AIMS FIELD DAY

MOUNT ISA

14 JUNE 2024

OUTBACK @ ISA

19 MARIAN STREET, MOUNT ISA QUEENSLAND 4825

AUSTRALIAN INSTITUTE OF MINE SURVEYORS

Friday 14 June

9:15AM	Arrival onsite OUTBACK @ ISA
	Mine Site Induction
	Coffee + Networking
10:00AM	Supplier Rotations - above ground Deswik, Sphere Drones, Riegl
	Supplier Rotations - underground Maptek, UPG, Aptella **Delegates will rotate through each suppliers session every hour.**
12:00PM	Lunch
1:00PM	Supplier Rotations - above ground Deswik, Sphere Drones, Riegl
	Supplier Rotations - underground Maptek, UPG, Aptella **Delegates will rotate through each suppliers session every hour.**
5:30PM	Pizza & Beer UNDERGROUND
7:30PM	Close of day

CPD

5.0 Mine Survey Points
1.0 Survey Practice Points

C.R.Kennedy GEOSPATIAL SOLUTIONS

Aptella AUTOMATION + POSITIONING TECH

Deswik

MAPTEK

RIEGL

sphere drones

UPG

Supplier Abstracts

A data set of over 1900 and 2900 landslides from Australia[1] and New Zealand[2] respectively has been analysed. Observed associations between failure mechanisms, material type and their human impact have been statistically assessed and presented. Some commentary on real-time monitoring instrumentation and how they can be incorporated into trigger action response plans has also been made:
[1] https://ecat.ga.gov.au/geonetwork/srv/eng/catalog.search#/metadata/74273
[2] http://data.gns.cri.nz/landslides/index.html

CData management issues often arise due to disparate departments working independently, leading to inconsistencies and inefficiencies. High staff turnover exacerbates these problems by disrupting continuity and institutional knowledge.

Deswik's Mine Data Management (MDM) aims to address these challenges by offering a centralized solution. By providing a single source of truth for data, MDM enables departments to standardize workflows and procedures, fostering collaboration and boosting confidence in data sharing.

This workshop examines recent implementations and case studies showcasing how surveyors are embracing a new role in data management across departments.

Maptek will showcase the latest suite of tools for underground survey and monitoring to demonstrate user benefits for easier data capture and scan registration, reporting and production team updates. Maptek laser scan imaging solutions can handle rock bolt, development heading, drive and stope survey applications. Maptek will demonstrate the SR3 with custom light, auto target registration, photogrammetry processing and new options in the underground toolset. These include underground services and mesh filters to provide a cleaner point cloud for modelling. A new plan view boundaries tool helps with complex drive scenarios and multi-grade tunnel strings, including sidewall strings with a customisable height, can now be made available for 2D reporting.

Using Laser scanners in mining applications: Mine Monitoring and Geotechnical analysis
Laser scanning systems are becoming increasingly powerful and dynamic placing them in a unique position to respond to demands in mining applications such as economical remote monitoring solutions, and geotechnical analysis.
This presentation will take a closer look at the application of the RIEGL VZ and VZ-i series of lasers scanners for applications in both areas.

Developed from a customer response for a multi-application system, the RIEGL VZ-i and VZ series can be used for permanent, semi-permanent or sporadic monitoring. This allows flexibility for the scanner to be used as a monitoring solution in between normal day-to-day scanning operations or fixed in situ for a 24hr monitoring program.

The RIEGL VZ & VZ-i series can be used for prism / target monitoring as typically performed by a robotic total station, as well as capturing full high resolution scan data with millimeter sensitivity. Combined, this is valuable data for deformation and movement analysis on a variety of rock walls, dam walls, landslide areas etc.
RIEGLs newly developed remote communication and power system the CB-23 enables the system to be used in confidence with robust reliable 24hr remote operation and remote secure cloud access.

For Geotechnical Analyses RIEGLs LIS GeoTec plugin facilitates the calculation of surface normals for a local neighbourhood. These surface normals are further analysed to detect clusters of pre-dominant surface orientations, which are used for data classification and visualization on a polar plot diagram.

We will be covering the above in more detail with an overview of the features available and a look at an existing implementation of the remote monitoring system, and a geotechnical analysis example.

Sphere Drones is a leading provider of Drone-in-a-box technologies, delivering turnkey hardware, software and service, including Beyond Visual Line of Sight approval and training support for the mining sector. Drone-in-a-box technology is becoming increasingly popular to support the day-to-day operational needs of mining surveyors. Instead of having to drive out to a pit to complete a survey, teams are not able to remotely operate data capture workflows right from their desk, streamlining this process and creating a safer mine site.

Sphere Drones has designed a one-of-a-kind system that can be deployed in 30 minutes, without the costly infrastructure requirements that other DiaB systems need to be fully operational. HubX and HubT were both designed with the mine site in mind. We understand that mines are a constantly evolving environment and the optimal take-off location will change over time, and our product provides the flexibility mining operations require to make this technology work now and long into the future.

Our HubX platform was designed to be agnostic of technologies and to deliver power and connectivity to the most remote parts of Australia. This technology enables a host of new use cases for mine sites, like terrestrial scanning and other surveillance applications.

- Updates to UPG/Trimble

Latest creations from the UPG support teams, latest Trimble releases relevant to mining

- Underground Mining

The new Create Vertical Shaft Tunnel command in Trimble Business Center enables surveyors to create a vertical shaft tunnel using familiar tunnel creation tools currently in TBC, a how to session. Includes the SX12 and Trimble Access Mines

- UHF Radio Configuration

Best practices to maximise your GNSS data, including radio formats, GNSS formats and location

- Multiple Bases

Explain how a mine site was recently setup with 2 bases using Trimble software as a fail over in case one was to have issues

- Monitoring

Practical examples of how sites are using GNSS, Total Station and sensors for monitoring

Trimble SX12: 3D Scanning and Imagery capture as well as general survey routines and automatic set-out.