



“ The consistent achievement of the 35 LCM target post-implementation has been instrumental in guiding strategic decisions and exploring avenues for cost savings and revenue enhancement. The initiative holds the potential to significantly impact organisational profitability and operational optimisation. ”

Johan (JC) du Preez
Digital and Automation Manager

TRUCK VOLUMETRIC SCANNING, THARISA MINERALS LASE TVM-3D-M



MINE/PROJECT LOCATION:
Tharisa Minerals Mine, North West

YEAR OF PROJECT:
2023

CLIENT:
Tharisa Minerals

PROJECT FOCUS:
Real-time truck volume determinations along haul roads

COMMODITY:
PGM

DWYKA MINING SERVICES SOLUTION:
LASE TVM-3D-M

PROBLEM:

Traditional load and haul analysis methods have been characterized by estimations and disjointed data, resulting in delayed decision-making and suboptimal load optimization. The maintenance-intensive nature and high calibration costs of weighbridges and load cells further compound these challenges, leading to inaccuracies in load measurements.

SOLUTION:

By leveraging LASE's Truck Volumetric Scanning solution (TVM-3D-M), a cutting-edge 3D laser-based scanning technology, Tharisa Minerals mine situated on South Africa's western limb of the Bushveld Complex in South Africa, implemented a reliable and contactless in-motion scanning system.

This innovation enabled them to accurately measure truck volumetrics in real-time, facilitating the establishment and enforcement of consistent loading profiles. Consequently, Tharisa PLC reduced hauling time, minimized fuel costs, and mitigated maintenance and downtime expenses.

1. Implementation Timeline: The scanner was installed in Q2 2023 and operationalized in Q3 2023 following calibration, custom interface development and testing.
2. Baseline Development: Approximately 2000 scans were conducted between September and October to establish performance baselines for the CAT777 fleet.
3. Target Setting: Leveraging OEM specifications, a phase-one target of 35 LCMs was set, representing a 16% increase from the baseline, equivalent to around 11 additional tonnes per load for CAT777 fleet trials.
4. Scope Expansion: Initially trialed on the CAT777 fleet, representing 70% of ore, the system integration is now being extended to include the CAT785 fleet, with similar benefits anticipated by early 2024.

RESULT:

Through the deployment of LASE's advanced scanning technology, Tharisa Minerals successfully optimized their fleet's capacity without increasing trips, thereby enhancing operational efficiency and maximizing profitability amid fluctuating input costs.

Return On Investment:

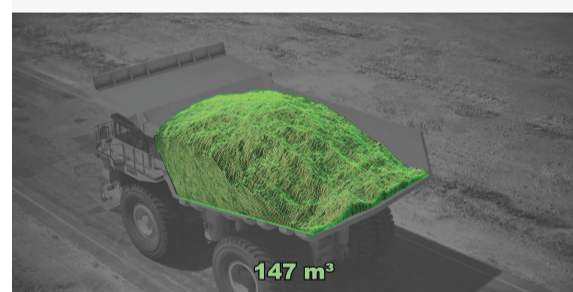
- Reduction in Diesel Usage: Significant reductions in fuel consumption were observed, with a notable decrease in fuel usage per cube delivered, resulting in substantial diesel savings.
- Optionality for Strategic Decision Making: Reliable and accurate load profile data elevated production profile and empowered decision making to assess revenue and cost saving initiatives to suit operational requirements

In Summary: Dwyka Mining Services installed a Lase 3D-TVM-M unit on surface at Tharisa Minerals, thereby enabling real-time reporting of truck volumes on haul roads.

KEY TAKEAWAYS:

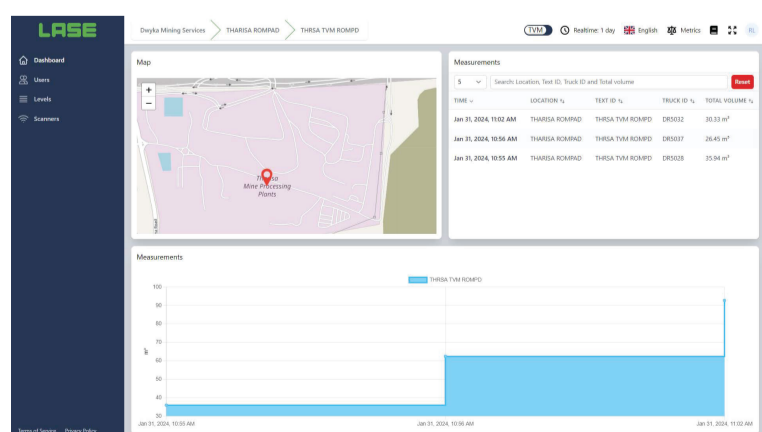
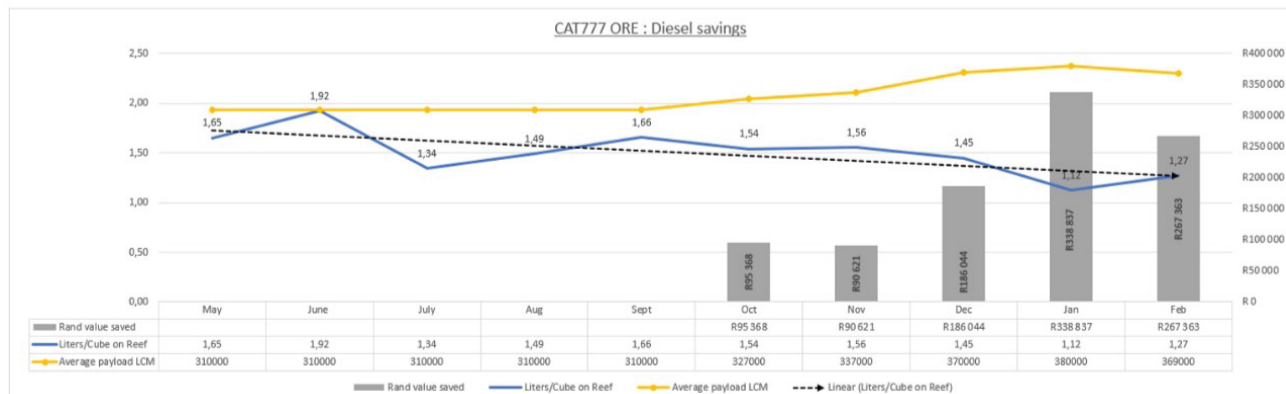
- ✓ 1. Option 1: Park 3+ Trucks - Cost Saving*
- Potential Annual Cost Saving: R3,234,306.71
- ✓ 2. Option 2: Run Increased Tonnes
- Revenue Enhancement*
- Additional Tonnes to ROM: ±149,520.00t

Disclaimer: Revenue increase is subject to the assumption that increased waste leads to augmented ore tonnes.



“Initially, our target was 35 LCMs which we comfortably met. We've since raised the target to 37 LCMs for the CAT777 fleet. Additionally, we're now monitoring the CAT785 fleet, which has already shown an 8% increase (with another 5 - 10% potential), and we've also begun monitoring the Volvo fleet operated by our mining contractors. Greater visibility across our bulk material movement empowers our team to make informed decisions on the fly!”

- Alwyn Jooste (Mining Optimisation Manager)



Lase Cloud Portal



Lase Measurement Head