



GE  **MAX**

The text "GE" and "MAX" are in a bold, black, sans-serif font. Between them is a globe icon composed of several horizontal orange lines of varying lengths, creating a 3D effect.

TUTORIAL
GEOREFERENCE RASTER MAPS
& VECTORIZATION

Georeference Raster Maps

DESCRIPTION

- Allows to import and georeference raster maps

GOAL

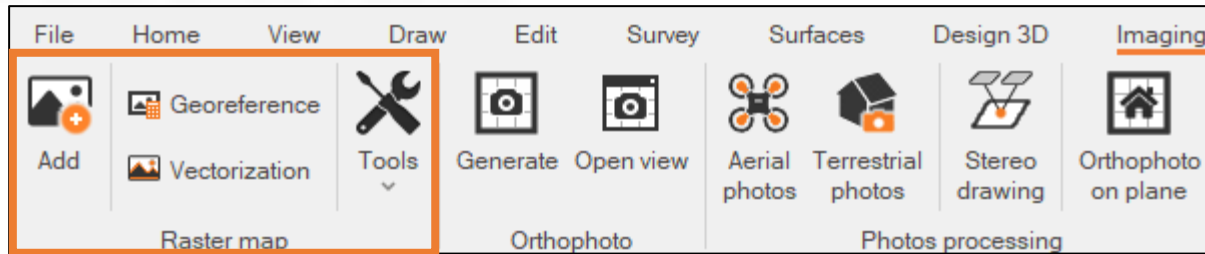
- How to georeference raster maps
- Raster Map Vectorization

DATA

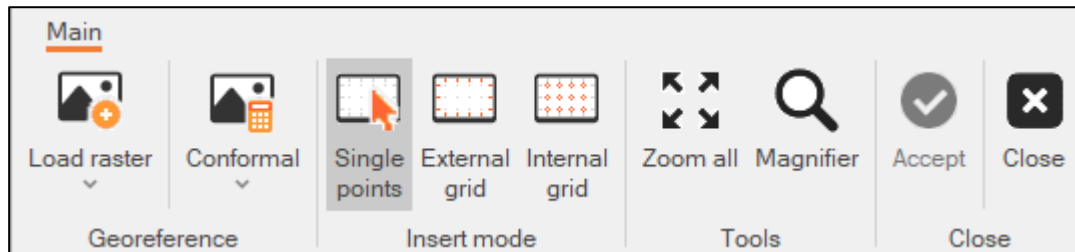
- Map.gfd4
- 1483360.png



Georeference raster



- Georeference raster is a tool to georeference any raster image using defined points on external or internal grid, or within the picture



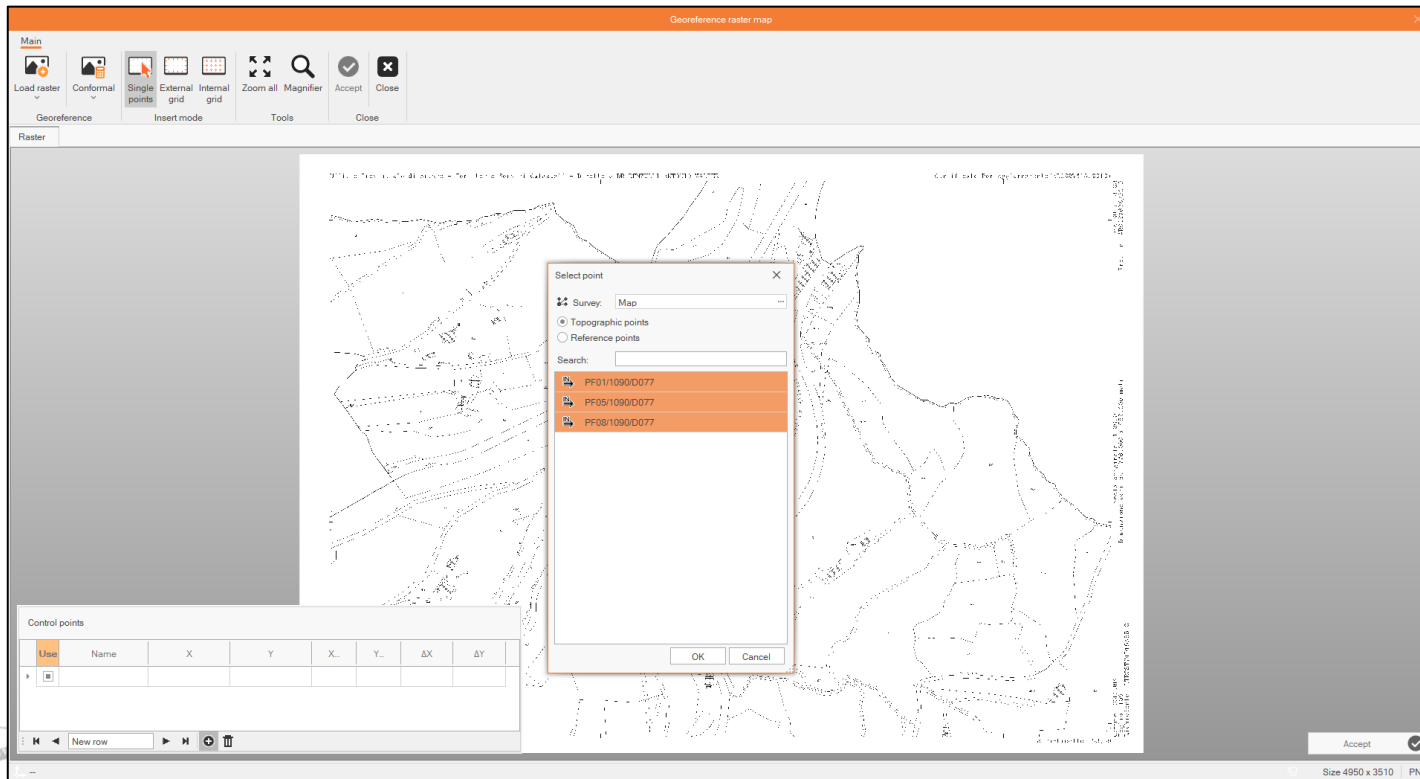
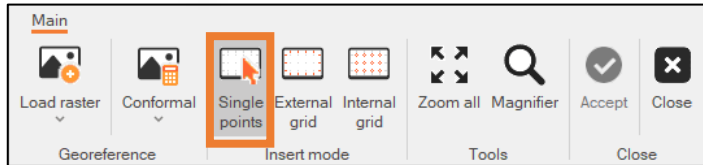
Georeference raster method

- *SINGLE POINT*: enter the X,Y coordinate of a point, and select it manually on the map
- *EXTERNAL GRID*: enter the X,Y coordinate of the first point of the external grid, enter the step, and the software guides you on selecting the next grid points
- *INTERNAL GRID*: enter the X,Y coordinate of the first point of the internal grid, enter the step, and the software guides you on selecting the next grid points



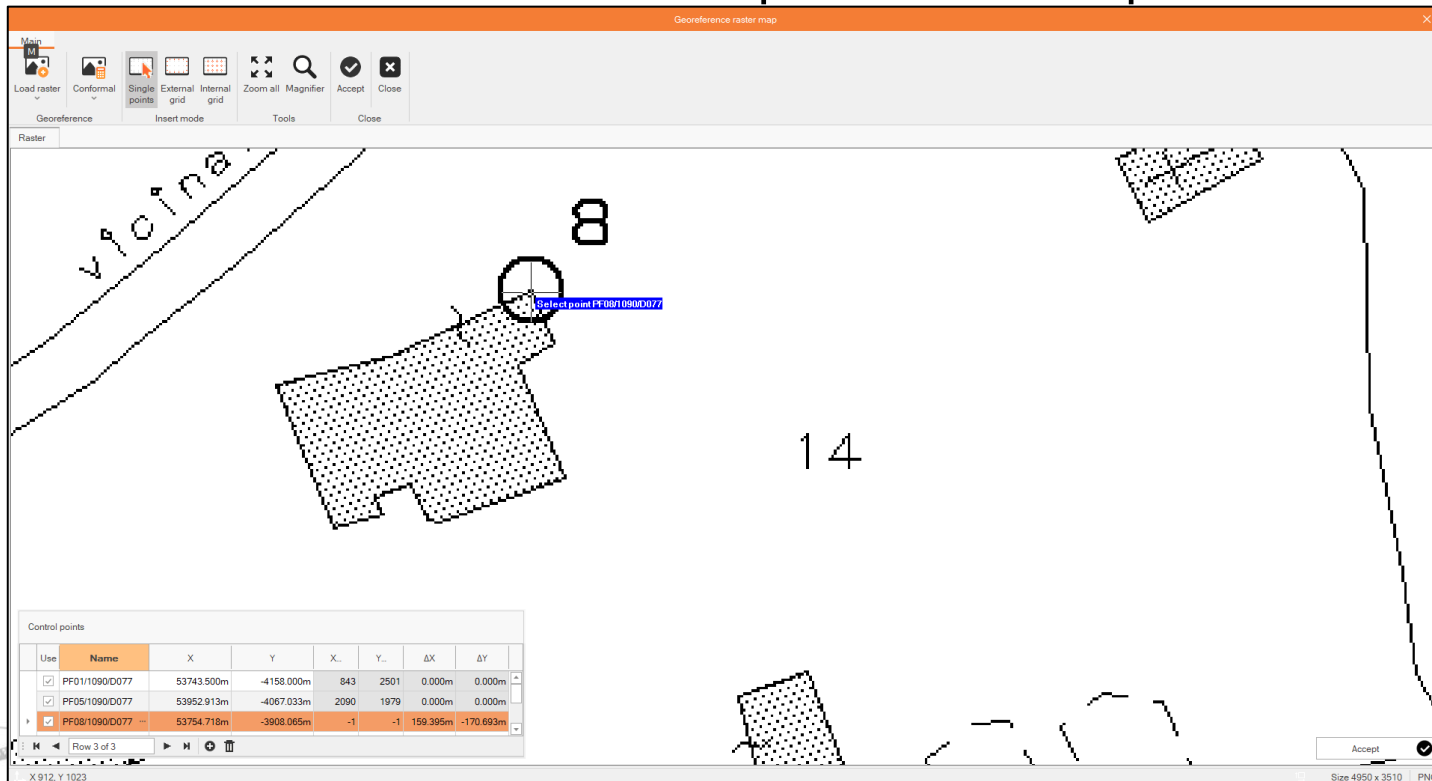
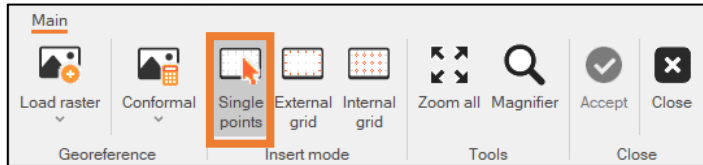
Single Points Method

From Raster Map menu select **Single Points** then add the Control Points from **Control Points Tab**



Single Points Method

For each Control Point from **Control Points Tab** select the corresponding point on the map



Single Points Method

Georeference raster map

Main

Load raster | Conformal | Single points | External grid | Internal grid | Zoom all | Magnifier | Accept | Close

Georeference | Insert mode | Tools | Close

Raster

Use	Name	X	Y	X _u	Y _u	ΔX	ΔY
<input checked="" type="checkbox"/>	1	0.000m	0.000m	843	2501	-0.466m	-0.783m
<input checked="" type="checkbox"/>	2	210.120m	89.165m	2090	1979	-0.344m	0.819m
<input checked="" type="checkbox"/>	3	13.236m	249.652m	912	1022	0.811m	-0.037m

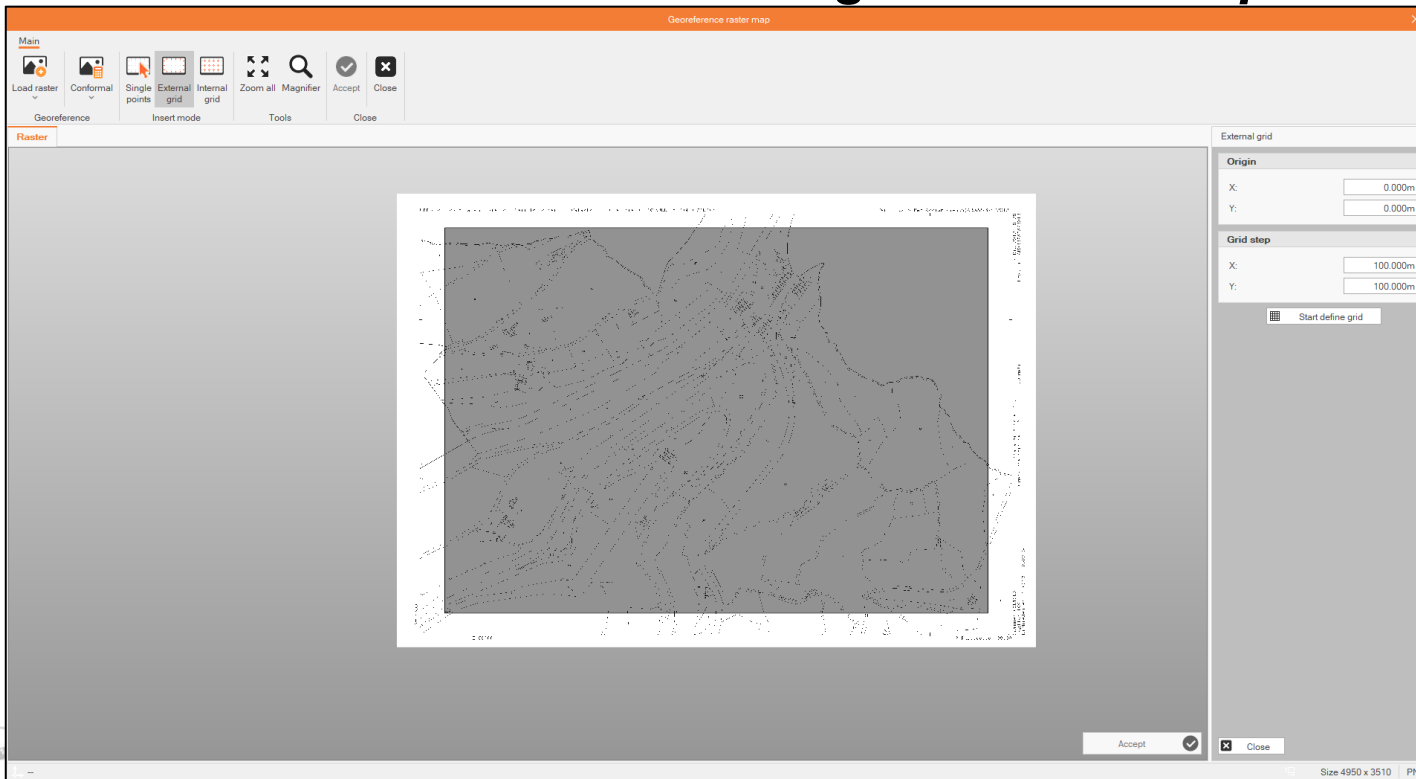
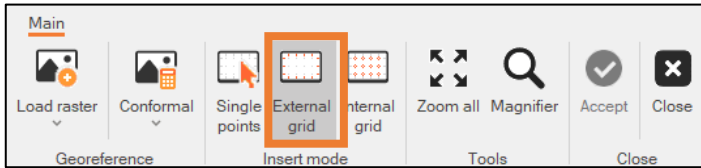
Accept

Size 4950 x 3510 PNG



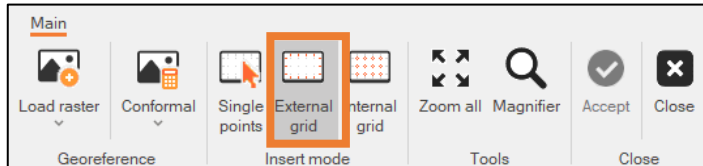
External Grid Method

From Raster Map menu select **External Grid** then it is possible to define the **Origin** and **Grid Step**



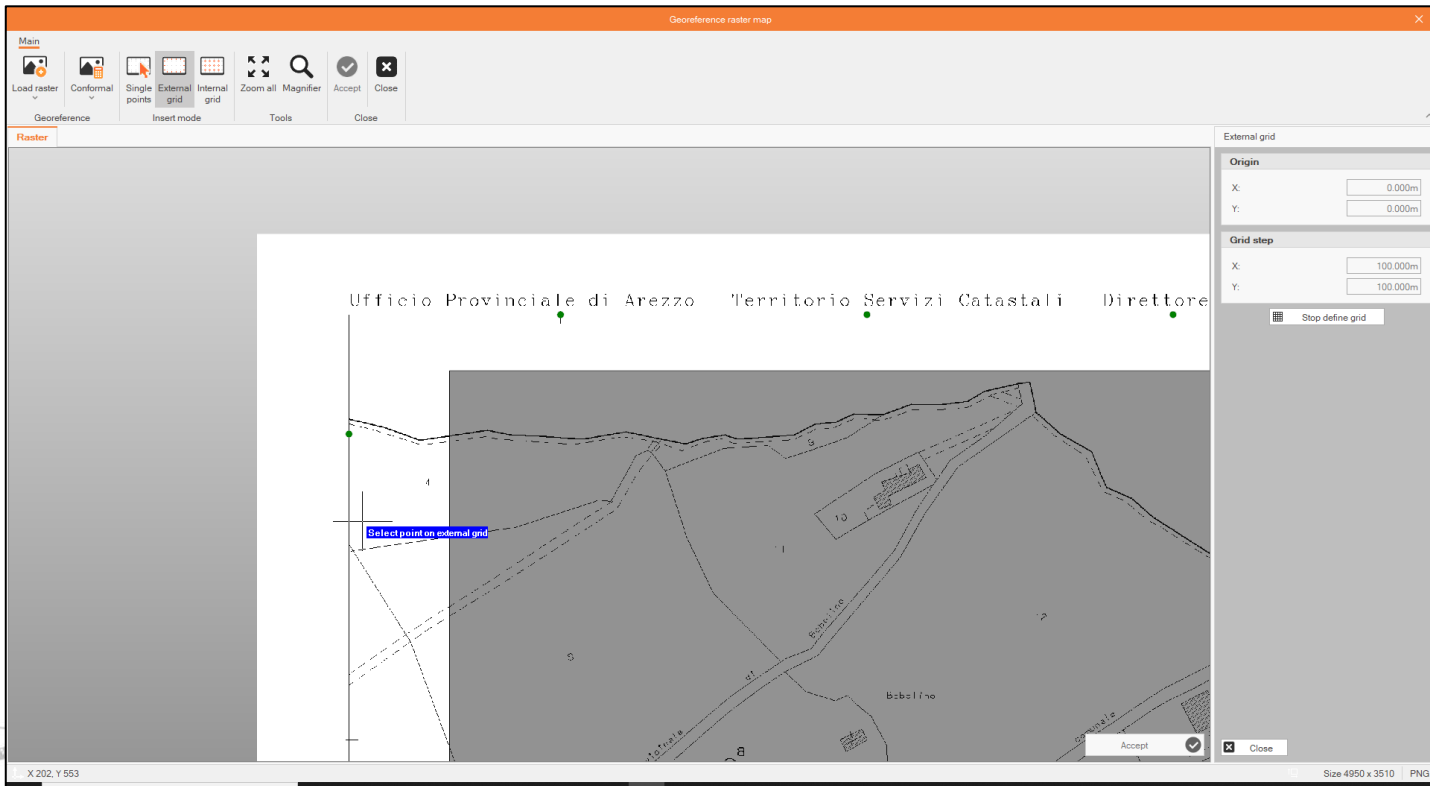
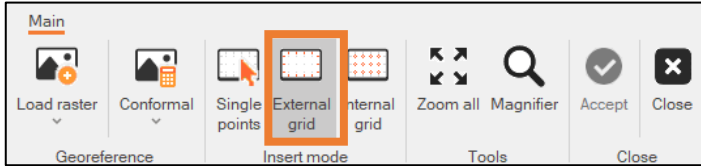
External Grid Method

Select Start Define Grid then it is possible to select points on the external

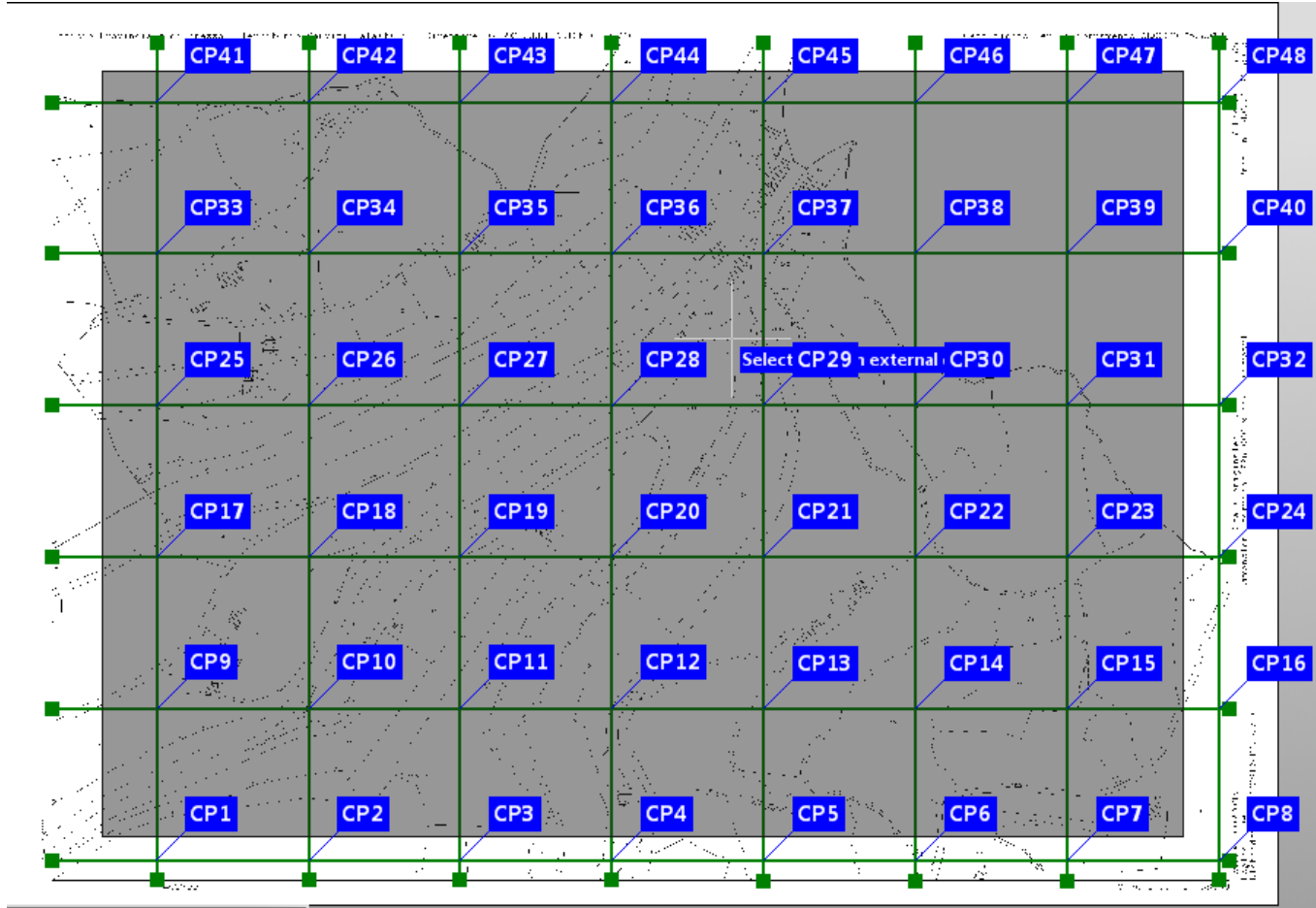


External Grid Method

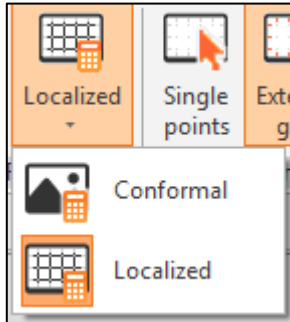
Define the grid selecting points on each side by going clockwise or counterclockwise



External Grid Method



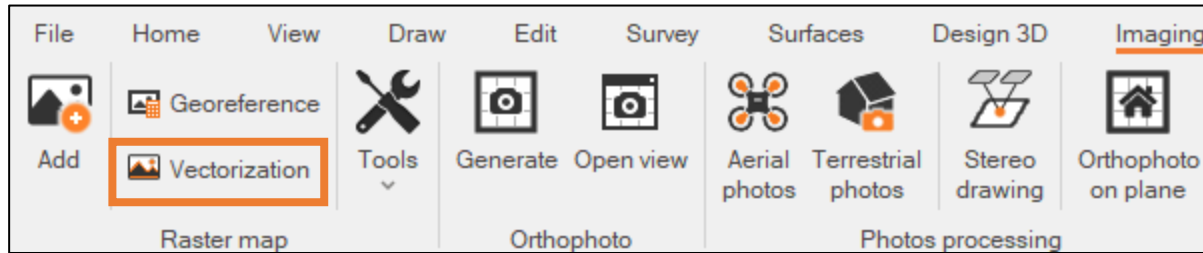
Georeference raster method



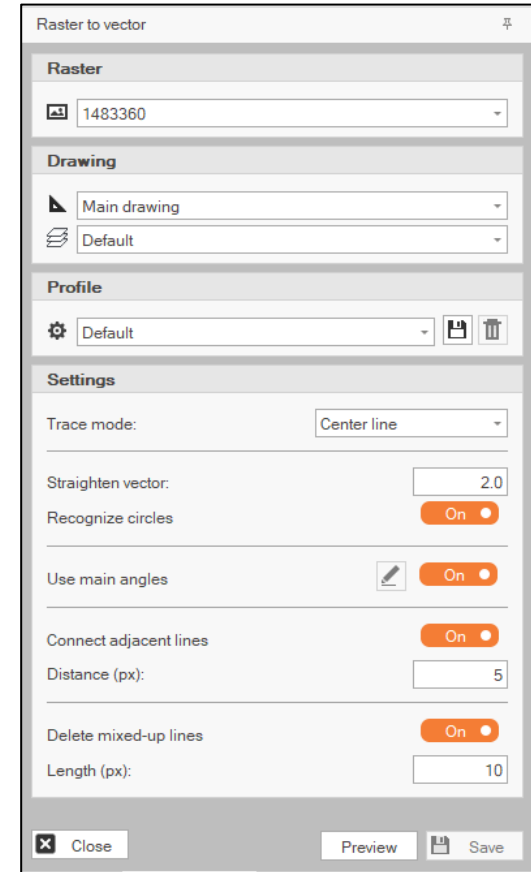
- *CONFORMAL*: georeference the map with a conformal transformation
- *LOCALIZED*: georeference the map with a local transformation on the control points
- Georeferences maps are stored in the project manager
- Georeferenced maps can be exported and loaded in XPAD Field



Raster map vectorization



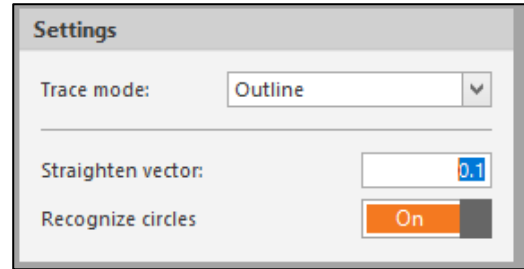
- Vectorization is a tool to automatically creates vector elements from the raster (lines, arcs, circles). From settings it's possible to select two main option to creates vector elements:
- OUTLINE
- CENTERLINE



Raster map vectorization

OUTLINE, using this function it's possible to:

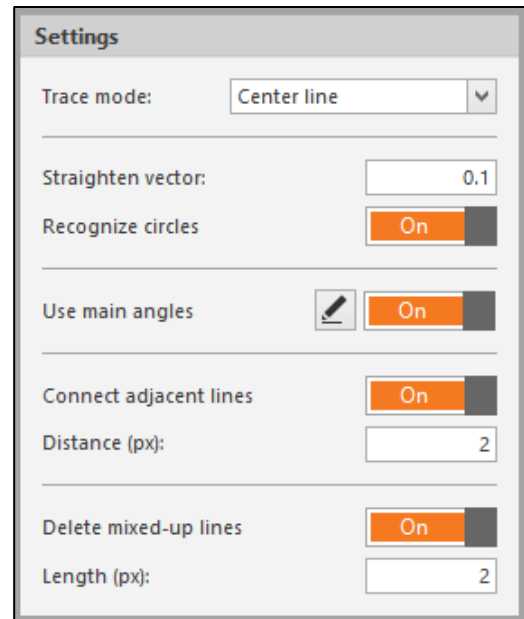
- Define the “Straighten vector”
- Recognize circles



Settings	
Trace mode:	Outline
Straighten vector:	0.1
Recognize circles	On

CENTERLINE, using this function it's possible to

- Define the “Straighten vector”
- Recognize circles
- Use main angles
- Connect adjacent lines
- Delete mixed-up lines



Settings	
Trace mode:	Center line
Straighten vector:	0.1
Recognize circles	On
Use main angles	On
Connect adjacent lines	On
Distance (px):	2
Delete mixed-up lines	On
Length (px):	2

Raster map vectorization

