

The SnakeGrid interface allows high speed processing of files in many different formats



SnakeGrid Version 4

The current version of SnakeGrid is version 4, and is in fact a completely new and re-designed version of the software. This has enabled us to make some radical improvements to the way it works, including:

- Greatly increased speed – on a typical desktop PC it can handle around a million coordinate conversions per minute.
- A greater variety of input / output formats supported.
- A better interface, with more information supplied to the user.
- Greater flexibility in the way that grids are designed – we can rectify grids to give zero convergence at specified locations, for example, or accommodate diverging branches with seamless coordinates at the junction point.
- Easier to manage parameter files for different projects.

SnakeGrid provides an innovative software solution to a significant problem in engineering surveying – the design of a coordinate system with minimal scale factor and height distortion even when projects extend for many hundreds of kilometres.

When working on projects that extend for a few kilometres, engineers and surveyors are accustomed to the concept of a local site grid that effectively makes a 'Flat Earth' assumption.

As projects grow beyond a few kilometres, however, it becomes necessary to introduce a projected coordinate system – and then all those working on the site have the problem of making scale factor corrections.

If there is a significant height range across the project then there is the added problem of making reductions to sea level or any other standard reference height.

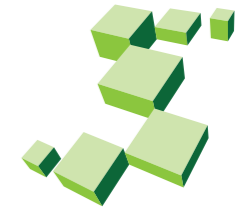
SnakeGrid gets around this problem for large, broadly linear projects by developing a grid that keeps scale factor at unity along a trend line that follows the project in plan and height.

In this way, projects such as railways, highways and pipelines that extend for hundreds of kilometres can have a single seamless grid with a scale factor distortion less than a few parts per million along the whole project and for several kilometres on either side.



Further Information

Please email: enquiries@snakegrid.org
or visit: www.snakegrid.org



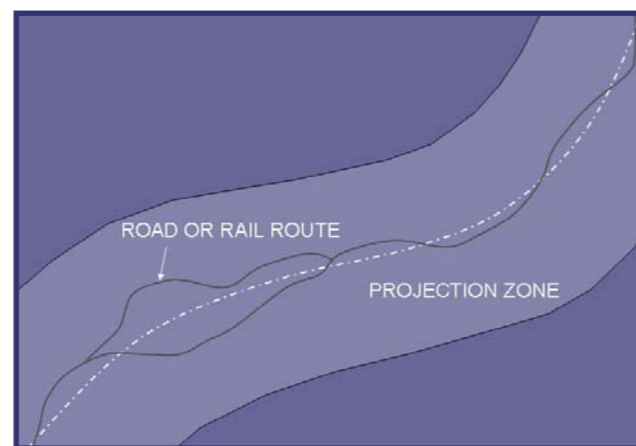
SNAKEGRID

SnakeGrid keeps scale factor at unity along a trend line that follows the project in plan and height. Larger, broadly linear projects that extend for hundreds of kilometres can have a single seamless grid with a scale factor distortion less than a few parts per million along the whole project and for several kilometres on either side.

Typical Applications

The Snake concept can be used on any broadly linear engineering project. Provided the project can fit into a gently curving corridor a few kilometres wide, then we'll be able to fit a grid to it that keeps distortions to less than 20 ppm.

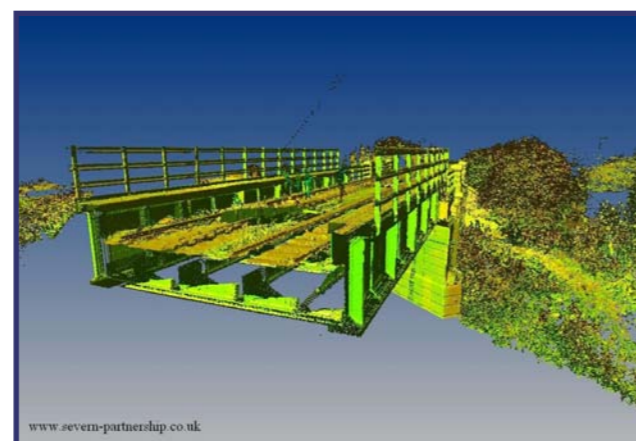
- Rail routes
- Highways
- Pipelines



Within the projection zone, covering the project route and several kilometres on either side, the scale factor distortion is kept to within 20 parts per million

How Is The Grid Created?

Using our proprietary software, we fit a grid to your project, creating a line of true scale that follows the general trend of your project and expresses this in the form of a parameter file. This file is then used in conjunction with the SnakeGrid software to convert between ellipsoidal coordinate systems (processing GPS and Lidar data, for example) and the specially created two dimensional grid.



Greatly increased speed means large data sets can be processed in minimal time

Do We Have To Pay An Annual Licence?

No. You pay a one-off design and licence fee to have a grid produced for your project. After this you have a permanent licence to use the SnakeGrid software and the grid on your project on as many machines as you wish. You can also pass this on to clients, sub-contractors, and so on.

Case Study

The SnakeGrid software was originally commissioned from University College London by Network Rail for use on the West Coast Main Line from London to Glasgow. It has subsequently been used on many other rail routes in Great Britain and overseas, including the East Coast Main Line from London to Edinburgh. Over the 630 km length of the latter, for example, a grid was designed that gave scale factor and height distortion of less than 11 parts per million (ppm) along the whole track. Within a few kilometres either side the distortion is less than 20 ppm.



SnakeGrid can be used to create seamless true-scale grids on major engineering projects such as railways...



...and on highways and pipelines