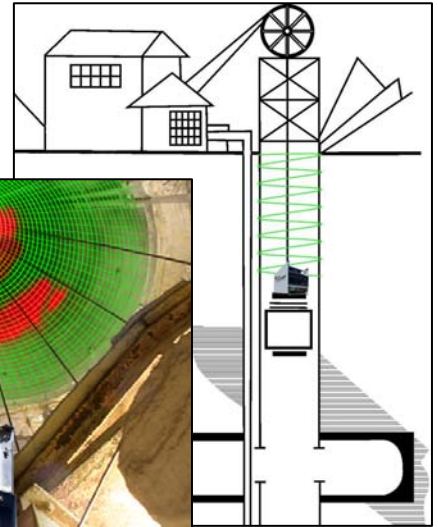
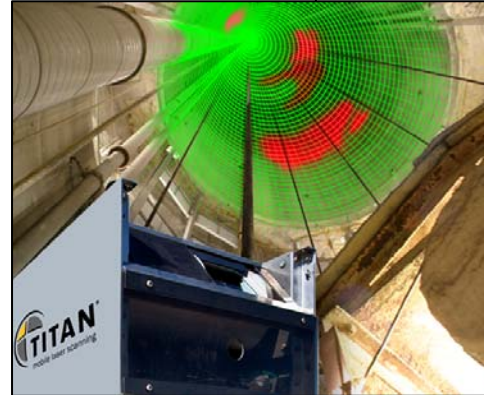




TITAN® UNDERGROUND – FOR MINESHAFTS AND TUNNELS

Ambercore's TITAN® is a revolutionary mobile scanning solution that delivers efficient and cost effective mobile scanning with high accuracy and dense data coverage. Designed as an integrated and customizable end-to-end scanning system, the TITAN solution is manufactured in-house by our skilled, industry-certified design team.

TITAN®'s high precision technology provides underground projects with high resolution data, making shaft and tunnel inspection fast, easy, accurate and safe. The business drivers are: the reduction of mine disruption caused by inspection processes, the increase in the ease and accuracy of change detection inside shafts and tunnels, and the increase of operational and long term mine safety.



Laser Scanning of Mine Shafts for Inspection Purposes

Using the TITAN® Underground solution, a mine shaft can be scanned at speeds of 5 to 10 metres per second, keeping the interruption of operations and production to a minimum. The high resolution data produced by TITAN® can be examined and analysed later in the engineering office and kept as a valuable archive to compare with the next scan. By simply reducing production delays due to mandatory mine shaft inspections means that the payback of a TITAN® system can be almost immediate.

Applications of TITAN® in Mines

- Safe and efficient mine shaft inspection
- Construction surveying of tunnels and shafts
- Comparing actual geometry of shafts and tunnels to the design geometry
- Accurate measurement of volumes underground
- Monitoring the position changes and status of all steelworks and installations in shafts and tunnels
- Detection and identification of defects in shaft and tunnel lining
- Detection and identification of corrosion and rust build-up on shaft steelworks
- Making virtual site visits possible to anyone at any time
- Detection and identification of prominent geological features
- Investigation of rock failures

Laser Specifications

Class 1: Eye Safe - Measurement Rate: Up to 300 kHz (per laser) – 360° field of view - Max Range ($\rho \geq 80\%$): 200 meters - Accuracy/Precision (1σ): 10 mm - Beam Divergence: 0.3 mrad - Unlimited Returns per Pulse

For more information on the TITAN® Underground solution or our other mobile mapping solutions, please contact us at: contact.us@ambercore.com