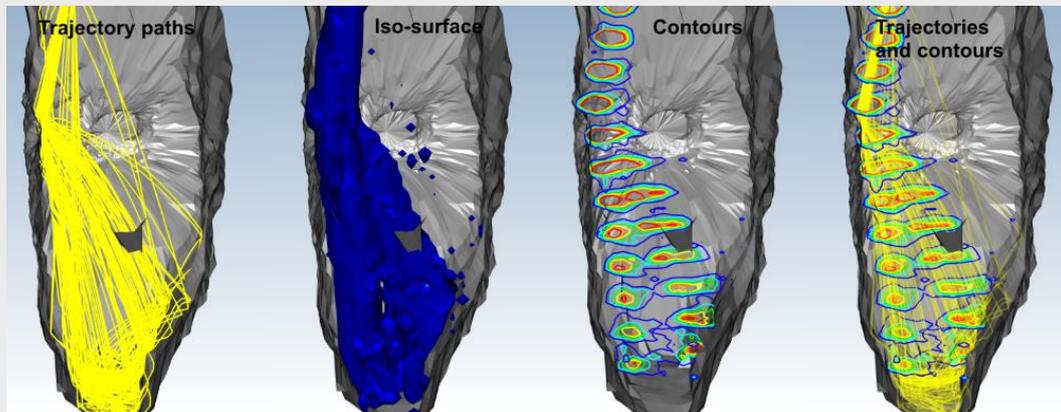


If you do not change direction, you may end up where you are heading. *Lao Tzu*

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**NEWSLETTER**  
2015 QUARTER 2



Trajec3D was used to simulate waste rock flow into an underground stope, and GEM4D to display the results as trajectory paths, density iso-surfaces, and density contours. The results are used to determine the amount and rate of waste tipping into primary stopes, whilst minimising the dilution during excavation of secondary stopes.

Use the [Facebook](#) page to stay up-to-date with developments, and the [Blog](#) for the details.

**GEM4D:** A 3D geotechnical package that seamlessly combine triangulations with different data types for various geotechnical analyses.

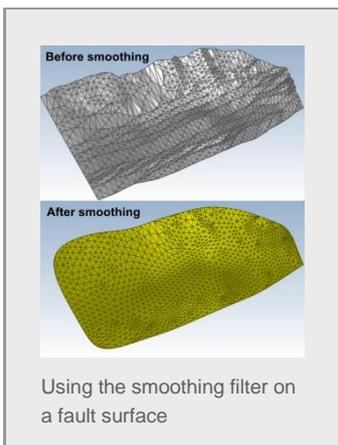
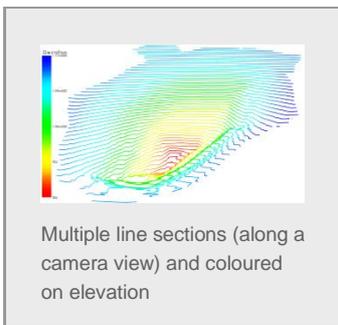
**Trajec3D:** A 3D rigid body dynamics rock fall analysis program that accommodates topographies and fall bodies of any shape and size.

**PhotoCoreLog:** Do your core logging from photographs, and even deskew photographs taken from an angle.

## New website

Trajec3D, GEM4D and PhotoCoreLog were moved to a new website [www.basrock.net](http://www.basrock.net), and the old freeware Visual Basic 6 software packages left on the old website [www.basrock.com](http://www.basrock.com). The new site has many features, with the most useful:

1. The ability to filter the [Blog](#) posts by software package - press the appropriate name under "**Select blog topic**".
2. An "**Alternative download server**" for all installation packages, this should eliminate the download issues some experienced from remote locations.
3. The [Contact](#)-tab provides the option to transfer large files when required during discussions.



## Main additions to GEM4D

1. Support for images that enable the display of pictures in the scene, and the the quick transfer of mapping information from paper plans to digital text formats.
  2. More modes for effective mapping on triangulations and images.
  3. Additional data filtering options to select only the relevant information for an analysis, as well as the ability to write the filtered data out as a separate file.
  4. Multiple line sections (clippings) at a set interval distance.
  5. Creation of a regular grid of points for stress analysis in Map3D (as MSCALC-file).
  6. Associate DXF-files with GEM4D to automatically open when double clicking a DXF-file in Windows Explorer.
  7. Much improved smoothing and polygon reduction filters.
  8. Snapping of picked points to surfaces (default), vertices, or a flat plane (when digitising).
  9. Line and polygon extrusions to form triangulations.
  10. Save and restore interface settings.
-

## When splitting up is a good idea

Polygon splitting is required when a surface is coloured on a scalar value, but the mesh contains large polygons. Colouring values are only calculated at the polygon vertices, and much detail thus lost when using large polygons - similar to numerical modelling results with a coarse grid.

### Sub-divide polygons - split in four

This filter splits all polygons into four, irrespective of the original polygon size. Take care when selecting the number of iterations, as every iteration results in a 4x polygon increase - a 3x iteration thus results in a (4x4x4) 64x increase in polygons.

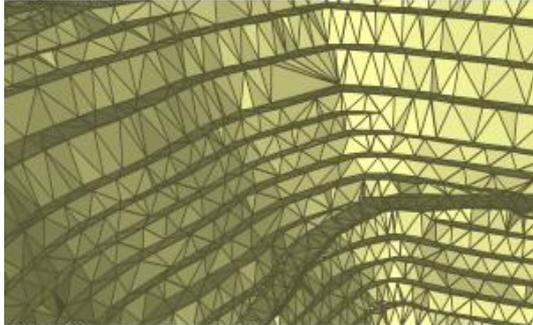
- The weakness of this filter is that the relative size of polygons are maintained.
- The strength is that the triangulation maintains integrity.

### Sub-divide polygons - split to size

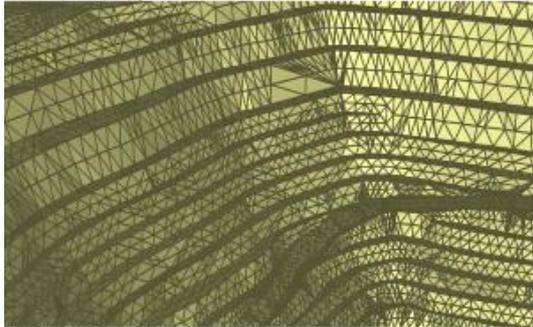
This filter sub-divides polygons until the largest side length of all polygons are less than the specified value. Sub-dividing large files into small polygons could take a while, so be careful when selecting a small limiting value.

- The weakness of this filter is that triangulation integrity could be lost, therefore any following action could provide a poor outcome. This filter should be used as a last step before colouring, and any cutting, smoothing etc. should thus be done beforehand.
- The strength is that polygons are uniformly sized and this filter provides an excellent base for colouring on scalar values.

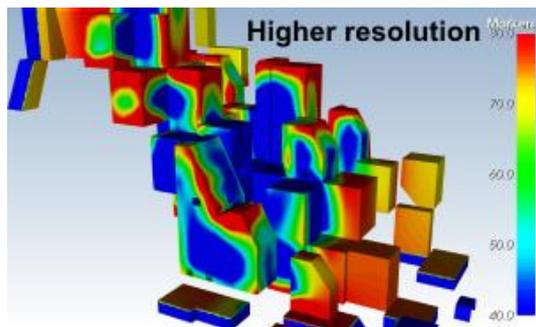
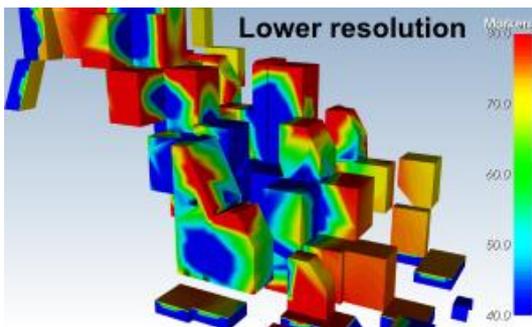
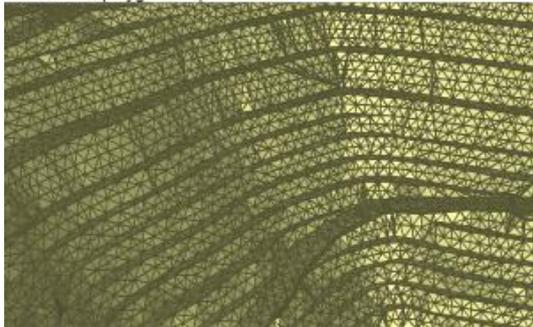
Original triangulation



Sub-divide polygons - split in four



Sub-divide polygons - split to size



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