DATAMINE

SIROVISION

Open Pit & Underground Geological & Geotechnical Analysis Solution

SIROVISION

WHO USES SIROVISION:

- Geotechnical Engineers
- Geologists
- Mining Engineers

SIROVISION

Sirovision Open Pit is a photogrammetric remote data acquisition system for mapping geology and interpreting geotechnical characteristics of exposed mining faces. The system can utilise both stereo photographs from off-the-shelf digital SLR cameras, as well as 3D imagery from drones or laser scanners to generate accurate 3D models using the latest image processing technology to extract unbiased and accurate geological and geotechnical data.

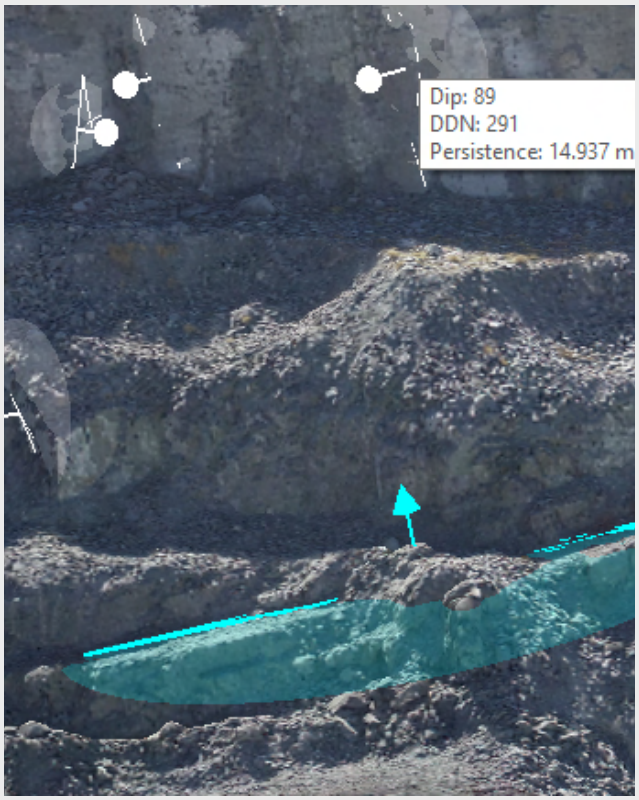
Sirovision Underground is an integrated hardware and software system for the mapping and analysis of rock structures and mineralogy in underground topography. The system comprises of a specially designed Stereo Camera for capturing stereo photographs, and software for the generation and analysis of 3D images.

KEY BENEFITS

- The entire pit can be photographed and generated into **highly accurate 3D models.**
- **Various 3D import formats** include .LAS, .OBJ &.PLY files, which means you can easily use drones or laser scanners to model a rock face instead of merging 2D images together to form the entire pit.
- **Flexible field methods** require only 3 control points to georeference an entire rock wall.
- Structural features can be mapped with **instant geotechnical results.**
- **Automated detection** of unstable features in the pit including wedges, blocks and toppling hazards based on rock density, pore pressure, cohesion and pore pressure data, which greatly enhances safety and peace of mind on-site.
- **Easy deployment** utilising standard off-the shelf digital SLR cameras and lenses.
- Hardware setup costs can be as low as $2,000.
- **Meticulous level of detail** can be captured using different focal length lenses.

SIROVISION SOFTWARE FEATURES

- Generates spatially accurate 3D images of underground headings.
- Tools to digitally map structure directly onto the 3D surface producing geotechnical characteristics.
- Visualise discontinuity orientation data using spherical projections, rose plots and statistical analysis tools alongside their numerical attributes.
- Real world physical characteristics such as persistence and location in 3D space.
- The Slope Stability Analysis tool provides automated detection of unstable wedges and blocks based on rock density, pore pressure, cohesion and friction data.
- The Mineral Classification tool automatically maps the surface area of selected ore and mineral bodies.



WHY USE SIROVISION

Spatial Accuracy

Typically produces accuracy of 3cm to 5cm every 100m distance to the rock face (1:3000 to 1:5000).

Mapping Accuracy

Better than +/- 0.5 º for dip angle and dip direction over standard operating ranges of 3m to 1500m for open pit.

Speed

Photographs can be taken easily and rapidly.

Safety

Minimal “at face” time required to capture digital record of the rock mass. Photographs can be captured from up to 1500m away, or via a drone from wherever you may be!

Easy to Use

Three days of training in field procedures, requiring only basic knowledge of how to use a digital camera.

Low Cost to Implement

Rapid payback time as the open pit system uses off-the shelf digital SLR cameras while hardware setup costs can be as low as $2,000.

Complete Suite of Joint Set Analysis Tools

- Spherical projections.
- Rose plots.
- Statistical histograms.
- Customisable joint set analysis schemas.
- Kinematic set analysis of wedges and blocks.
- Automated mineral/ore body mapping.

MKIII STEREO CAMERA FEATURES

- **Lightweight** & Easier to Manoeuvre With 180°Tilt.
- Central Wireless Tablet - **Quick** Image Review.
- **Waterproof, Shockproof & Crushproof** Cameras.
- **Robust** Purpose-Built Camera Housings.
- Greater Exposure Controls - Light & Dark Rock Faces.
- **Adjustable** Image Settings & Flexible Daylight Mode.
- Nitrogen-Filled for Moisture Prevention.

WHY USE THE MKIII?

Designed With Purpose

The Sirovision Stereo Camera is unique in that it enables the capture of stereo photographs of underground lithology with a press of a button.

Speed

A single heading can be captured in less than 4 minutes causing minimal disruption to the mining cycle.

Easy to Use

Requires only two days training for technical staff.

Improves Safety

Minimal 'at face' time required to capture 3D digital records of the rock mass. The entire 3D heading can be mapped and analysed comfortably in your office.

CONTACT US

www.dataminesoftware.com

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