



## ADOPTION OF HOVERMAP AT A TIN MINE IN THE DRC



**MINE/PROJECT LOCATION:**  
Democratic Republic of Congo

**YEAR OF PROJECT:**  
2025



### BACKGROUND

A tin mine in the Democratic Republic of Congo (DRC) faced challenges in mapping underground stopes. The survey team relied on a CMS (Cavity Monitoring System) mounted on a trolley. While functional, this setup produced point cloud data with significant noise and “shadowing,” which limited their ability to generate accurate reports. This inaccuracy hindered both operational decision-making and long-term mine planning.

### CHALLENGE

The mine required a solution that could:

- Produce highly accurate 3D mapping data.
- Improve safety by reducing the need for personnel to enter hazardous areas.
- Deliver results faster than traditional methods.
- Integrate with existing equipment to maximize return on investment.

### SOLUTION

Dwyka Mining Services proposed deploying the **Emesent Hovermap Scanner on an AL2 drone**. Hovermap offered autonomous flight and advanced LiDAR scanning capabilities, enabling comprehensive stope mapping with minimal manual intervention.

Additionally, the **GCP (Ground Control Point) tool** was introduced to streamline georeferencing, making it simple to align scans with mine survey coordinates and ensuring consistency across datasets.

### IMPLEMENTATION

The transition from CMS trolley to Hovermap was seamless:

- The Hovermap scanner was mounted not only on the AL2 drone but also adapted to the existing CMS trolley, allowing flexibility in scanning methods.
- Surveys could be conducted either autonomously by drone or in trolley mode, depending on the stope environment.
- The georeferencing workflow ensured accurate integration of point clouds into mine planning software.

### RESULTS

The adoption of Hovermap delivered transformative improvements:

- Accuracy: Clear, high-resolution point clouds with minimal shadowing.
- Safety: Reduced exposure of surveyors to hazardous stope conditions.
- Efficiency: Faster data collection, reducing survey turnaround times.
- Versatility: Continued use of existing CMS equipment alongside new Hovermap capabilities.

### IMPACT

By adopting Hovermap, the tin mine in the DRC achieved a step change in operational efficiency and safety. The survey team can now generate accurate and reliable maps of underground stopes, enabling better decision-making and more effective mine planning. The flexibility of Hovermap has maximized the mine’s return on investment, validating the choice to upgrade from the legacy CMS trolley system.

