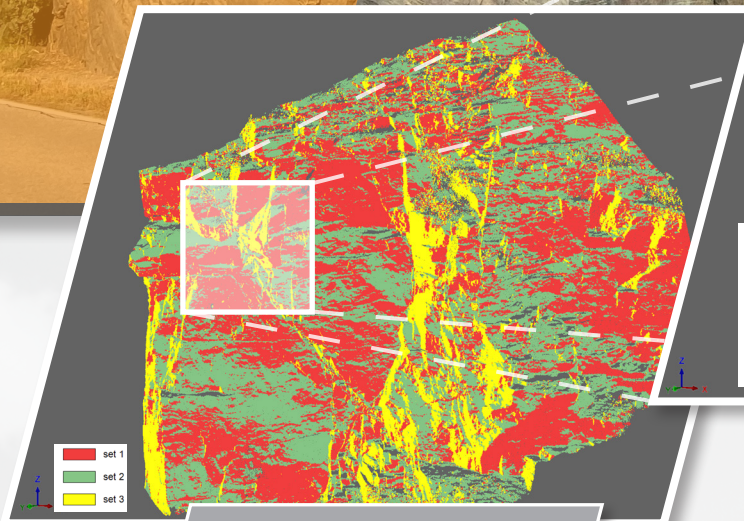


LIS GeoTec Plugin

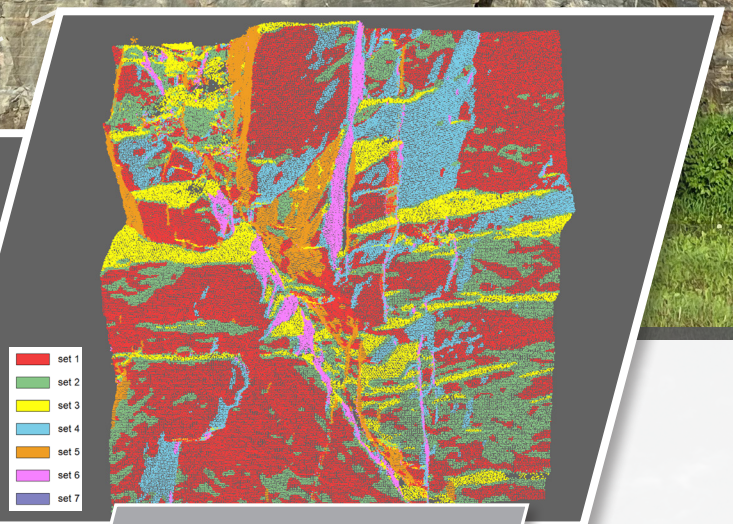
RiSCAN PRO – Surface Extraction and Analysis

The LIS GeoTec software tool is a RiSCAN PRO Plugin for geotechnical analysis of scanned rock surfaces.

It facilitates the calculation of surface normals for a local neighborhood. These surface normals are further analyzed to detect clusters of pre-dominant surface orientations, which are used for data classification and visualization on a polarplot diagram.

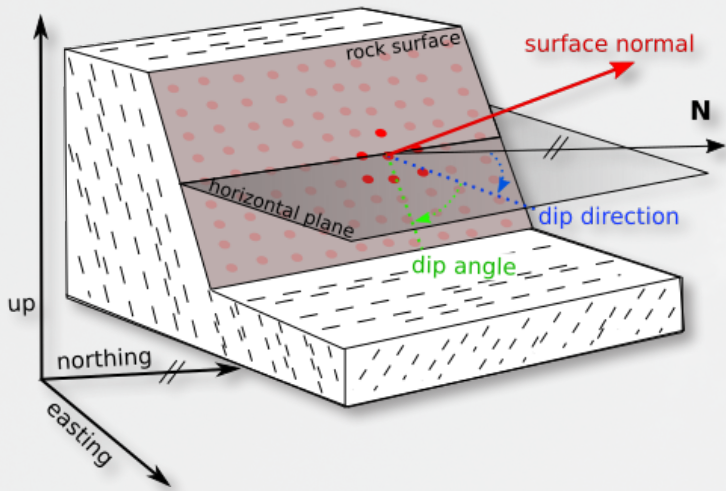


GEOLOGY



DETAILED ANALYSIS





Surface Normals

Surface normals are extracted with respect to a local neighborhood. For every measured point a user defined number of neighboring points is analyzed to calculate a best fit plane. The surface normal of the plane represents the point surface normal. All further analysis is based on the point surface normal attribute.

Dip & Dip Direction

Dip and dip direction angles are calculated with respect to a given coordinate reference system.

Dip is the vertical angle of the surface with a horizontal intersecting plane.

Dip direction is the angle of the horizontal component of the surface normal and the north direction of the coordinate reference system.

Analysis Visualization

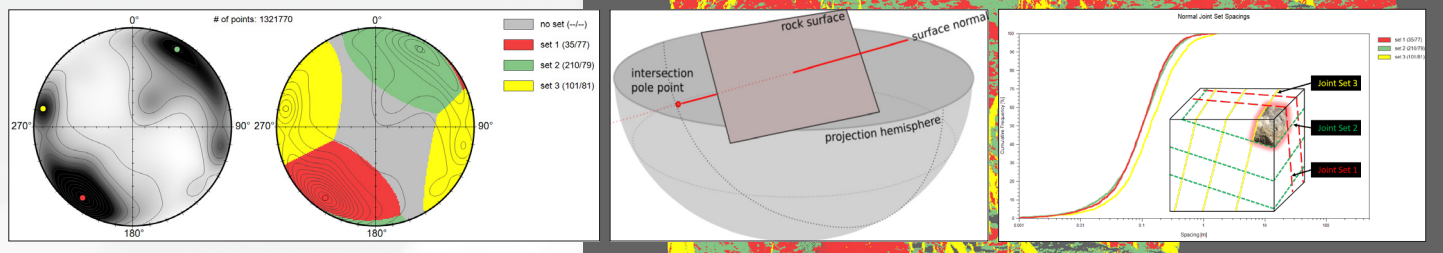
A statistical analysis is performed on dip and dip direction to identify orientation clusters (discontinuity sets). These sets are then visualized on a polar plot. The results can be exported to CSV and PDF.

Density plot: contour map of the densities of plane poles

Set plot: spatial distribution of poles contributing to the main sets

Normal Joint Set Spacings

Joint Set Spacings can be determined per discontinuity set and statistically plotted with their frequencies. This provides information about how strongly the rock is fractured and allows statements about the possible outbreak block size.



Additional Point Attributes

The tool adds additional point attributes, useful for further geotechnical analysis.

- surface normal
- discontinuity set ID
- dip & dip direction angles
- dip & dip direction angles of the assigned set
- dip & dip direction RGB color encoded

System Requirements

The LIS GeoTec plug-in is developed by **LASERDATA** and requires a separate license. For further inquiries please contact your local distributor or sales@riegl.com. RiSCAN PRO version 2.10+ is mandatory.