

# Data Registration

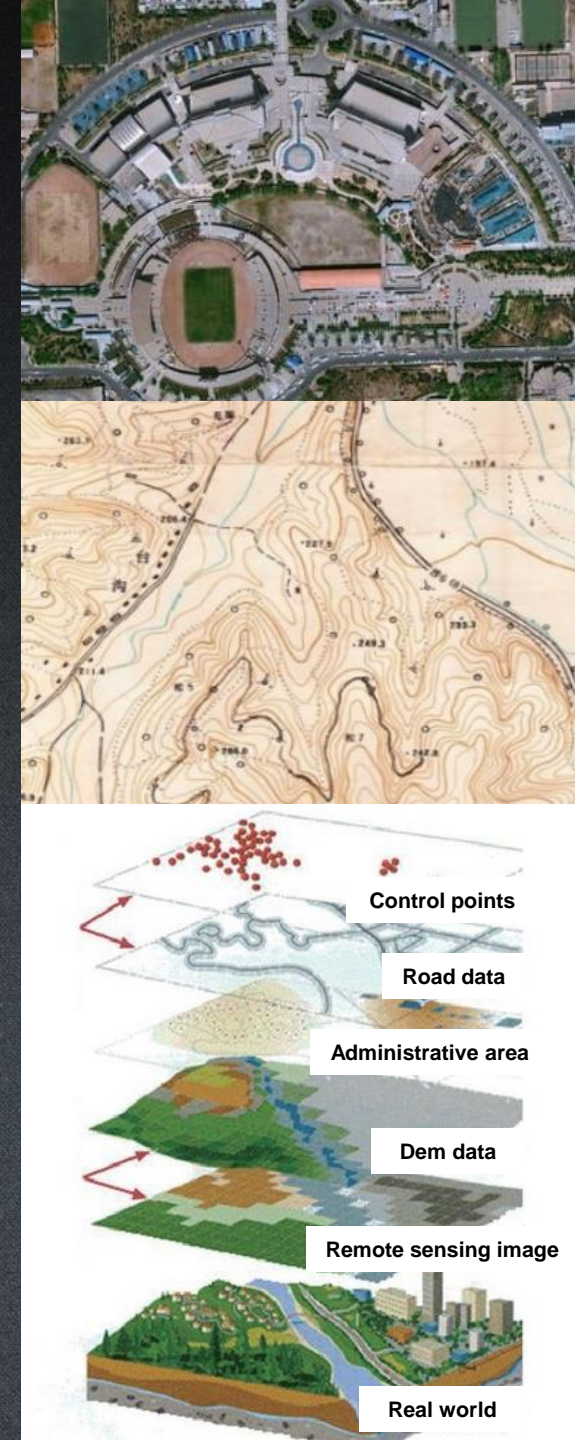
SuperMap Software Co., Ltd.



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# Definition

- **Data registration** is the process of correcting and transforming the spatial position of the source data according to a certain algorithm and a set of control points.
  - The source data
  - The result data
  - The control points



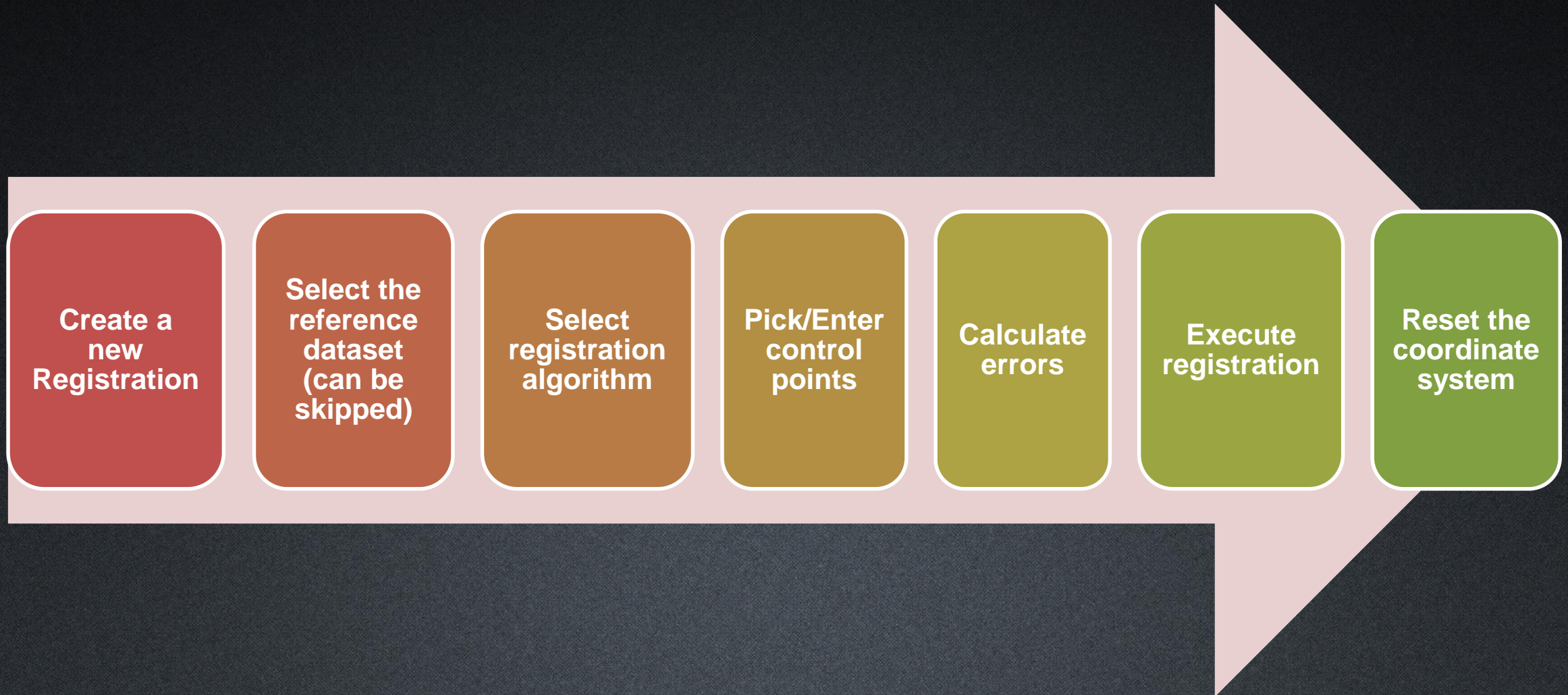


# Registration methods in iDesktop

- 1** Registration by inputting the coordinates of control points
- 2** Registration by picking control points from the reference layer
- 3** Batch fast registration



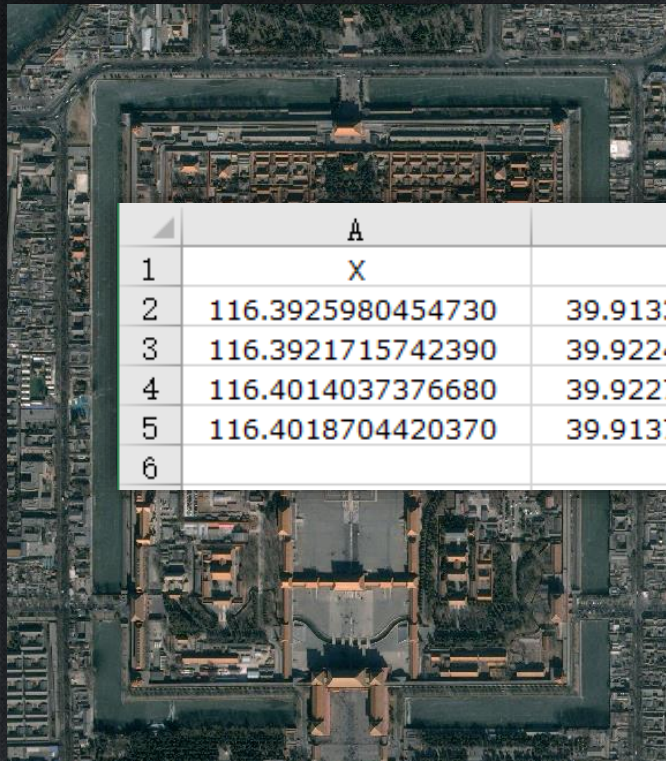
# Steps of the first two methods



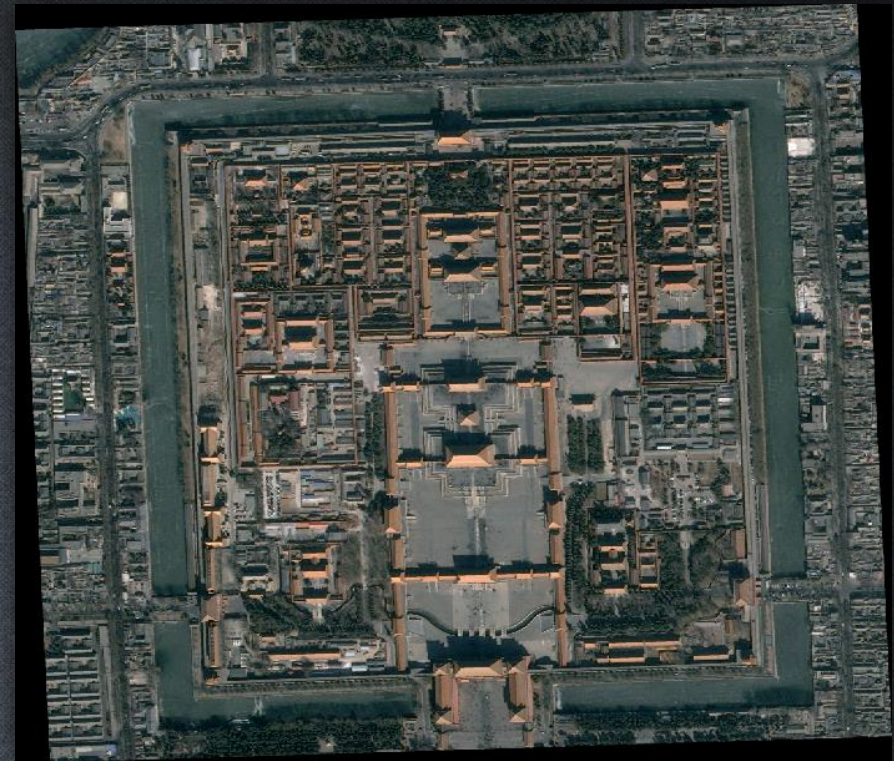


# Exercise

- Registration for the Forbidden City image
  - Import the Control\_Point excel as a point dataset which will be the reference dataset
  - Register the image by picking the 4 control points from reference layer



	A	B
1	X	Y
2	116.3925980454730	39.9133995413123
3	116.3921715742390	39.9224448694590
4	116.4014037376680	39.9227781063990
5	116.4018704420370	39.9137492805529
6		





# Exercise

- Register the image by picking the 4 control points from the reference layer

SuperMap iDesktop .NET 9D(2019)

Registration Window: ☐ Reference Window: ☐ Associated Browsing: ☐ Image Stretch: ☐

Algorithm: Linear (4 at least) Linear (4 at least) Polynomial (7 at least) Rectangular (2 at least) Offset (1 at least)

Calculate Error Registration

Workspace Manager

Layer Manager

Control Point Settings

Registration Layer

Reference Layer

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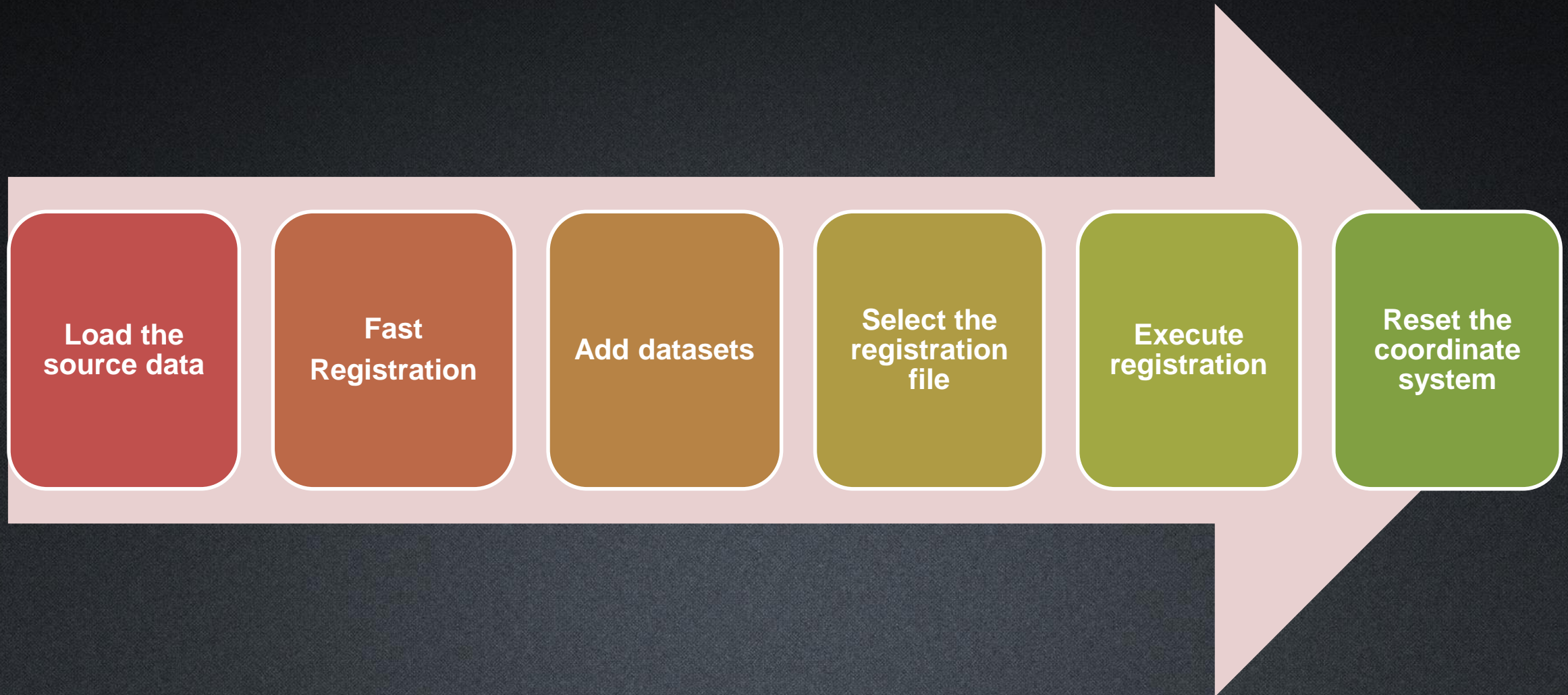
	Source Point X	Source Point Y	Target Point X	Target Point Y	Residual X	Residual Y	RMSE
1	1280.685435	1365.395053	116.392598	39.9134	0.000008	0.000005	0.000009
2	1279.11735972159	3290.85474658694	116.392171574239	39.922444869459	7.9166914019879187E-06	5.2592756105696028E-06	9.5044191144036617E-06
3	2774.202436	3303.543273	116.401404	39.9222778	0.000008	0.000005	0.000009
4	2777.121687	1377.065655	116.40187	39.913749	0.000008	0.000005	0.000009

Mouse Position: X:116.392823,Y:39.929045 Coordinate System: Planar Coordinate System—m Scale: 1:0.130316787173279 Total root mean square error: 0.0000094976

Output Window



# Steps of batch fast registration

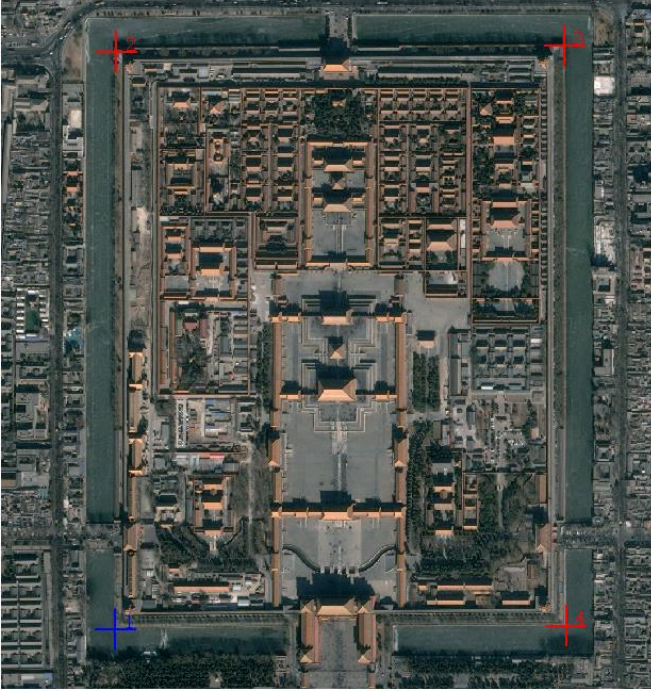




# Batch fast registration

Registration x ForbiddenCity@ForbiddenCity

Registration Layer Reference Layer



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	Source Point X	Source Point Y	Target Point X	Target Point Y	Residual X	Residual Y	RMSE
1	1280.53921380981	1364.78735918171	116.386325	39.911986	13670283754152	0.0041538143193449173	19.013670737484887
2	1,285.083711	3,282.454369	116.385881	39.921031	117751	0.004177	19.117751
3	2,774.960695	3,303.985913	116.395131	39.921386	119732	0.004155	19.019733
4	2,778.590455	1,376.50031	39.921386	39.929003	115652	0.004132	18.915653

Mouse Position: X:2615.472332,Y:1106.583868 Coordinate System: Planar Coordinate System—m Scale: 1:13378.899650323 Total root mean square error: 19.0168361...


Output Window

Export...

Fast Registration

Source Dataset Datasource ☒ Save As Result Dataso... Result Dataset

Parameter Settings

Registration File:  

Algorithm:

Unified Settings

☒ Save To

☐ Resample Result

Resample Mode:

Size:

☒ Auto close when finish

OK Cancel



# Thank You!

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