *“OSI\_LIDAR\_2m\_Sample\_ITM.txt”* file.
  - d. Make sure the *“Delimited”* radio button is selected. Click next.

- e. Choose the *Tab* delimited radio button  and select Text Qualifier *{none}*. Click next.

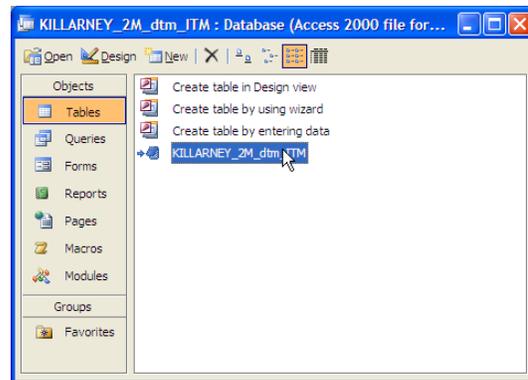
- f. Click on each field and rename accordingly (*x, y, z*) and click Finish.



- g. Open the table in Access (double click on the new table.)

- h. Once the table has opened, select *File >Export*.

- i. Select the file *OSI\_LIDAR\_2m\_Sample\_ITM*, change the *Save as Type* drop down to *dBASE IV*.

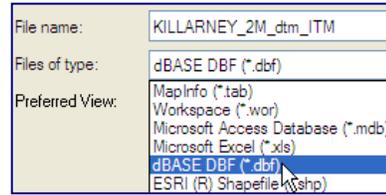


- j. Click Export and close Access.

(Note; The full file name is shortened by the export process-you may rename it at this point through navigating to the folder and renaming the new *OSI\_LIDA.dbf* to *OSI\_LIDAR\_2m\_Sample\_ITM*.)

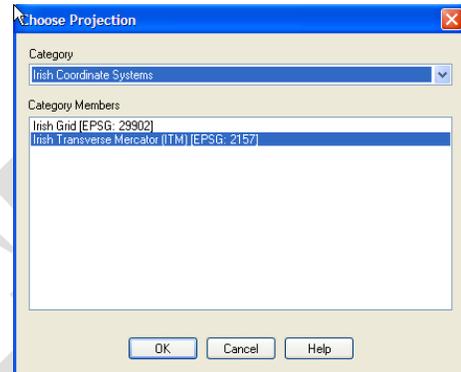
3. Open Mapinfo, select **Open a Table** in the quick start window.

4. Select **dBASE DBF (\*.dbf)** as the files of type and navigate to the folder holding the newly created **OSI\_LIDAR\_2m\_Sample\_ITM** DBF file. Select the file, click open and click **Ok** to the resultant **File Character Set** window. A table should open in Mapinfo displaying 3 columns of data with the headers **X, Y** and **Z**.



5. Select **Table>Create Points**.

6. In the resultant window make sure click on the **Projection** button to set the projection to **Irish Transverse Mercator (ITM)**. Click **OK** leaving all other options as default. A status bar will appear as your points are processed.

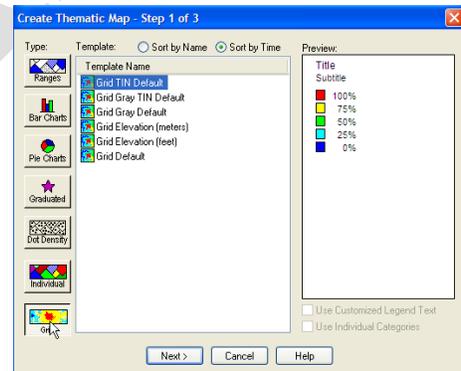


7. Select **Window>New Map Window**. A new window displaying a full page of evenly spaced boxes (right) should appear.



8. Select **Map>Create Thematic Map**.

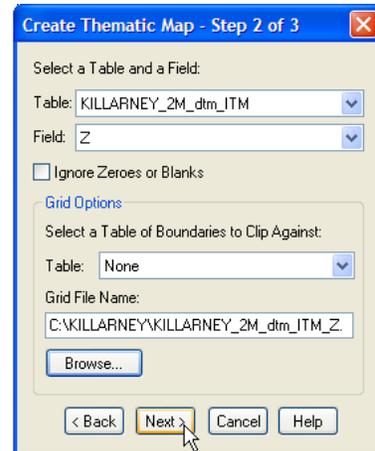
9. In the Create Thematic Map box select **Grid>Grid TIN Default**. Click Next.



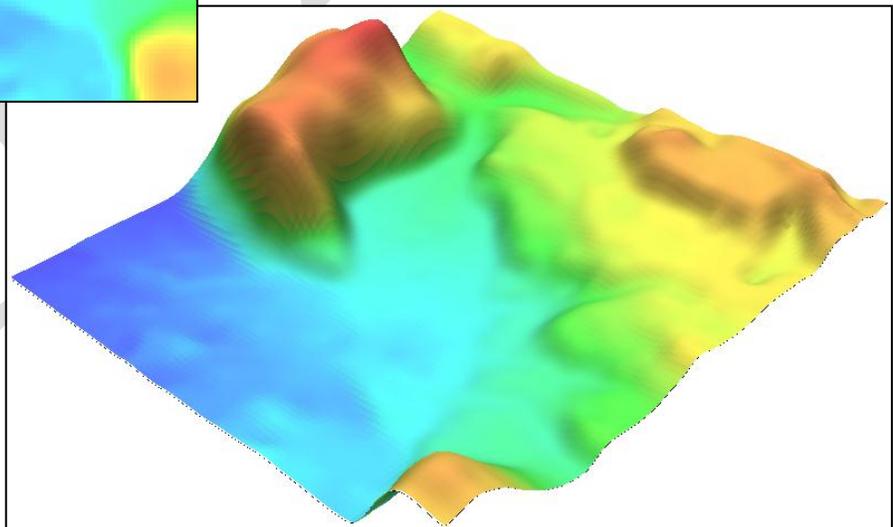
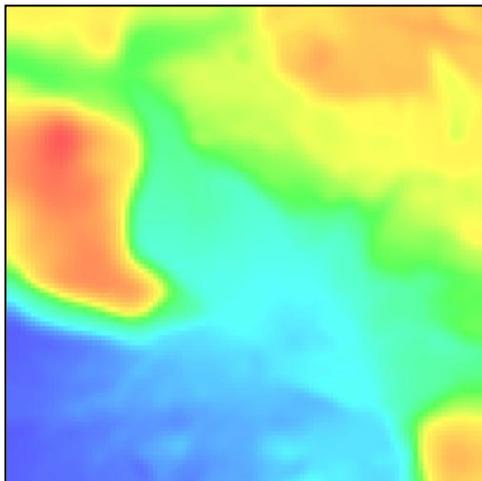
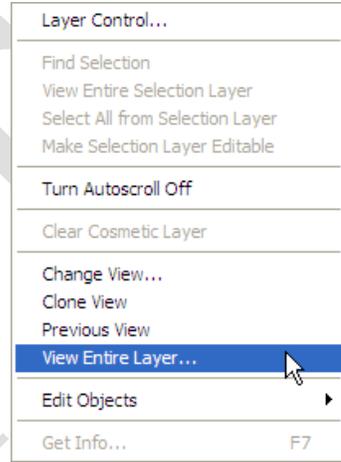
10. Select the **OSI\_LIDAR\_2m\_Sample\_ITM** table.

11. In the **Field** dropdown box select **Z**.

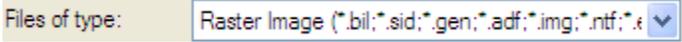
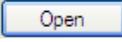
12. Browse to the folder where you wish to save the new file and click Next. The file will take a moment to create.



13. In the final window for this select  and set *Translucency* to **30%**. Click OK.
14. Your map window should appear coloured. Right click within the map window, select **Layer Control**. Turn off **Visibility**  on the *OSI\_LIDAR\_2m\_Sample\_ITM* layer by un-checking the box.   
This will leave the new *OSI\_LIDAR\_2m\_Sample\_ITM\_Z* file as the only visible layer in your map window.
15. Right click in the map window again and select **View Entire Layer** and **OK** in the pop up box. The DTM/DSM should display in a range of colours. See below, left.
16. Select **Map>Create 3D Map** (shortcut; **F11**), leave all settings as default and click **OK**. A 3D model of the area surrounding Killarney will display. Below, right.



## Loading an Ortho Image into Mapinfo 9.0

1. Select  to open files.
2. Navigate to the folder containing the OSi ortho-photography.
3. Select 'Raster' as the "File of type:" 
4. Select the high or low flown imagery. If you wish to open this image with data already displayed in Mapinfo (such as your Killarney DTM) select Preferred View: , if you wish to open it in a new map window leave this option at Automatic.
5. Click .
6. Make sure to select the same co-ordinate system as the data you have displayed. Data of different co-ordinate systems will not overlay or display accurately together. Click **OK** and the Killarney image should display.
7. If you display the ortho-imagery in this way, in conjunction with DTM data it is possible to display a manoeuvrable 3D representation of the data.
  - a. Display your DTM as outlined previously.
  - b. Open the raster file for the same area, for example, a high resolution image, within the "Current Mapper". (See **Step 4** above.)
  - c. Click Open and make sure the co-ordinate system is set to that of the DTM. (Either Irish Grid or Irish Transverse Mercator.)
  - d. Provided they are of the same area, they should overlay with each other. See right.
  - e. Once displayed, **Right Click** anywhere in the map window, select **Layer Control** and make sure the ortho image is visible on top of the DTM.
  - f. Once displayed, select **Map>Create 3D Map**, leave all options at default, and select **OK**. The 3D map should display as before, only this time draped with the newly added ortho image. See overleaf.

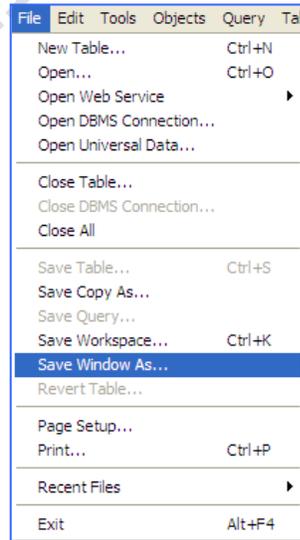




*Killarney High Resolution Ortho Image draped over the 2m Lidar DTM.*

Jpegs of this, or any window within Mapinfo, can be produced quite easily.

1. Select **File>Save Window As...**
2. Select where you would like the image to be saved, give the file an appropriate name and select the output file type. The most commonly used is **“.jpeg”** as it is easily opened, saved and sent.
3. Select **“Save”**.
4. In the resultant window you may set the output resolution and size. Change these if you wish and click on **“Save”** once more.
5. Finally navigate to the output image folder you selected in step two and double click on the image. It should open in your default photo browsing application.



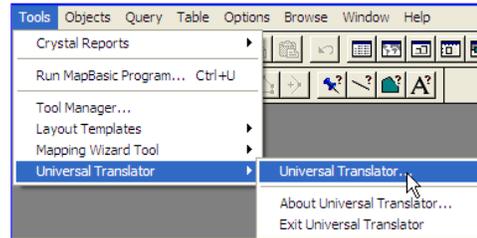
Other file types you may save this new image as include; **“.bmp”, “.tif”** and **“.gif”**

*(Note; These image outputs are primarily for presentation purposes and do not come with appropriate **“.tab”** or **“.tfw”** in order to display as georectified files in other GIS software.)*

Using Universal Translator.

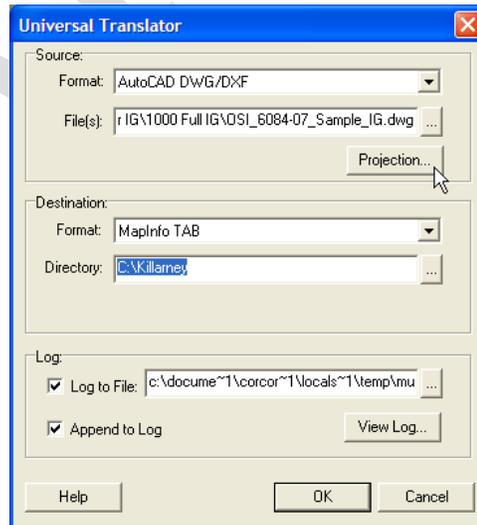
Universal translator allows you to import and export various different file formats for multiple software. Its main use with this data would be to translate Mapinfo “.tab” files to ESRI “.shp” or, as in this example, converting AutoCAD “DWG” or “DXF” files to MapInfo “.tab” format.

1. Open Universal Translator by selecting **Tools> Universal Translator>Universal Translator...**



2. Within the **Source** section of the resultant pop up window you will be asked to specify the **Format** of the file(s) you wish to convert. Select **AutoCAD DWG/DXF** from the drop down menu.
3. Within the **File(s):** option select the  button and navigate to your Sample OSi Vector Dataset. Select the files and click **Open**.

4. Make sure to set the projection of your imported files at this point. Ensure that the chosen projection is as specified in the file name-**IG** or **ITM**.
5. Finally you must set the folder in which you would like the files to be saved to. Within the **Destination** section select your **Format** as **MapInfo Tab**.



6. Again, navigate to the output folder you would like to hold your files and click **OK**.

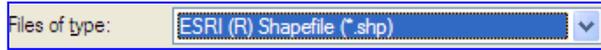
7. A small dialogue box will display for a short while after which you will be told the translation has been successful. Click **OK** and Cancel out of **Universal Translator**. The newly translated files will display within your selected output folder.



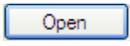
(Note: If the file has multiple layers, **Universal Translator** will create a new tab file for each of these layers.)

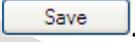
Displaying Vector Data within Mapinfo 9.0

1. Select  to open files.
2. Navigate to the folder containing your Sample OSI vector dataset.
3. Select **“.shp”** as the **“Files of type”**.

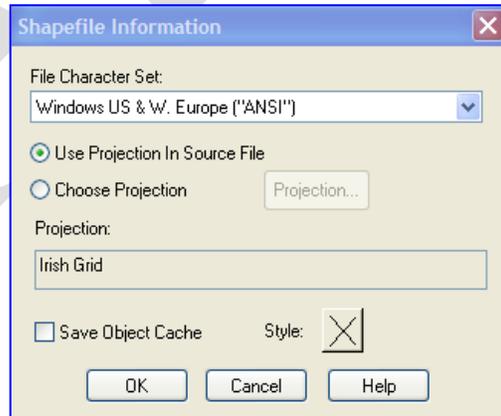


4. Once you have done this, the files you require should appear in the above window. Select the required files.
5. If you wish to open this vector data with data already displayed in Mapinfo select , if you wish to open it in a new map window leave this option at Automatic.

6. Click .

7. If the data does not already have a Tab file, you may be asked to specify a **“Tab filename.”** Simply navigate to the original file location, leave all options as default and select .

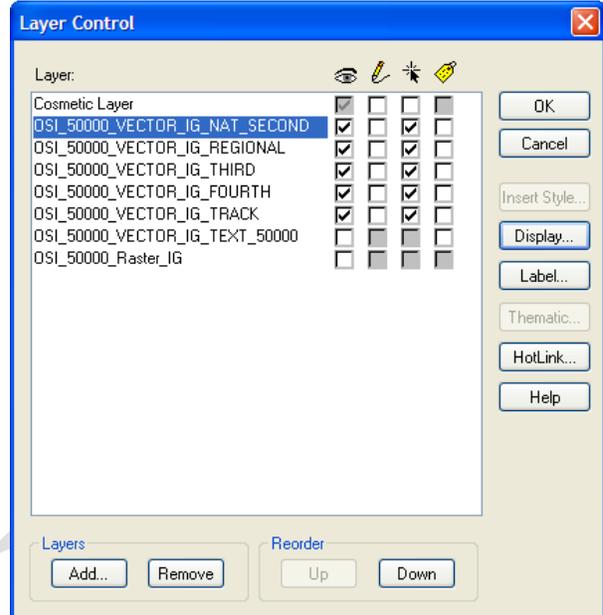
8. In the resultant **“Shapefile Information”** box leave all options as default and select **“OK.”**



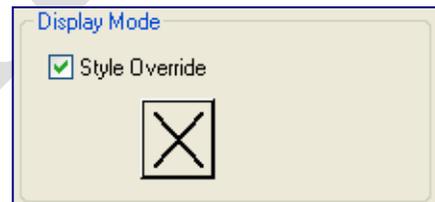
9. The data should display in your open window

It is possible to alter the appearance of Vector data by right clicking anywhere in the screen and selecting “**Layer Control**”.

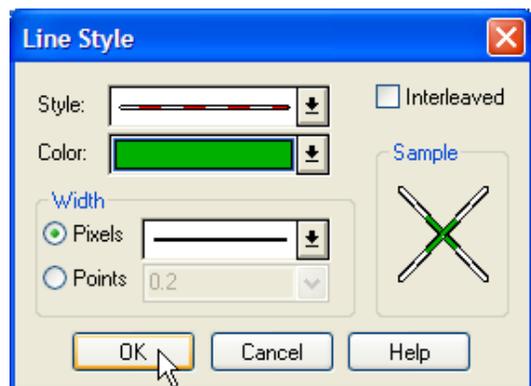
1. Select the level you wish to change.
2. Make sure that it is visible-ie; there is a check in the box beneath the  symbol.
3. Once the layer is highlighted in blue, select the  button.



4. Within the **Display Mode** area, select the **Style Override** check box and click on the square below it. This may have a point, a thin X or a jagged polygon within it, depending on the properties of the layer.



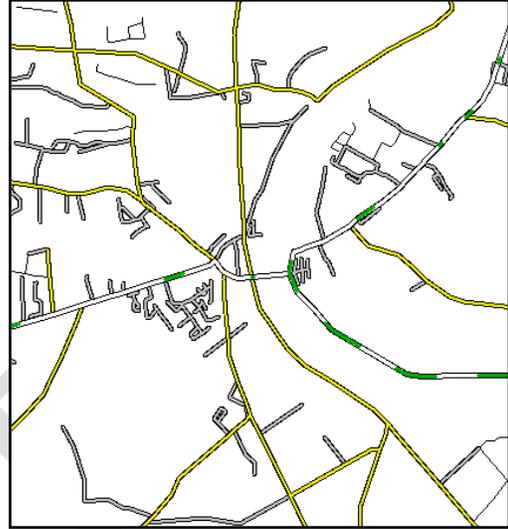
5. Within the resultant pop up window you may set the **Style**, **Colour** and **Width** of the line, point or polygon. See Right.
6. For roads or intersecting features you may want to check the **Interleaved** box. This will make each road segment appear connected and seamless.



In the example shown below, we have the raw vector data of the roads around Dublin on the left. On the right, we have the same data styled to something slightly more familiar and readable.



Raw vector roads data without styling.



Styled vector roads data

**Labelling data.**

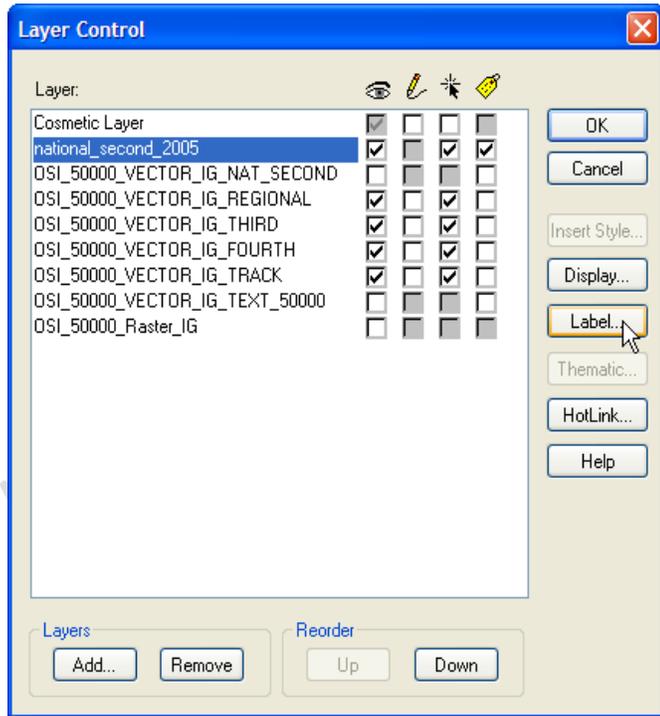
Vector data can be labelled with any of the data contained within their metadata. (Note; If you have translated “.dwg” or “.dxf” data only a certain amount of the column data will be translated and as a result some of the vector layers will lose their table data.)

1. It is possible to view the columns contained within a layers metadata at any time. Simply select **Window> New Browser Window** (Keypad Shortcut **F2**).
2. If you have more than one vector layer a dialogue box should display listing all the layers in your map window. Select the one you wish to view and click **OK**.
3. Once the table appears find the column that contains the data you would like to display as Labels to your map features. You may need to scroll across the table as there may be quite a number of empty or extra columns.
4. Close the table by clicking on the small **X** in the top right corner of your screen.

Window	Help
New Browser Window...	F2
New Map Window...	F3
New Graph Window...	F4
New Layout Window...	F5
New Redistrict Window...	

5. Right Click within your map window and select **Layer Control**. Your **Layer Control** options window will display. The boxes beneath the  icon should all be clear at this stage.

6. Select the box associated to the layer you wish to auto-label. Once you have your auto-labels successfully set up you will be able to turn them on or off easily by unselecting this box. Also select the layer itself making sure it is highlighted in blue.



7. Once selected, click on the **Label** button. This will open the **Label Options** for the highlighted layer. From this options window you have a range of options such as alignment, font type and size,

8. Make sure that the column that contains the data you wish to use as Labels to your map data; i.e. **Route\_no**, **Road\_name** or **Textstring** is selected within the **Label with;** drop down menu.



9. Once this is selected you can, if you wish, leave all other options as default and select .

10. Select **OK** to all open dialogue boxes or menus and when you arrive back at the **Map Window** you should have the required features labelled within your map.

