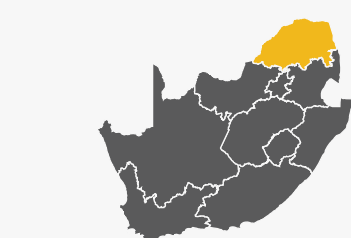


“ Real-time volumetric data is the life-blood of a mine's production profile. Greater visibility empowers our team to proactively reconcile and make informed decisions ”

-Phineas Chokoe  
Operations Leader: Logistics

## TRUCK VOLUMETRIC SCANNING, ANGLO AMERICAN, MODIKWA MINE LASE INDUSTRIELLE - TVM-3D-M UNDERGROUND



### MINE/PROJECT LOCATION:

Modikwa Mine, Limpopo

### YEAR OF PROJECT:

2022/2023

### CLIENT:

JV: Anglo American Platinum and ARM

### PROJECT FOCUS:

Real-time truck volume determinations at tips underground

### COMMODITY:

PGM

### DWYKA MINING SERVICES SOLUTION:

LASE TVM-3D-M, AngloAmerican

### PROBLEM:

Modikwa Mine experienced issues with respect to the accuracy and consistency of truck volumes at underground tipping points, as well as a lack of real-time communication with the Control Room regarding these volumes. Discrepancies between planned and actual production volumes were noted.

The Mine sought a solution to identify any underlying issues that may be contributing to the discrepancies between planned and actual production volumes, allowing identification of areas where improvements could be made to optimise production efficiency and accuracy.

The mine also experienced significant Trackless Mobile Machinery (TMM) downtime attributed to the cloaking of the cooling system resulting from overfilling.

### SOLUTION:

The LASE TVM-3D-M was installed to deliver accurate and reliable truck volumes at the tipping points to the Control Room on surface. This involves using the advanced LASE technology comprising LiDAR scanners, cameras, RFID tags, and LASE calculation software. RFID tags uniquely identify each truck and accurately measure the load area both when it is empty and when it is full.

The LASE TVM-3D-M is a contactless solution and does not interrupt production. This means that the system can be implemented without causing any downtime or delays in the production process. Overall, this solution significantly improves real-time visibility for production efficiency and accuracy, while minimising delays through in-motion scanning.

### RESULT:

Implementation of the LASE TVM-3D-M has resulted in consistent, accurate real-time data for Modikwa Mine Control Room and Management. By using RFID technology to uniquely identify dump trucks and measuring load areas pre- and post-tipping, the system provides valuable insights into the efficiency of the load and haul cycle.

This data is used to identify areas for improvement in the production process, such as optimizing dispatch and loading, reducing truck idle time, and minimizing turnaround time at the tipping points. By measuring the efficiency of the haul cycle, the Control Room can also make informed decisions about resource allocation and scheduling, which can help to improve overall throughput.

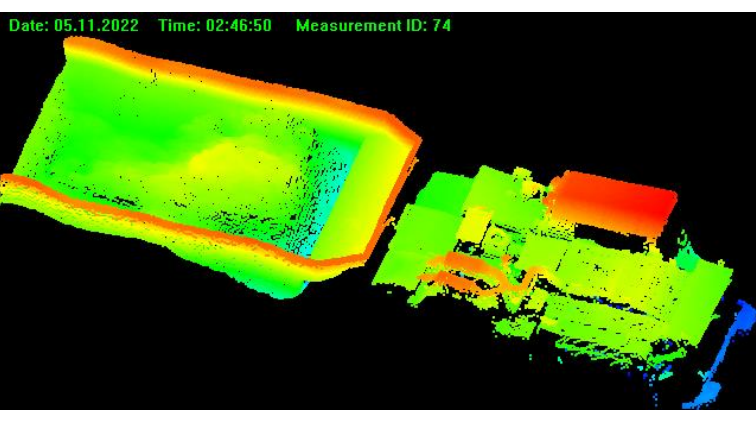
The fact that the LASE TVM-3D-M provides real-time data is particularly valuable, as it allows for timely adjustments to be made in response to changes in production volume or other factors that may affect the efficiency of the haul cycle.

In Summary: Dwyka Mining Services installed a LASE 3D-TVM-M unit underground at Modikwa Mine, thereby enabling real-time reporting of truck loads at tipping points.

The sought solution included measuring productivity per TMM and also identifying overfilling occurrences to prevent reoccurrences to address the primary root cause of overheating related downtime.

### KEY TAKEAWAYS:

- ✓ Underlying issues that may contribute to truck volume discrepancies between planned and actual production volumes can be analysed and resolved.
- ✓ The non-intrusive nature of the LASE TVM-3D-M does not impact production in any way.
- ✓ Lase TVM-3D-M provides accurate real-time volumetric data for dump trucks.
- ✓ The contactless nature of the IP rated LASE TVM-3D-M means this is a low maintenance, high accuracy and fit for purpose solution for the underground environment.



For more information on this case study and/or general info on Dwyka Mining Services, send us an email, or visit our website.